SELF-ASSESSMENT REPORT ON THE QUALITY OF EDUCATION IN THE DOCTORAL SCHOOL

Szkoła Doktorska Uniwersytetu Morskiego w Gdyni

Uniwersytet Morski w Gdyni

Signed by / Podpisano przez:

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VISITING CARD

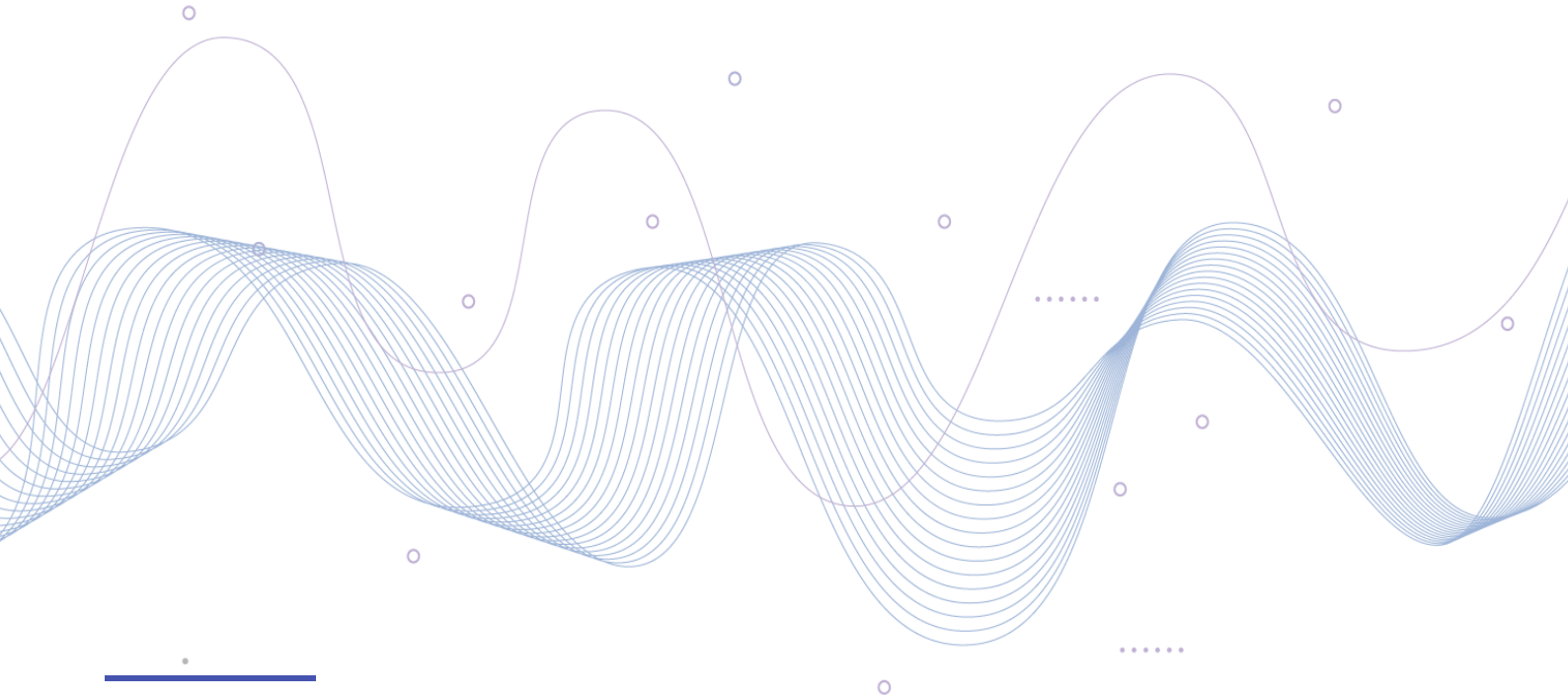
Basic Information about the Doctoral School

Year of Creation

2019

Institution running the doctoral school

Uniwersytet Morski w Gdyni



Field of Education	Education Disciplines
Engineering and technology	automation, electronics and electrical engineering civil engineering, geodesy and transport automation, electronics, electrical engineering and space technologies
Social sciences	management and quality studies
Natural sciences	earth and related environmental sciences

Name/Scope of the Education Program (PL)	Name/Scope of the Education Program (EN)
Program kształcenia w Szkole Doktorskiej Uniwersytetu Morskiego w Gdyni	Education program for the Doctoral School at Gdynia Maritime University I
Program kształcenia w Szkole Doktorskiej Uniwersytetu Morskiego w Gdyni	Education program for the Doctoral School at Gdynia Maritime University II

Characteristics of the Doctoral School

The Doctoral School of Gdynia Maritime University of (DS GMU) is an organizational unit of Gdynia Maritime University, which for over a hundred years has been educating highly qualified staff for the maritime economy and conducting scientific research for its development.
The mission of the Doctoral School of Gdynia Maritime University is the interdisciplinary preparation of doctoral students for scientific, didactic and expert work for the academic, social and economic environments. This task is fulfilled by providing the appropriate conditions for doctoral students to implement an educational program that is dedicated to them and adapted to the scientific standards. This program is implemented by highly qualified staff that have great substantive and social competences. In the process of educating doctoral students at DS GMU particular attention is paid to their development related to solving scientific problems of high practical importance, connected with the functioning of the maritime economy and sustainable development.
The aim of DS GMU is to educate staff who are experts in their field and who, in response to the economic and social needs of the country and the region, actively influence the socio-economic environment, conduct high-level scientific research and support the creation of an economy based on innovations, in particular those dedicated to the broadly understood maritime area.
Education at DS GMU shapes attitudes among doctoral students that are characterized by both entrepreneurship and respect for the principles of sustainable development, with a sense of responsibility for actions taken in the context of the functioning of the economy, economics and the natural environment. The most important values for DS GMU are: truth and reliability in science and education, close connection of the education process with the needs of the economic environment, innovativeness in the approach to emerging challenges and openness to the needs of the individual and the world. In its activities, SD GMU is guided by universal human values: dignity and freedom of the individual, social equality as well as solidarity and tolerance, which support the academic development and the culture of cooperation.
The development of DS GMU focuses on the systematic improvement of activities aimed at preparing DS GMU graduates to plan and pursue their own scientific careers, preparing them to meet the requirements set for contemporary scientists as authorities in their chosen scientific discipline, and as academic teachers who inspire respect and social trust. DS GMU strives not only to build a human resources base for the development of the University, but also to prepare highly competent staff who will contribute to the development of the region and the country based on the latest achievements related to technological progress. It must be emphasized that these activities take into account the development priorities of the European Union, especially in the area of the development of offshore renewable energy and the protection of resources and the natural environment. The pursuit of this goal is made possible by providing doctoral students with an appropriate environment and atmosphere fostered by Gdynia Maritime University, contacts with the staff of rich and diverse academic experience, also in the international environment, and openness to their needs.
The key advantage of DS GMU is the optimal number of doctoral students in relation to the GMU’s capacity, which enables the provision of an individualized approach to their needs. This, in turn, does not only facilitate the efficient elimination of potential threats and the quick response to emerging challenges, but also contributes to building an atmosphere of trust, cooperation, and shaping responsible attitudes among doctoral students, manifested in their care for the good name of the University, the development of doctoral self-governance (through the doctoral students' parliament) and the cultivation of maritime traditions. DS GMU offers doctoral students the individual support, the inspiring environment and rich facilities in the form of laboratories, simulators and research vessels. It is worth emphasizing the close and very fruitful cooperation with the University’s authorities who actively, systematically, and effectively support the activities of DS GMU through the organizational and financial assistance indispensable for the implementation of: publication activities, innovative projects addressing current challenges, and the scientific mobility of doctoral students.
Since the establishment of DS GMU there has been seen a constant improvement in the quality of the research conducted by doctoral students in the areas prioritized by GMU, which has consequently led to a series of achievements by DS GMU and its doctoral students. These achievements form the foundation for their increasing recognition both nationally and internationally. Doctoral students of DS GMU have so far obtained 2 patents, one industrial design protection right and have published about 90 scientific articles in scientific journals and peer-reviewed materials from scientific conferences, which should be considered a significant value in relation to the total number of doctoral students and the duration of DS GMU's operation. SD UMG has also contributed to the strengthening and development of the GMU research teams by engaging doctoral students in scientific activities of the University. Moreover, educating doctoral students within DS GMU has resulted in an increase in their involvement in the use of research funds from external sources and supporting their scientific development through a system of pro-quality activities. A tangible effect of the efficient functioning of DS GMU is also the timely completion of the research projects by the doctoral students from the first recruitment to DS GMU who submitted their doctoral dissertations and obtained high evaluations by the reviewers, which in turn resulted in the award of doctoral degrees and the applications for distinction in the case of three doctoral students and the award of distinction in the case of one female doctoral student.

Additional Information about the Doctoral School

Educating Staff

Numerical data for the evaluation period

Educating Staff	Instructors	Supervisors	Assistant Supervisors
Number of people	44	25	22

Doctoral Students

Number of doctoral students (total): 43

Recruitment during the evaluation period	2019/ 2020	2020/ 2021	2021/ 2022	2022/ 2023	2023/ 2024	2024/ 2025	Total
Number of recruited doctoral students	4	8	6	5	9	11	43
Number of doctoral students who completed the doctoral school	3	2	0	0	0	0	5
Number of doctoral students removed from the doctoral student list	1	3	3	3	1	0	11

Mid-term evaluation results	Positive	Negative
Number of Doctoral Students	15	0

Educational Programs	Number of Doctoral Students
Education program for the Doctoral School at Gdynia Maritime University I	23
Education program for the Doctoral School at Gdynia Maritime University II	20

Additional Numerical Data on Doctoral Students

Number of foreign doctoral students	2
Number of doctoral students with disabilities	1
Number of doctoral students in the Implementation Doctorate program	0
Number of doctoral students in the EU program	0
Number of doctoral students employed by the institution running the doctoral school as academic teachers or research staff	2

Graduates

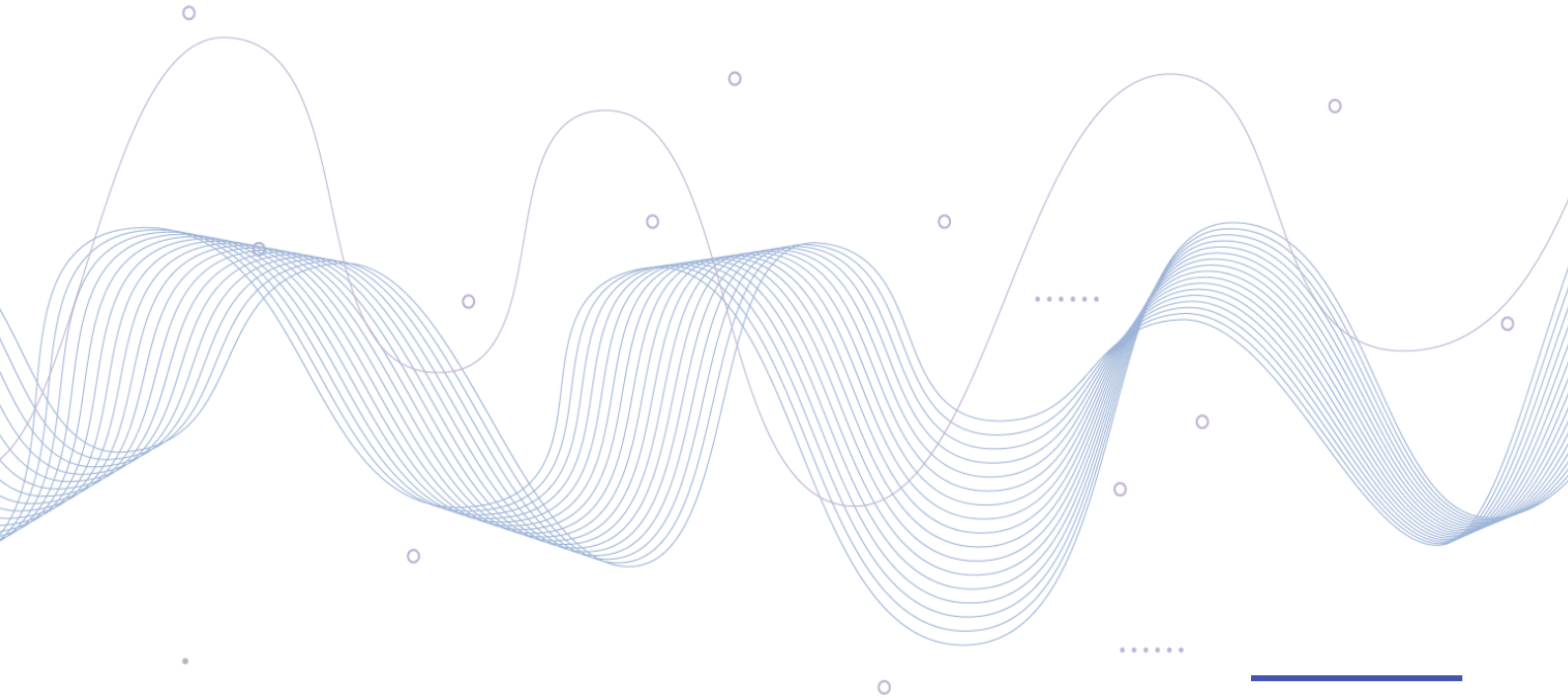
Numerical data for the evaluation period

Number of graduates who applied for initiation of proceedings for the award of a doctoral degree	4
Number of doctoral students who completed the doctoral school	3

INFORMATION ON THE ENTITY'S COOPERATION WITH THE DOCTORAL STUDENTS' COUNCIL

The activity of the Doctoral Students' Parliament at GMU is governed by the Regulations of the Doctoral Students' Parliament, which in § 4 describes in detail the responsibilities of the Parliament. These are, among others: cooperating in the appointment of persons who are to perform managerial functions at GMU, whose scope of duties includes doctoral students' matters, working on the Regulations of the Doctoral School, participating in collegial bodies of GMU, cooperating with the university authorities in the activities that aim at enhancing the system of quality assurance in education, and co-deciding on the allocation of financial resources designated for doctoral purposes. All the documents concerning the activity of the DS GMU, including: the Regulations of DS GMU, guidelines and principles for preparing an individual research plan by doctoral students of DS GMU, the method and principles for conducting the mid-term evaluation were subject to consultation with the Doctoral Students' Parliament. Every year, the Education Program for DS GMU adopted by the resolution of the Senate of GMU for the next academic year is reviewed also by the Parliament. Doctoral students of DS GMU also developed the their Code of Ethics of Doctoral Student of DS GMU. The Doctoral Students' Parliament has at its disposal separate funds which doctoral students can use to finance their scientific activity. Moreover, doctoral students have their representatives, e.g. in the Senate of GMU, in the Senate Committee for Education, in the Team for Monitoring the Implementation of the Principles of the European Charter for Researchers, as well as in the disciplinary committees for doctoral students. The representatives of the Parliament are also invited to meetings with foreign delegations. The opinions of doctoral students that are subject to monitoring in accordance with the HR Excellence in Research confirm their satisfaction with the cooperation with the University and DS GMU

INFORMATION ON THE DOCTORAL SCHOOL GROUPED BY 8 EVALUATION CRITERIA



1. Adequacy of the education program and individual research plans to the learning outcomes for qualifications at PRK level 8 and their implementation

The first education program implemented at DS GMU was developed as a result of discussions among members of the GMU scientific councils. The starting point for developing and later enhancing education programs was to reach an agreement on course proposals to as the elements of education program. The content of these courses is related to knowledge, skills and social competences from various scientific disciplines, the examples of which are all the courses implemented jointly by doctoral students of a particular recruitment. The content of these courses made it possible to achieve the effects corresponding to all the learning outcomes specified in the learning characteristics at level 8 of the Polish Qualifications Framework (PQF) and typical for qualifications obtained within the higher education and science system. Then, a matrix of compliance between the learning outcomes required for the qualifications at level 8 of PQF and the effects achieved as a result of the implementation of particular courses was developed.

The analysis of the coverage of the required and achieved outcomes concluded that already the first program ensured the achievement of the learning outcomes adequate for level 8 of PQF. During that time, apart from the elements of the education program, doctoral students implemented elements of an individual research plans (IRP), which consisted of courses such as: doctoral seminar, doctoral workshop and reporting session, as well as such recommendations to be implemented in the education process which should be included in individual research plans of doctoral students, as: an article for a journal from the list of the Ministry of Science and Higher Education, an application for research funding, a conference presentation and a research internship. The IRP of doctoral students of DS GMU assign the learning outcomes that are consistent with the requirements of level 8 of the Polish Qualifications Framework to their particular elements. The last component in the education process of doctoral students was the organizational module, which consisted of classes on Occupational Health and Safety Training (OHS), a library training and participation in the organizational activities of DS GMU.

In the enhancement process of the education program for subsequent recruitments to DS GMU, the Doctoral Students' Parliament, alongside members of the scientific councils, participated. The first proposed change to program introduced in the 2021/2022 recruitment was the addition of 2 courses related to advanced data analysis methods, initiated by Doctoral Students' Parliament.

The second proposed change in the program for 2022/2023 recruitment included the introduction of a course conducted in English by a foreign lecturer. The initiator of this change was DS GMU in response to the GMU authorities' aspiration to create conditions the internationalization of the University. Therefore, the education program for the academic year 2022/2023 included a course conducted in English and dedicated to education at maritime universities; also the elements of the individual research program module were transferred to the education program, i.e.: doctoral seminar, doctoral workshop and reporting session, as well as elements of the organizational module, i.e.: classes on OHS and library training.

The third proposed change in the program for the 2023/2024 recruitment was the introduction of two subjects dedicated to doctoral students from disciplines newly inculed in the education program: civil engineering, geodesy and transport, and earth and related environmental sciences. This change resulted from GMU obtaining a B+ category in these disciplines during the evaluation of the quality of scientific activity, as well as from GMU acquiring the right to award academic degrees in these disciplines.

The fourth proposed change in the program for the 2024/2025 recruitment was the introduction of the Career Coaching course. This decision was a result of the University's activities as part of the HR Excellence in Research initiative, aimed at strengthening the soft skills of both staff and doctoral students.

The first education program, along with its individual and organizational modules, guaranteed the achievement of learning outcomes for qualifications at level 8 of PQF, because, complying with the "Guidelines and principles for the preparation of an Individual Research Plan (IRS) for doctoral students of the Doctoral School of Gdynia Maritime University", in force at DS GMU, it ensured that doctoral students acquired the appropriate potential in terms of knowledge, skills and social competences. Its subsequent modifications supported the interdisciplinarity of the education process and helped doctoral students gain cross-sectional skills in critical thinking, creativity, initiative, problem-solving skills, risk assessment, and decision-making, which is confirmed by the content of the courses described in the study course descriptions.

2. Method of verifying learning outcomes for qualifications at PRK level 8

The education system at DS GMU is based on the application of diverse mechanisms for verifying learning outcomes. The verification carried out in this way makes it possible to demonstrate that upon completion of the education program together with supplementary modules and in accordance with the plan scheduled for 4 years of education at DS GMU doctoral students have the expected qualifications in terms of knowledge, skills and social competences. At the same time, the doctoral diploma serves as the official confirmation of the attainment of qualifications at level 8 of PRK.
Verification of learning outcomes includes both systemic solutions adopted by DS GMU, as well as specific requirements for doctoral students, the purpose of which is to obtain a doctoral diploma. The starting point for each of these approaches are learning objectives which correspond to learning outcomes. The verification of learning outcomes of doctoral students at DS GMU is carried out systematically and in a logically organized way during the subsequent stages of education.
DS GMU places great emphasis on the development of research skills, scientific independence and the potential of doctoral students to generate new knowledge. Education at DS GMU develops professional, academic and social competences indispensable for interdisciplinary cooperation in international environments. Therefore, the verification of learning outcomes at this level requires advanced, but also personalized evaluation methods that cover various aspects of the doctoral students' scientific activity and are appropriate for a specific goal of education.
Due to the necessity to verify the theoretical knowledge doctoral students have and their knowledge of concepts and the latest achievements that are key to each discipline, as well as the scientific research they conduct, they are required to take written and oral exams, which dominate at the initial period of education.
Skills, including the research skills, are subject to verification based on designing and conducting research, formulating research problems, selecting research methods, analyzing the data and interpreting the results of their own research. Skills are verified on the basis of: the results of the exams in methodological courses, internal (preceding mid-term evaluation) evaluation of Individual Research Plan (IRP), presentation of the assumptions of the doctoral dissertation in the forum of the supervisor's department, mandatory participation in semester reporting sessions, mandatory and active participation in scientific conferences, submitting grant applications and publishing the results of one’s research conducted in cooperation with, most frequently, the supervisor.
Social competences, including professional and academic ones, are verified on the basis of the evaluation of skills: working in a research team based on the supervisor's opinion, communicating the research results at conferences and in scientific publications, disseminating knowledge in various environments e.g. during lectures in scientific societies (the Polish Society of Commodity Science) as well as on the basis of the reports and opinions from internships.
Methods of verifying learning outcomes at DS GMU include, among others, exams and final tests at the end of the semester taken as part of classes, regular meetings with the supervisor as part of the seminar and doctoral workshop, semester reporting sessions on the level of advancement of the activities described in IRP, reviews of the prepared publications and applications for research grants (National Science Centre, RID-Progress/Regional Initiative for Excellence). The method of verifying the level of the implementation of the professional practicum is to subject this activity of the doctoral students to students' opinions (questionnarization of didactic activities). An open defense of the dissertation before the scientific council of the faculty/institute is the final method of evaluating the achievement of the learning outcomes planned for level 8 of PRK.
The forms of documenting the verification of learning outcomes include: protocols of the final grades for mandatory and optional courses, annual reports of the doctoral student on the achievements in a given academic year, opinions of the supervisor regarding the progress in implementing the IPB assumptions and in preparing the doctoral dissertation, reports and opinions from internships. The ultimate document is the doctoral dissertation.
The verification of learning outcomes includes both formal methods (exams, assessments) and informal ones (e.g. observation of the research and teaching work) enabling the confirmation of the qualifications necessary to obtain a doctoral diploma.
Information on the principles of verification of learning outcomes for qualifications at level 8 of PQF is available to doctoral students at DS GMU and is clearly defined through: consistent terminology; linking verification methods to learning outcomes; using adequate and reliable methods to verify individual learning outcomes; applying the same requirements and pass thresholds for all doctoral students; aligning requirements with applicable legal regulations (for level 8 of PQF); adapting the requirements to the goals of education at DS GMU, while considering the specifics of the scientific discipline in which education is provided. These conditions refer to the final tests and exams for individual courses, which are described in course descriptions, but also to the IRPs as well as the doctoral dissertation and its defense.
The verification of learning outcomes during the mid-term evaluation of IRPs is carried out by 3-person committees appointed by the scientific councils. It includes the IPB evaluation, presentation of the self-assessment report by the doctoral student, a discussion with the doctoral student and then also with the supervisor. The IPB evaluation is of an expert character but regulated by the document "Method and Rules for Conducting the Mid-Term Evaluation of Doctoral Students of the Doctoral School at Gdynia Maritime University”, which is approved of by the scientific councils, and documented on a unified form.
The mechanism for verifying the learning outcomes achieved as a result of non-formal education includes the submission by the doctoral student of the documentation confirming their scientific, organizational and didactic achievements, which contribute to the preparation of the doctoral dissertation. This documentation is attached to the annual report and self-assessment report used for the mid-term evaluation of the implementation of IPB. This approach supports the doctoral student's active involvement in planning and carrying out activities such as: submitting a scientific publication for publishing, applying for research funding, participating in research projects, attending scientific conferences (posters, presentations), participating in training, completing a research internship, and presenting results of teaching and organizational activities. The expected recommendations by SD UMG are included in the education programs of the Doctoral School, prepared for each recruitment and discipline.
An important element of verifying the achieved learning outcomes is to appoint the persons responsible for it, who are clearly indicated in the study module description forms (syllabuses). An example can be indicating the supervisor as the person

responsible for verifying the learning outcomes achieved during the professional practice and crediting the doctoral student for this activity.
The evaluation of the level of the learning outcomes achieved within the courses is based on the grading scale used at GMU. General evaluations (credited/not credited) are used for crediting the professional practicum and other forms of education, including: the seminar and doctoral workshop, reporting session, library training, the OHS, and Career Coaching. Some of the general evaluations are combined with a descriptive evaluation prepared by the supervisor, e.g. in the annual report. During the reporting session, the doctoral student is assesed in comparing their achievements with those of other participants, primarily by the staff (supervisors and other participants due to the open character of the session). Such a method of verifying learning outcomes aims to motivate the doctoral student to develop. The verification of learning outcomes at DS GMU is transparent and reliable, ensuring objectivity, credibility and preventing unequal treatment of doctoral students.
The complex mechanism for verifying learning outcomes at DS GMU includes: grades obtained as part of the implementation of the elements of the education program and the IPB assumptions; internal IPB evaluation; mid-term evaluation; collegial evaluation of activities undertaken at the initiative of the doctoral student and aimed at improving scientific, professional and social qualifications. It also serves to ensure a high level of staff involvement in this process. The condition for crediting the semester by a DS GMU participant is: obtaining positive grades in all the courses ending with an exam or a graded credit, passing selected activities with a general grade, obtaining positive opinions from the supervisor regarding the doctoral student's advancement in the progress of the work included in the IPB and their involvement in the process of preparing the doctoral dissertation.
The implementation of the education program at DS GMU is systematically documented through: protocols of credits, annual reports of the doctoral student on the achievements in a given academic year, the opinion of the supervisor regarding the progress in education and work on the doctoral dissertation.
The institutionalized mechanism for verifying the learning outcomes obligatory in DS GMU allows for verification of the achievement of level 8 of PKR qualifications by doctoral students.

3. Qualifications of academic teachers or research staff conducting education at the doctoral school

The qualifications of academic teachers and researchers conducting education at DS GMU ensure high quality of the education of doctoral students and they are confirmed by their scientific and professional achievements as well as scientific and professional activity. These qualifications align with the doctoral education scope. In addition, they are systematically developed through initiatives undertaken at the University in order to ensure professional development of these people, both as lecturers and supervisors.

The education of doctoral students at DS GMU relies on well-prepared and specialized staff. Since the education program at DS GMU is interdisciplinary, the staff represents various scientific disciplines, with the starting point in its selection being the pragmatics of DS UMG, which is reflected in the fact that people who are involved in the education of doctoral students have at least the degree of doctor, and scientific and professional achievements in the scope of the teaching activities they conduct. The exception applies to lecturers who hold a Master's degree.

All courses covering issues related to each discipline within which the education is provided are conducted by people with at least the degree of doctor and who undertake scientific activity expressed by their current scientific achievements and the conduct of scientific work within this area. The evidence of this pragmatics are entries in the course descriptions containing the information concerning the people responsible for the course and people who conduct the course as well as the current lists of their scientific achievements collected in the scientific achievement record system of GMU employees. Ensuring an appropriate level of scientific and professional activity among staff is supported by GMU's academic teachers' evaluation system, which promotes systematic qualification development and enables quick identification of people demonstrating an insufficient level of commitment to improving one's qualifications.

Some of the courses aimed at developing cross-sectional skills (e.g. critical thinking, creativity, taking initiative, problem-solving skills, risk assessment and decision-making) are implemented for the entire recruitment of doctoral students of a given year together within the following courses: Methodology of Scientific Work, Legal and Ethical Determinants in Scientific Activity, Economic Determinants of Scientific Activity, Research Project Management, Transfer of Knowledge and Technology to the Economic and Social Sectors, Research Results and Know-How Commercialization, but also Principles of Communication in Research and Teaching Activities, and Career Coaching. The implementation of these tasks is assigned to people with extensive and up-to-date scientific achievements (publications, conference participation) and professional experience (employment, including in the highest positions at the University, certificates, awards, scientific supervision, and reviewing scientific works, even those for an academic title in various scientific disciplines), who are leaders in obtaining grants and managing projects financed from grants, and conducting active scientific and professional activities (systematic scientific advancement and industry successes). Some individuals involved in doctoral education at DS GMU are also recruited from outside GMU, to ensure the highest level and the interdisciplinarity of doctoral education by acquiring staff with unique competences.

An important element of the education process at DS GMU is appointing highly qualified staff as supervisors or assistant supervisors. For this purpose, the Regulations of DS GMU contain additional requirements for such persons who, beyond the conditions specified in the Act, must show an increase in their publication record over the last 5 years in scientific discipline in which the doctoral dissertation is to be prepared, by at least 3 publications published in scientific journals included in the list of scientific journals and peer-reviewed materials from international conferences of Ministry of Science and Higher Education. In addition, they may not act as supervisors for more than 3 doctoral students at DS GMU. When appointing supervisors, the scientific councils consider their engagement in individual enhancement of skills related to providing scientific supervision. Additionally, the University fosters development of teaching staff by organizing additional training, courses and providing funds for participation in the events organized by external entities.

An example can be the training courses for supervisors carried out by renowned Polish scientists - Prof. Marek Lisiński and Prof. Wojciech Czakon. Another example is the organization of training courses by the University on modern teaching methods and the enhancement of communication competences organized as part of the project "The Spokesmen of Science", training courses on professional development of research workers (e.g. as part of the HR Excellence in Research Strategy); training courses on the methodology of conducting scientific research and establishing cooperation with the scientific centers in the country and abroad in the field of management and quality studies (e.g. as part of the PROGRESS project – "Scientific and Research Development of Gdynia Maritime University in management and quality studies" co-financed by the Minister of Science under the "Regional Excellence Initiative" - REI). Funds from the REI were also obtained by the Faculty of Electrical Engineering, whose employees in the years 2019-2022 were able to finance the training and courses related to scientific development thanks to these funds.

At DS GMU, the quality and effectiveness of the conducted education is systematically examined, including the proper performance of staff duties. This is done by monitoring the opinions of doctoral students, while maintaining their anonymity. The opinions of doctoral students are reviewed, for example, in terms of the quality of classes and the organization of teaching process, as well as the evaluation of the supervision. Until now, all the academic teachers conducting classes at DS GMU have received good or very good ratings.

There has also been no signal from doctoral students so far indicating the emergence of disputes regarding the performance of the duties by the staff conducting education at DS GMU. Both the DS GMU Office and the Director of DS GMU remain in constant personal, e-mail and telephone contact with doctoral students at DS UMG.

The education system at DS GMU is based on a combination of the master-student model and the institutionalized Bologna model. This approach serves to create the conditions for the doctoral student to succeed through good relationships between the supervisor and the doctoral student with the support from the qualified staff. This is confirmed by the results of the research within the HR Excellence in Research.

4. Quality of the recruitment process

All the information about the Doctoral School of GMU, including recruitment, is available on the website of GMU at: umg.edu.pl/szkola-doktorska. The website provides information about the school's mission and graduate profile, as well as eight thematic tiles.
- Information – the information for doctoral students, regarding all the including conferences, competitions, and trainings.
- Recruitment – the detailed information about the recruitment process and related documentation.
- Education program – all the education programs at DS GMU approved of by the GMU Senate and the learning outcomes for the Doctoral School of GMU.
- Academic teachers – the profiles of GMU scientists, potential supervisors of doctoral students of DS GMU.
- Doctoral students' achievements – publication achievements and other achievements (awards, distinctions) of doctoral students.
- Doctoral students' parliament – the most important information about the parliament.
- Regulations - the most important regulations related to the functioning of DS ("Regulations of the Doctoral School"), but also to the functioning of doctoral students within the University, e.g. Regulations for awarding academic degrees, Regulations for using research infrastructure, Regulations for managing the copyright and related rights, the industrial property rights and the principles of commercialization.
- Contact - the contact details to the Director of DS GMU and the Office of DS GMU.

In addition, on the websites of particular faculties of GMU, you can easily find the information about the research infrastructure the faculties have, the scientific research conducted or the cooperation with other centers, e.g. we.umg.edu.pl.
The Recruitment Rules for the Doctoral School of GMU and the Education Program in DS GMU for a given recruitment process are adopted annually by the Senate of GMU at least 5 months before the start of Recruitment. These documents are posted forthwith on the website of the BIP GMU (Bulletin of Public Information) at https://umg.edu.pl/wybrane-akty-prawa-wewnetrznego and on the website of DS GMU under the tiles: "Recruitment" and "Education Program". Recruitment to the Doctoral School of GMU has the open character, which means that all the candidates who meet the required criteria (specified in the provisions of the Law on Higher Education and Science) can take part in it, e.g. in the recruitment process for the academic year 2024/2025, more than half of the accepted candidates were graduates of a higher education institution, not of GMU. Recruitment is conducted through a competition, whose criteria, required documents and procedures are clearly defined. On the subpage of DS GMU "Recruitment" the information contained in the document "Recruitment rules for the Doctoral School of GMU" has been arranged in a way that facilitates navigation and understanding of the entire process. This information includes: basic recruitment rules, a step-by-step description of the recruitment process, the detailed information on the required documents with explanations, the information on the recruitment fee, the deadlines related to the recruitment process, as well as the results of the recruitment process. The recruitment process for the Doctoral School is supported by the university's Online Candidate Recruitment System (IRK). The system not only registers candidates but also allows adding scanned documents, uploading photos, automatically generating documents (e.g., the candidate's personal questionnaire or a statement of not applying to another doctoral school), facilitates smooth communication between the doctoral school office and the candidate, and tracks the recruitment process.
The information about the commencement of recruitment for the Doctoral School is posted on the GMU website and on the GMU social media profile.
The recruitment process is in the form of a competition. It consists of two stages: 1. Registration of the candidate in the IRK system and submission of the necessary recruitment documents to the Doctoral School Office of GMU within the deadline specified in the "Recruitment Rules" 2. A qualification interview, to which candidates are invited within the deadline specified in the "Recruitment Rules". For the recruitment process, the Director of the Doctoral School of GMU appoints a separate competition committee for each of the disciplines in which education is provided at the Doctoral School of GMU. The committee consists of academic teachers with at least the degree of habilitated doctor and who are not indicated in the declarations of undertaking scientific supervision submitted by the candidates (a person who is potentially to act as a supervisor in the future cannot be a member of the committee). Based on the analysis of the documents submitted by the candidate and the qualification interview, a point evaluation of the candidate is carried out (the detailed scoring described in the "Recruitment Rules). The sum of the points for the evaluation elements in the recruitment procedure constitutes the basis for drawing up a ranking list of candidates (separate for each scientific discipline). The position on the ranking list determines the order of admission. The results are announced within the time specified in the "Recruitment Rules" on the website of the Doctoral School of GMU, on the Doctoral School notice board; the candidates also can see the result of their procedure in the IRK system. So far, there has not been a single case of an appeal against the decision regarding the recruitment procedure.
The needs of people with disabilities are taken into account in the recruitment process for the Doctoral School of GMU, the information concerning this matter is posted on the website https://umg.edu.pl/rekrutacja-osob-z-niepelnosprawnosciami. Candidates who in the recruitment procedure for the Doctoral School wish to take advantage of the opportunity to adapt the individual form of this procedure to the needs resulting from their disability are entitled to contact the Rector's Representative for People with Disabilities at GMU during the ongoing recruitment process at the University.
The website of the Doctoral School of GMU, including the whole section devoted to Recruitment, meets the digital accessibility standards (contrast change, font enlargement, navigating the website using the Tab key, alternative descriptions for graphics).
The method of verifying the predispositions of candidates for the Doctoral School of GMU is transparent and based on objective, clearly defined criteria included in the document "Recruitment Rules". The objectivity of the evaluation is based on the score assigned to each element of the evaluation. The following elements are subject to evaluation: 1. Field of study completed; 2. Grade obtained upon the completion of studies; 3. Scientific achievements, which consist of publications in the journals and monographs from the lists of the Ministry of Science and Higher Education; 4. Scientific activity of the candidate, which consists in participation in scientific conferences, internships, seminars, professional practices, scientific competitions; 5. Participation in research projects; 6. A qualification interview, which is to evaluate the candidate's motivation to undertake

education at the Doctoral School of GMU, the initial concept of the doctoral dissertation together with the scope of research, and the candidate's publication plans. A person who receives less than 10 points for an "Interview" element cannot be included on the ranking list.
The criteria adopted for verifying the predispositions of candidates allow for a measurable evaluation of the predispositions of candidates for DS GMU in order to establish a ranking list. The verification criteria were subject to a refinement process, the purpose of which was to determine the ultimate basis for making a decision by the superior unit (Rector of GMU) in the event of a candidate filing an appeal against the decision of the Director of DS GMU and to specify the scope of the interview.
It should be emphasized that during the recruitment procedures there were cases when candidates with too low qualifications were not accepted, even though the limit of vacancies had not been exhausted (e.g. recruitment for the academic year 2023/2024 in the discipline of management and quality studies).
DS GMU recruitment process was subject to enhancement within the organizational and technical dimension throughout its existence. The organizational enhancement included granting the recruitment committee a tool to exclude candidates whose qualifications determined during the interview do not correspond to the specificity of the scientific discipline to which the candidate is applying or whose level of preparation is unsatisfactory. Moreover, the scope of the interview was expanded and specified in detail.
In 2023, a new online candidate recruitment system was implemented at GMU, which was also adapted to the needs of recruitment to the Doctoral School. The system streamlined the recruitment process (e.g. it allows for uploading files, photos, generates documents to be attached) - everything related to the procedure takes place in one place, including communication with the DS Office.

5. Quality of scientific or artistic supervision and support for conducting scientific activities

The quality of scientific supervision and support in research activities at DS GMU is reflected in the careful selection of a supervisor to match the subject of the doctoral dissertation. Special attention is paid to optimal matching as well as high supervisory competences and scientific potential. The process of appointing and replacing the supervisor(s) and assistant supervisor is based on clearly defined criteria. For this purpose, at the stage of preparation for the recruitment process, candidates must obtain consent from one of the persons listed as potential supervisors published by DS GMU. The declaration from the potential supervisor confirming their readiness to accept the role is important, as it simultaneously represents an obligation to supervise the doctoral student. In the next stage, in compliance with the Regulations of DS GMU, doctoral student initiates the procedure for appointing a supervisor by submitting an appropriate application to the relevant scientific council within 30 days of the start of their education. This application includes a proposal of the candidate(s) to perform the function of the supervisor(s), their consent to fulfill this function as well as a list and description of up-to-date scientific achievements of the doctoral student together with the concept of the research that the doctoral student intends to conduct. The scientific council, when assessing the application and making a decision, takes into account the requirements and restrictions described in the Regulations of DS GMU and asks proposed supervisor(s) to express their opinion. Taking into account the opinion of the doctoral student in this procedure is a premise for successful future cooperation between the doctoral student and the supervisor. Ensuring optimal matching conditions and preventing conflicts is one of DS UMG strengths.

The Regulations of DS GMU indicate the possibility of changing the supervisor. Request for a change may be submitted by the doctoral student, the supervisor or the chair of the relevant council and it must include a justification. If the request is from the doctoral student, it must include opinion of the Director of DS GMU. This procedure ensures satisfactory scientific supervision and building proper cooperation, as well as providing favorable conditions for reacting to and resolving undesirable situations. The procedure for changing the supervisor at DS GMU, both in terms of its initiation and execution, is not overly complicated or lengthy, which facilitates a quick response to emerging challenges. The confirmation of the efficiency of the solutions functioning at DS GMU is the fact that the change of the supervisor at DS GMU has already taken place and proceeded smoothly, ensuring the satisfaction of all the interested parties.

Ensuring high-quality cooperation between doctoral students and their supervisor(s), including resolving conflicts, is based on the provisions of the DS GMU Regulations, which specify that the Director is responsible for overseeing the correctness and quality of the education process, including supervision. In addition, the education program guarantees doctoral students a minimum number of hours in each semester for direct contact with supervisors through seminars, doctoral workshops, as well as for preparation and participation of both in the semester reporting session, where they jointly confront the DS GMU community in scientific and organizational sphere.

GMU also provides psychological support for doctoral students. So far, there has been no conflict situation between a doctoral student and a supervisor. On the contrary, the results of anonymous studies conducted as part of supervision, as well as other GMU surveys' results, show full satisfaction among doctoral students with the cooperation with their supervisor(s).

Providing doctoral students, including those with disabilities or who are parents, with proper conditions and support in their education, the realization of individual research plans, and dissertation preparation, including access to necessary infrastructure, is ensured through provisions stating that Director of DS GMU is responsible for addressing social and living needs of doctoral students. An important document is "Regulations for providing non-material support for students and doctoral students with disabilities or those in a special health situation at Gdynia Maritime University", which establishes position of Proxy for People with Disabilities and provides a full range of support for the doctoral students with disabilities, including individual education modes, an assistant, and rational adaptation. The effectiveness of this solution is confirmed by the full support provided to a doctoral student who, during his education at DS GMU, suffered serious health damage that resulted in a disability. Despite this, thanks to the support offered through an individualized education mode, the student is able to complete his education and prepare doctoral dissertation.

The University provides doctoral students with full access to research and scientific infrastructure. If research needs exceed GMU's capabilities, support is provided through supervisors, who create opportunities for students to use facilities at other higher education institutions. An example of this solution effectiveness is the award of the degree of doctor to the doctoral student making use of the facilities of Poznań University of Life Sciences, where the assistant supervisor was based. Other examples are the doctoral students whose dissertations are currently being prepared as a result of the cooperation between the supervisors from GMU and the supervisors and the assistant supervisors from other higher education institutions.

The extent of the involvement of outstanding specialists employed outside GMU in activities supporting doctoral students, including scientific supervision, can be verified through their participation in areas like management and quality studies, law and administration, food and nutrition technology, or the construction and operation of machines. These specialists, who are not GMU employees, contribute to the education of doctoral students at DS UMG, also serving as supervisors assistant supervisors. The selection of such people for the education of doctoral students is based on previous experience in cooperation with them.

The reliability of verification and assessment of the work of supervisors and assistant supervisors is a key element in the functioning of DS GMU and is reflected in the dual system of monitoring the level of doctoral students' satisfaction with scientific supervision.

Actions taken by DS GMU to improve the quality of supervisors' work include the cooperation with the chair of scientific councils in organizing training courses for supervisors, as well as the support of GMU aiming at enabling the supervisors to participate in skills trainings conducted by external institutions.

6. Integrity of the mid-term evaluation process

The mid-term evaluation is an instrument for verifying the progress of doctoral students' work in relation to their Individual Research Plans (IRP). It helps improve the quality of doctoral students' scientific work based on expert analysis of the quality of the adopted assumptions, methods for their verification, and the degree of the implementation of the tasks serving this purpose. According to § 17 of the Regulations of the Doctoral School of GMU (document available in the University BIP and on the DS GMU website), the mid-term evaluation covers the implementation of the individual research plan by the doctoral student, particularly the timeliness and quality of tasks performed according to the schedule for the preparation of the doctoral dissertation.

Mid-term evaluations are conducted separately for each of the disciplines for which education is conducted. So far, the evaluations concerned doctoral students studying in disciplines: management and quality studies, and automation, electronics, electrical engineering and space technologies. The scientific councils relevant to these disciplines have approved "Method and Rules for Conducting the Mid-Term Evaluation of Doctoral Students of the Doctoral School of Gdynia Maritime University", which elaborates on the "Regulations of DS GMU" while accounting for differences specific to each discipline. This document also provides guidelines from scientific councils, outlining recommendations and scope of the evaluation for the for the mid-term evaluation committee. The mid-term evaluation is conducted using the standard forms: 1) the IRP elaborated by the doctoral student and approved by the supervisor, 2) the self-report of the mid-term evaluation prepared by the doctoral student and approved by the supervisor, 3) the mid-term evaluation form elaborated by the committee. These forms are used to conduct and document the evaluation. All the documents and forms are sent to doctoral students by e-mail, but they are also available in the MS Teams application (files for the Doctoral School team).

The mid-term evaluation is conducted by a committee appointed by the Director of DS GMU, consisting of 3 people, including at least 1 person with at least the degree of habilitated doctor in the discipline in which the doctoral dissertation is being prepared and who is employed outside GMU. Supervisors and assistant supervisors cannot be committee members. The committee is appointed for each doctoral students recruitment and each discipline separately. Before appointing the committee, the Director requests an opinion from the relevant scientific council. In accordance with the pragmatics of DS GMU, the composition of the committee is discussed in advance within the scientific councils, to ensure proper verification of the committee members' competences and commitment to conducting of the mid-term evaluation by people whose scientific interests align with the IRPs being evaluated. In practice, until now, a maximum of two committees have been appointed each year.

Moreover, the pragmatics of DS GMU is not to appoint for the mid-term evaluation committee persons who were the members of the internal committees for the evaluation of IRPs conducted at the beginning of the second year of education at DS GMU. This approach ensures objectivity, reliability and transparency of the mid-term evaluation.
The mid-term evaluation is conducted at the end of the fourth semester. All previous evaluations have taken place within the time limit set by the Law on Higher Education and Science (September – end of the fourth semester). According to "Method and Rules for Conducting the Mid-Term Evaluation of Doctoral Students of the Doctoral School of Gdynia Maritime University", doctoral students and supervisors are informed of the mid-term evaluation date by May 31. This information is provided by the DS GMU Office by e-mail, together with an indication of the place of the committee meeting. The meetings of the evaluation committee are held on-site at GMU.

To ensure transparency, objectivity, comparability of the results and motivational value, the mid-term evaluation is conducted by confronting the IRP presented by the doctoral student with the Self-Report of the mid-term evaluation. The focus is on assessing progress in preparing the doctoral dissertation and scientific activity, including the number of scientific publications, conference presentations and grant applications.

The committee conducts a mid-term evaluation based on the submitted documentation (IRP, Self-Report, the documentation confirming the doctoral student's activity, the supervisor's opinion), the dissertation concept presentation, achievements, and the conversation with the doctoral student during the closed committee meeting. This conversation includes the verification of knowledge in the field of the covered subject matter and the discipline in which the dissertation is being prepared.
An equally important element of the evaluation is the conversation between the committee members and the supervisor, which ends the preparation stage for issuing the evaluation results and recommendations.

A representative of the Doctoral Students' Parliament at GMU may participate in the Committee meetings as an observer, although until now, the doctoral students undergoing the mid-term evaluation have not expressed in having the Parliament member present.

The mid-term evaluation results are public, announced on the DS GMU website and notice board. The Committee formulates a justification for its decision and the recommendations for the doctoral student regarding modifications, e.g. within the scope

of the IRP or the method of submission of the dissertation. So far, all the doctoral students have received a positive result of the mid-term evaluation. The provisions of the Regulations of DS indicate a possibility of appealing to the Director of the Doctoral School in the event of a negative result.

To enhance the mid-term evaluation process, standard forms were developed including the IRP, the Self-Report on the mid-term evaluation, and the Mid-term Evaluation, form which also serves as the evaluation protocol. The Mid-term Evaluation form contains 13 points in the form of questions that allow for a standard and comparable, and at the same time expert and substantive, evaluation of all the important elements of the IRP. Furthermore, as a result of the proposals made based on the committee's work, this form may be modified for subsequent mid-term evaluations. A practical solution was also implemented, ensuring that the Self-Report prepared by the doctoral student and IRP are made accessible to the committee members 2 weeks before the evaluation date in order to enable the committee members to familiarize themselves with documents in depth.

The opinions of all the interested parties serve to take action related to the enhancement of the conduct of the mid-term evaluation.

7. Internationalization

The internationalization of DS GMU is being implemented on several levels. It is expressed, among others, by the gradual increase in the foreign staff involvement in doctoral education at DS GMU. The first in international experiences of doctoral students took place during training conducted by Ms. Edyta Satchell on functioning of American corporations from both employee and an employer perspective. However, this training was not yet an integral element of the education program. The next step was to introduce to the education program (from the 2022/2023 recruitment) a course taught in English by a scientist from a foreign university (World Maritime University). The course will be held for the first time in the summer semester of 2024/2025 and will be a permanent element of the education program of DS GMU. It concerns knowledge management, the use of e-learning and the systems of science management in the design, implementation and evaluation of education programs in the maritime sector, which is conditioned by the specificity of GMU.
Since the last academic year, doctoral students of DS have been attending lectures by academic teachers from Hochschule Bremerhaven as part of Polish-German Joint Seminar "Managing Cultural Diversity in Europe". In December 2024, a seminar with Prof. Marianna Sigala (University of Newcastle Australia) was held, devoted to recognizing good and bad publishing practices in management and quality studies. Doctoral students were guidelines on how to choose journals that are consistent with their research goals.
The cooperation with foreign universities aims to familiarize doctoral students of DS GMU with scientific and organizational experience and the specifics of foreign universities, including openness to multiculturalism and the challenges associated with it. It is based on the use of existing contacts with other academic centers (e.g. Hochschule Bremerhaven, World Maritime University), but also on the grants obtained from external sources, e.g. from Ministry of Science and Higher Education (MNiSW), in order to organize this type of cooperation at GMU.
The international scientific activity of the staff conducting education at SD UMG is manifested in obtaining funds for research in international competitions. Examples include: 1) the project entitled "Prediction of product quality in glass manufacturing process" financed as part of the Eunite Competition implemented as part of The EUropean Network on Intelligent TEchnologies for Smart Adaptive Systems - 5PR/5FP, 2) the project entitled “Addressing Cyber Security in Maritime Education and Training” financed by the International Association of Maritime Universities and The Nippon Foundation, 3) project “JOHANN - Joint Development of Small Cruise Ship Tourism Heritage Products in Southern Baltic Sea Region” co-financed from EU funds under Interreg South Baltic Programme, 4) the project entitled "Johanna - Joint Staff Qualification In South Baltic Destinations To Increase The Skilled Workforce In The South Baltic Sea And By That Ensure A Sustainable Small Cruise Ships Development In The South Baltic Sea", 5) the project "Utjecaj structural promotions of tourist attractions and uvjetima masovnog turizma" implemented in cooperation with University of Dubrovnik in Croatia, 7) Electrothermal averaged modeling of electrical inertia in a MOSFET transistor for fast analysis of DC-DC converters (Bekker NAWA), etc. In 2024, the university applied for funds under the STER NAWA - Internationalization of Doctoral Schools program to increase the mobility of doctoral students, unfortunately without success.

Staff actively participates in international scientific conferences (e.g. in UCF Rosen College of Hospitality Management Orlando Florida in USA, JAMK University of Applied Science Jyvaskyla Finland and others). They also participate in international didactic exchanges, including "Erasmus+" program, gaining experience in Australia, Spain, Portugal, Finland, Norway, Germany, China, Great Britain, Sweden, Czech Republic, Italy and France, as well as Hungary and Taiwan. The scientific mobility and international activity of academic teachers conducting education at DS GMU is also confirmed by scientific internships completed, among others at the University of Naples Federico II, at Hochschule Bremerhaven, at the Japan Productivity Center in Tokyo, at the Rosenstiel School of Marine and Atmospheric Sciences at the University of Miami, etc. The international teaching and research activity of the DS GMU staff is supported by a system of organizational and financial support, including the "Erasmus+" program, the project "PROGRESS - Scientific and Research Development of GMU in Management and Quality Studies" co-financed by the Ministry of Science and Higher Education under the "Regional Initiative of Excellence" Program.
The system of rewarding and awarding academic teachers at GMU (in compliance with the regulations: Rector's Awards, Rewarding Academic Teachers at GMU) and the regulations on the implementation of sabbatical leaves (Labour Regulations) provide for the recognition and promotion of international scientific and didactic activities. As a result of these activities, the international didactic and scientific activity of the GMU staff is high and is developing dynamically. This activity is also related to the specificity of the University, educating people working in an international environment, which is confirmed by the impressive professional achievements of the staff, not related to their activity at the University.
An example of issues included in the education program that contribute to the implementation of the internationalization of the content provided are such elements of the course "Economic Conditioning of Scientific Activity" as: the scientific policy of the world, Europe and Poland. The aim of the course "Research Project Management" is to provide knowledge on international programs supporting scientific activity. "Principles of Communication in Scientific and Didactic Activity" concerns the ability to communicate effectively, with emphasis on the identification and minimization of communication barriers, also in an international environment. Furthermore, doctoral students are required to plan in their individual research plans participation in at least 2 scientific conferences, during which they must present their achievements in an international environment in English at least once. So far, all the doctoral students who completed their education at SD UMG and most of those doctoral students who are in the process of education have fulfilled this obligation (e.g. on February 14, 2025, at the 63rd Session of CSoCD at the UN).
Doctoral students publish their research results mainly in English, in worldwide journals, in open access, also in collaboration with scientists working permanently abroad (B. Illés, T. Hurtony). Some doctoral dissertations include international research, e.g. a doctoral dissertation devoted to "Models of regional management of cross-border bus transport in selected EU countries". Another example is the implementation of doctoral research in real conditions on three ships of foreign flags. It is worth emphasizing the growing scientific mobility of doctoral students who perform scientific internships, e.g. in Croatia,

Slovakia, Hungary.
At DS GMU also study doctoral students from abroad, although their percentage is low. Support for their needs, mainly related to the legalization of stay, is provided by the DS GMU Office. DS GMU has also undertaken activities to increase its recognition abroad. They focused on interviews given by the Director of DS GMU in the Czech, Slovak and Hungarian press and the distribution of leaflets advertising DS GMU by a doctoral student conducting research in Slovakia and the Czech Republic.
In the opinion of the entity running DS GMU, the level of DS internationalization is high and is growing dynamically.

8. Effectiveness of doctoral education

Percentage of individuals who obtained a doctoral degree	Doctoral students who applied for initiation of proceedings for the award of a doctoral degree	Doctoral students who were awarded a doctoral degree	Doctoral students who were denied the award of a doctoral degree
in the number of doctoral students who completed their education at the doctoral school during the evaluation period	80 %	60 %	0 %
in the total number of doctoral students who completed their education at the doctoral school	67 %	50 %	0 %

In the University's opinion, effectiveness of doctoral education at DS GMU is high. All doctoral students of the first and the second recruitment in management and quality studies completed their education by submitting doctoral dissertations within deadlines set by the education program and IRP. Doctoral students of the second recruitment in automation, electronics, electrical engineering and space technologies have not yet completed their education, which was postponed for 1 year due to long-term research in real conditions.
All first-recruitment graduates obtained the degree of doctor (100%). Second-recruitment graduates who have completed their education are currently preparing for their dissertations defense or awaiting reviewers assignment. During evaluation period, 50% of doctoral graduates have already obtained their doctorate.
Scientific achievements of doctoral students were high. Reviews of all doctoral dissertations on the basis of which the degrees of doctor were awarded, included the reviewers' requests for distinction. In the case of one of these dissertations, the distinction was granted by the Senate of GMU.
Doctoral students of DS UMG have significantly contributed to UMG's publication record through numerous scientific articles. The scientific achievements of doctoral students constituted the basis for: preparing a patent application, having a patent application filed (No. P.446096) and obtaining a patent (No. 246155). The results of the doctoral students' research are subject of commercialization efforts. The evaluation of the quality of education at DS GMU is based on anonymous surveys, the results of which are considered when modifying education program and staffing. The results of the surveys indicate a high degree of doctoral students' satisfaction with the quality of education. The results of career monitoring show that the doctoral students find employment in science, higher education and industry. It indicates about effectiveness of education.

1. automation, electronics, electrical engineering and space technologies

Achievement Description

The achievements of doctoral students representing the discipline of Automation, Electronics, Electrical Engineering, and Space Technologies submitted for evaluation include: 2 highly rated scientific articles published in English in internationally recognized journals and disseminated in open access, 1 patent, and participation in 2 research project teams funded by external sources.

1. KOZNOWSKI W. (doctoral student at DS GMU), Łebkowski A., 2022, "Analysis of Hull Shape Impact on Energy Consumption in an Electric Port Tugboat," Energies, 15(1), 339, pp. 1-21; DOI: 10.3390/en15010339, Impact Factor: 3.200, MNiSW Score: 140 points.

The aim of the article was to present the results verifying the assumption, that it is possible to reduce the amount of energy an electric tug spends for movement by applying the Particle Swarm Optimization method to modify the shape of its hull. The trend to replace internal combustion engines with electric zero-emission drives, visible in the automotive industry, also exists in the shipbuilding industry. The requirements for the electric propulsion system of tugs are much greater, which combined with the limited space and energy on board, makes any amount of energy valuable. The proposed solution addresses these needs.
The Van Oortmerssen method was used to determine the hull resistances of the proposed tug and the impact of the hull shape modification sets on reducing these resistances. It was shown that the optimization of the shape of the tug's hull can contribute to the reduction of energy consumption by 2% to approximately 3.8%. Thanks to this, it is possible to reduce the energy consumption for the tug's movement, which in turn extends the time available for proper tug operation. This time is limited due to the amount of energy available in the on-board energy storage, which must be replenished in a charging process that is not instantaneous. In addition, the reduced power consumption from the energy storage

contributes to extending its service life.
The use of an electric propulsion system in a port tug also reduces the local emission of CO2 and other gases such as sulfur oxides (SOx), nitrogen oxides (NOx) and particulate matter (PM). This allows for a further reduction of emissions in the port area in combination with other solutions serving a similar purpose, such as mandatory use of shore power by berthed vessels.
2. Illés B., Michałowski P.P., Skwarek A., Choi H., Byun J., Dušek K., Bušek D., PIETRUSZKA A. (doctoral student at DS GMU), 2024, "Dispersion and Incorporation of TiO_2 and SiC Nanoparticles in SAC Alloy: SIMS and DFT Study," Scripta Materialia, 243, 115987, https://doi.org/10.1016/j.scriptamat.2024.115987, Impact Factor: 5.300, MNiSW Score: 140 points.
The aim of this study was to investigate the possible interaction between the different nano-particles and the Sn atoms based on DFT calculations. The premise for undertaking this study was that ceramic nano-particles are frequently used as reinforcements in SAC alloys to improve their mechanical properties; however, the nano-particle dispersion and incorporation mechanisms are not well known.
Pursuing the achievement of the set goal, composite SAC alloys were prepared from Sn99Ag0.3Cu0.7 alloy with TiO2 and SiC nano-particles in 0.5wt%. Solder joints were prepared by SMT technology between two Cu plates with 150 μm thickness. SIMS was used to determine the nano-particle distribution along the solder joints' vertical cross-section.
It was found that the distribution of the nano-particles is inhomogeneous in the solder bulk; furthermore, the density characteristics highly depend on the size and shape of the nano-particles. DFT calculations proved that the non-soluble TiO2 and SiC could form chemical bonds with the Sn during the soldering, which might further explain their positive effect on the physical properties of composite SAC alloys.
It was proved that the dispersion of the NPs cannot be derived from the simple microstructural refinement of the solder bulk. The concentration of the NPs is much less affecting the microstructural refinement (and possibly the mechanical strengthening) than it was supposed before. According to previous assumptions in the literature the distribution of the NPs should have been nearly similar in the solder bulk, but it was far from it. DFT simulations proved that both TiO2 and SiC can bond into the Sn-matrix. Although they are not soluble in Sn, they are segregated to the grain boundaries, but they do not act as inert contaminants in the Sn matrix. Therefore, they might not decrease the long-term stability of the composite solder joints.
3. Project for national security and defense No. DOB-SZAFIR/01/B/017/04/2021 titled "Underwater Wireless Communication System for Unmanned and Independent Maritime Platforms" implemented within a consortium: Gdańsk University of Technology (Leader), Gdynia Maritime University (Consortium member), Polish Naval Academy (Consortium member), Hydromega Company (Consortium member). Doctoral students participating in the project: ŁUKASZ WOJEWÓDKA, RAFAŁ PILARSKI
The project provides for the construction of a system demonstrator enabling data transmission in particularly difficult propagation conditions for various applications, operating in two frequency ranges. In the low frequency range from 1 kHz to 50 kHz, the system will enable long-distance communication with AUV vehicles as well as communication between the AUV or a water unit and an object buried in bottom sediments. In the high frequency range from 30 kHz to 150 kHz the system will ensure fast data transmission over a short distance between moving objects.
The scope of tasks carried out by Gdynia Maritime University (GMU) and Polish Naval Academy includes the development of a high-frequency underwater communication demonstrator.
Tasks performed by M.Sc. Eng. ŁUKASZ WOJEWÓDKA, doctoral student at DS GMU:
A. Development of a software tool for analyzing signals recorded during tests conducted in the towing tank at Gdańsk University of Technology.
B. Participation in research on real signals to evaluate various methods for determining Doppler frequency shift.
C. Preparation of measurement signals for tests in the towing tank at Maritime Advanced Research Centre SA in Gdańsk.
D. Implementation of communication protocols between underwater objects in the Matlab computational environment.
E. Participation in testing and validation of communication protocols under stationary conditions.
Tasks performed by M.Sc. Eng. RAFAŁ PILARSKI, doctoral student at DS GMU:
A. Subcontractor of the hardware-software platform. Design, development, and programming of electronic modules responsible for hardware and software-based acquisition and processing of digital signals in the receiving and transmitting path, with configurable operating parameters for the underwater wireless communication system.
The developed and implemented hydroacoustic transmission module successfully passed tests in the test environment at the Gdynia Maritime University pool.

4. Invention "Method of measuring thermal resistance of a soldered joint of a power transistor and a system for measuring thermal resistance of a soldered joint of a power transistor", application no. P.445183 dated 11.06.2023, co-authors: Górecki P., Górecki K., PIETRUSZKA A. (doctoral student at DS GMU), Owner: Gdynia Maritime University, UPRP granted exclusive rights, Pat.246155 (patent), granted (publication in WUP): 09.12.2024

The subject of the invention is a method of measuring the thermal resistance of a solder joint of a power transistor and a system for measuring the thermal resistance of a solder joint of a power transistor. The invention is dedicated to the use in quality control of surface mount of power semiconductor devices on metal core printed circuit boards (MCPCB) for the electronics and electrical industry.
The essence of the invention is a method of measuring the thermal resistance of a solder joint connecting a power transistor to a printed circuit board, carried out by an indirect method, consisting of five specific stages.
The developed invention additionally allows for determining partial thermal parameters. These parameters characterize thermal properties of individual elements of the heat flow path and the overall properties of this path. The method and system according to the invention are a beneficial alternative to expensive in the technological process and harmful for the operator tests using X-rays.

5. Community industrial design entitled "Ship Gripper" application no. ZWW 015041537 of 18.11.2023 co-authors: Paweł Kołakowski, WOJCIECH KOZNOWSKI (doctoral student at DS GMU), Andrzej Łebkowski, Grzegorz Rutkowski
The industrial design entitled "Ship Gripper" presents a new and individual form of a ship gripper for docking a small vessel in hard-to-reach places. The solution, through visualization of the structure, highlights the reserved external appearance of the gripper used in marine mooring systems or ship docking systems for offshore installations, i.e. offshore wind farm, power station, ship transshipment installation or floating fuel storage. The aim of implementing this design was to develop a simple, small-sized structure enabling stable docking of a service unit to a larger ship or port installation. The solution was reserved in the European procedure, in six variants.

2. automation, electronics and electrical engineering

Achievement Description

Due to the fact that the doctoral students of the first and second recruitment started their education in the discipline "automation, electronics, and electrical engineering" but are continuing their education and achieving scientific accomplishments in the discipline "automation, electronics, electrical engineering, and space technologies," their achievements have been described in the section dedicated to the discipline "automation, electronics, electrical engineering, and space technologies."

3. management and quality studies

Achievement Description

The achievements of doctoral students representing the discipline of management and quality studies submitted for evaluation include: 3 highly rated scientific articles published in English in internationally recognized journals and disseminated in open access, a series of distinctions and awards for the DYLLI invention, and 1 patent application.

1. MESINGER D. (doctoral student at DS GMU), Ocieczek A., 2021, „Identification of Differences in Hunting Management in Poland and Selected European Countries in the Context of Sustainable Development”. Sustainability, 13(19), 11048, https://doi.org/10.3390/su131911048, Impact Factor: 3.889, MNiSW Score: 100 pkt.
The purpose of this article was to identify significant differences in the hunting management process in Poland and selected European countries in the context of their impact on the preservation of biodiversity and the implementation of the idea of sustainable development. Based on the analysis carried out, it was found that hunting management in relation to Aldo Leopold’s postulates has best been undertaken by France. The wild game management process should be actively implemented and based on the still up-to-date, universal postulates of Leopold, which can be treated as a model approach. In the article, it was determined that the perception of hunters in Poland is probably conditioned by stereotypical thinking, lack of knowledge, negative attitude towards diversity, and neglect in the environmental education of the society. Changing the perception of hunters due to various factors is extremely difficult because it is grassroots work that requires people’s involvement, time, money, and effort to conduct training and implement properly prepared educational programs. A comprehensive approach to the problem may, in the first stage, overcome the resistance resulting from negative attitudes towards hunting, and consequently encourage consumers to try game meat. Only comprehensive measures can create the conditions allowing potential consumers to see the benefits of hunting management and sustainable consumption including the consumption of wild animal meat.

2. Kaizer A., WINIARSKA M. (DS GMU doctoral student), Formela K., Neumann T., 2022, „Inland Navigation as an Opportunity to Increase the Cargo Capacity of th eTri-City Seaports”. Water, 14, 2482. https://doi.org/10.3390/w14162482, Impact Factor: 3.400, MNiSW Score: 100 pkt.
The aim of the article is to analyse the transport accessibility of the Tri-City seaports as well as to verify the necessity of starting the inland navigation. The proposal to develop inland navigation by creating new and developing existing waterways is supported by the idea of sustainable transport. The article presents the results of the operational analysis from the navigation and manoeuvring simulator Navi-Trainer Professional 5000. This concept intends to verify the option of relieving truck traffic in the Tri-City area.
In accordance with the simulation studies and referring to the verification on the field, it can be seen that inland navigation may become a real alternative to road transport.
Performed simulations can be used for an overall evaluation of aids to navigation placement, routeing, and needs for modifications in present conditions in combination with review of recorded tracks. Recorded tracks provide a very important basis for the evaluation of present conditions and are today already used as a decision-making tool for planning the placement and modification of aids to navigation.
It was determined that, in addition to relieving road traffic, it will also reduce the emission of harmful substances to the environment and decrease transport costs, and moreover, it will solve the problem of transporting oversize loads.
The greatest benefit will be the development of seaports and the possibility of increasing transhipments, their competitiveness in the Baltic Sea area will also increase, and the interest in the Tri-City seaports, as places with efficiently prospering facilities, will be aroused.

3. Kowalczewski P.Ł., WRÓBEL M.M. (doctoral student at DS GMU), SMARZYŃSKI K. (doctoral student at DS GMU),

Zembrzuska J., Ślachciński M., Jeżowski P., Tomczak A., Kulczyński B., Zielińska-Dawidziak M., Sałek K., Kmiecik D., 2024, „Potato Protein-Based Vegan Burgers Enriched with Different Sources of Iron and Fiber: Nutrition, Sensory Characteristics, and Antioxidants before and after In Vitro Digestion". Foods, 13(19), 3060. https://doi.org/10.3390/foods13193060, Impact Factor: 4.700, MNiSW Score: 100 pkt.
The aim of this research was to develop a technology for the production of plant-based burgers (PBBs) based on potato protein, also containing high content of iron and appropriately selected fats. The justification for the significance of these research results is the growing popularity of plant-based diets which has contributed to the dynamic development of the market for food alternatives of animal origin.
Consumers increasingly pay attention to the composition, aroma, and appearance of the products they buy. In the case of meat alternatives, it is crucial that their taste and structure resemble meat as much as possible, which is a challenge in the context of creating wholesome vegan products. Knowledge of customer expectations is crucial in quality management and in introducing innovative products to the market. Among the many plant proteins used in food production, particular attention is given to potato protein, which can be obtained from potato juice and has a high biological value. The produced PBBs were characterized by a high protein content and significant digestibility, especially in variants containing potato fiber, which allows for the use of the "high fiber content" claim on product labels. The amino acid profile analysis demonstrated that the PBBs are a good source of essential amino acids. The antioxidant properties of the PBBs showed a significant increase in activity following in vitro digestion, suggesting potential health benefits. The analysis of the overall sensory attractiveness of the tested products showed that one was selected as the most attractive variant of the developed burger analogue.

4. The invention, which is the DYLLI MOBILE APPLICATION, supports the development of logistics, modern warehouse management and distribution channels in order to create sustainable supply chains. It facilitates cooperation between the HORECA sector and the wholesale industry by creating flexible organizational structures and omnichannel management. The application provides quick and intuitive access to necessary functionalities and personalization depending on needs. The solution is dedicated for use in the catering and hotel industries.
The creators of the protected solution are: Prof. A. Przybyłowski, the Department of Transport at the Faculty of Navigation, W. CEYNOWA (doctoral student at DS GMU), and P. Wojtasik and Ł. Ciskowski (former students of the Faculty of Management and Quality Sciences).
The prototype of the protected mobile application together with the know-how and the Dylli logotype was developed and submitted for protection as part of the pre-implementation work GMU-06 (RWK/II 4.0/4/12/2020) in the "Innovation Incubator 4.0" program, implemented as part of the project "Support for the management of scientific research and commercialization of R&D results in scientific units and enterprises" under the Smart Growth Operational Programme 2014-2020.
The Patent Office of the Republic of Poland granted GMU the right to register industrial designs titled "Graphical user interface of a mobile application" for Dylli mobile application and on 13th March, 2024 issued the registration certificates No. PL 29202 and PL 29203. The subject of protection is the design of the finished product.

This invention was presented by GMU at the 17th International Warsaw Inventions Show IWIS. During the evaluation, the market potential of this solution, the strategy adopted for its legal protection, the level of technological readiness and the ecological aspect were considered. The essential factor was the innovativeness of the solution which consists in creating sustainable supply chains. The invention was awarded a silver medal and is included in the debut portfolio of the technological offer of GMU.

5. The patent application for the invention titled "Snack Corn Extrudates Enriched with Protein and Method of Their Production," application number P.446096, dated 14th September, 2023, has co-creators: M. Ruszkowska and Ma. ŚWITALSKI (doctoral student at DS GMU), with GMU and UPRP as the rights holders.
The aim of the invention is to provide high-quality extruded snack products enriched with full-value protein from alternative sources. This aim was achieved by using hemp seeds as an alternative source of protein. The essence of the invention are corn extrudates containing corn grits with the addition of hemp protein and the method of their production. This invention can be used in the food industry as an innovative, pro-quality solution meeting the needs of consumers.
For many years, research has been conducted on the enrichment of extruded snack products. One example of alternative protein sources are hemp seeds, which are a raw material of high nutritional value, mainly used for oil production. Contemporary demographic, social and ecological changes make it necessary to search for new, alternative sources of protein. Alternative sources of protein are defined as proteins that have so far not been used in human and animal nutrition or have been used only to a limited extent and only among certain populations. The main advantages of proteins from alternative sources are: high nutritional and biological value, significantly lower impact on environmental degradation, and economic benefits.

4. earth and related environmental sciences

Achievement Description

The achievements of doctoral students representing the discipline of Earth and environmental sciences submitted for evaluation include: two highly rated scientific articles published in English in internationally recognized journals and disseminated in open access, as well as a description of a SD UMG doctoral student's participation in the NCN OPUS grant. It should be emphasized that the education of doctoral students conducting their research in the discipline of Earth and environmental sciences at SD UMG has been carried out for only two years (1 doctoral student). Therefore, the number of significant achievements is limited to three.

1. Haule K., Kubacka M., TOCZEK H. (doctoral student at DS GMU), Lednicka B., Pranszke B., Freda W., 2024, „Correlation between Turbidity and Inherent Optical Properties as an Initial Recognition for Backscattering Coefficient Estimation". Water, 16(4), 594. https://doi.org/10.3390/w16040594, Impact Factor: 3.000, MNiSW Score: 100 pkt.
The aim of this study was to determine whether the measurements made with a turbidimeter can be described by the inherent optical properties (IOPs) of ocean water. The premise for undertaking this study is that seawater turbidity is a common water quality indicator measured in situ and estimated from space on a regular basis. However, this parameter is rarely correlated with the inherent optical properties of seawater, which carry information about seawater composition. Turbidity measurements are commonly conducted in natural waters, providing information about water transparency. Such measurements are performed with a wide variety of instruments using different geometries of the measuring system. Thus, they give a turbidity result described in different scales, which cannot be converted into the inherent optical properties. Based on these preliminary findings, the paper explores the correlation between the Seapoint turbidimeter signal and the backscattering coefficient of the sample in a model suspension of inorganic particles.
This study focused on the following research objectives: 1) Determining the angular weighting function that would define what part of the volume scattering function is recorded by the turbidity meter. 2) Determining angular scattering properties, as well as the magnitude of the signal, measured by the turbidity meter for different size fractions of the model suspension; 3) Finding the correlation of the turbidimeter signal with elements of the scattering properties of the suspension. Therefore, this article demonstrates a simple application of the turbidimeter weighting function in estimating the backscattering coefficient of an inorganic particle suspension model in seawater. The method for measuring the instrument's weighting function is presented, which allowed for characterizing its angular sensitivity to the presence of suspended particles. Next, the correlations between turbidity and the scattering and backscattering coefficients are described using the example of the model of inorganic particle suspension.
The correlations are analyzed for narrow size fractions of the particle size distribution of silica in the range of 0.59–190 μm. It was established that there is a good linear correlation (characterized by the coefficient of determination r2 = 0.979) between the part of the scattering coefficient measured by the turbidimeter and the backscattering coefficient of all size fractions of the model inorganic suspension.

2. OCIECZEK A., Kostek R., TOCZEK H. (doctoral student at SD GMU), 2023, Differential model of the kinetics of water vapour adsorption on maize starch particles". International Agrophysics, 37(2), 215-223. https://doi.org/10.31545/intagr/163569, Factor: 2.000, MNiSW Score: 100 pkt.

The aim of this study was developing a model of the kinetics of water vapor sorption on the surface of organic powders, which: 1) will prove well in describing the course of curves, 2) will enable establishing the time needed to reach the state of dynamic equilibrium, and 3) will allow investigating the relationship between the physical state of particles of the examined material and sorption kinetics. The rationale for undertaking this type of research is the fact that knowledge of the kinetics of water vapor sorption allows predicting the stability of food in the management of transport and storage processes, to optimize drying processes, and to rationalize the methods of studying sorption statics.
Therefore, the experimental data used to achieve this goal was obtained by continuous measurement of the increase sample mass. The study material was maize starch (MS): native maize starch (NMS) and micronized maize starch (MMS). The model was developed by matching the simulation results to the experimental results. The model parameters were determined by means of the direct identification method, which consisted in minimizing the mean square error between the time courses of the simulation and the experimental results. Two methods were deployed to minimize the error: multi-start and gradient ones. The multi-start method begins the search for a solution by randomly generating initial solutions, which in turn allows avoiding local minima. In turn, the gradient method serves to quickly find the minimum. This combination of methods yields good results.
The study results allowed concluding that the time needed to reach the state of dynamic equilibrium in the process of water vapor adsorption on the surface of native (NMS) and micronized (MMS) maize starch was significantly shorter than the usually assumed period of 30 days.
The fragmentation of maize starch granules did not cause significant changes in the kinetics of the water vapor adsorption process on their surface, but it can be very important in the determination of sorption isotherms.
The proposed model described the adsorption kinetics of water vapor by corn starch well, regardless of the mass of the samples used and the physical state of their particles.

3. On the basis of the decision of the Director of the National Science Center No. DEC-2023/49/B/ST10/02193/R dated June 7, 2024, a team of employees of the Department of Physics GMU, consisting of: Freda W. (grant manager), Baszanowska E., Boniewicz-Szmyt K., Lednicka B., Haule K., TOCZEK H. (doctoral student at DS GMU) is implementing a research project entitled: "Albedo of the surface of seas and oceans in the short-wave range of radiation as an indicator of climate change". The grant received funding in the amount of PLN 1,475,760.00 under the "OPUS 25" competition for a 4-year implementation period.

The goal of the project is to learn how inclusions in the marine environment can affect the change of albedo, i.e. the reflectivity of the sea surface, and thus the energy balance of the Earth.
Albedo is a physical term that means the ability of a given surface to reflect light. The higher the albedo, the more light is reflected from the surface and the less it heats up. Measurements of albedo indicate how much solar energy reaches the surface and the atmosphere of our planet. The surfaces of the seas and oceans have different albedos depending on many factors, such as the color of the water, ice cover, the presence of clouds, the angle of the sun's rays and water pollution. Water has a low albedo and absorbs a lot of light, which is why seas and oceans are a significant source of heat for the climate. Therefore, achieving the goal of this project will involve the execution of a series of tasks, which include:
1. Measurements of the optical properties of seawater.
2. Simulations of radiative transfer in the atmosphere-sea system.
3. Environmental measurements of albedo values above the sea surface.
4. Verification measurements of albedo values above the sea surface.
5. Evaluation of the influence of individual components and inclusions of seawater on changes in albedo.
6. Acquisition of input data for the development of prediction models of climate change.

Henryk Toczek, doctoral student at DS GMU serves as an expert in conducting laboratory and oceanographic environmental measurements, technical support, budget planning. The role of this doctoral student, due to his previous experience, is crucial in the implementation of the research project. Design, assembly, configuration, as well as performance of environmental measurements require experience in conducting field measurements carried out in the marine environment and in collecting and analyzing specialized data. The planning and organization of field measurements, as well as the establishment of the equipment base and the acquisition of reliable data, are conducted by the doctoral student.

5. civil engineering, geodesy and transport

Achievement Description

The achievements of the doctoral students representing the field of civil engineering, geodesy, and transport presented for evaluation include two highly ranked scientific articles published in English in international publishers and made available in open access. It should be emphasized that the education of doctoral students conducting their scientific work in the field of civil engineering, geodesy, and transport at SD UMG has only been taking place for a year. Therefore, the number of significant achievements is limited to just two.

1. Przybyłowski A., KASZUBA A. (doctoral student at DS GMU), Suchanek M., 2024, „Smart and sustainable urban mobility - public and shared transport users' behavior in Gdynia City: a case study”, Transport Problems, 19 (2); DOI:10.20858/tp.2023.19.2.03, Impact Factor: 0.500, MNiSW Score: 100 pkt.
The purpose of this paper is to analyze smart urban mobility development prerequisites and challenges, taking Gdynia city public and shared transport users’ preferences and transport behavior as a case study. The literature analysis indicates that novel technologies have resulted in the unprecedented and dynamic development of transport systems—one of the most important sectors of the economy. The implementation of smarter commuting solutions, in order to improve the processes of transportation, allows for cost and energy saving, better organization of time, and, as a result, an increase in quality of life. Also, this supports the operationalization of the sustainable development concept, enabling a compact and efficient urban transport system to be developed.
Therefore, a research hypothesis has been formulated stating that most commuters have sufficient digital competencies and benefit from the available modern technological solutions contributing to smarter and more sustainable urban development.
The general assessment of public transport in Gdynia is good. Respondents positively assessed such transport requirements as punctuality, travel comfort, regularity, availability, frequency and directness of connections, speed, and access to information. The low cost of travel, which was rated as average, was the worst in this ranking. The vast majority of people traveling around the city by public transport buy e-tickets from various applications, which proves the increasing penetration of digitalization into everyday life. The high satisfaction with various aspects of public transport in Gdynia, coupled with the growing adoption of e-ticketing through digital applications, suggests a positive trend towards modernization and efficiency within the transportation system. By addressing the cost concerns and further leveraging digital technologies, Gdynia’s public transport system has the potential to enhance its competitiveness and better meet the evolving needs of the city’s residents and visitors.
When it comes to shared transport, a fairly low rate of usage can be observed. Introducing an electric city bikes to Gdynia city may significantly increase this indicator, fostering a more sustainable and eco-friendly commuting culture. The availability of electric city bikes may encourage more individuals to opt for shared transportation options, making it more sustainable. The respondents have sufficient digital competencies, and they did not report any problems adapting to the digital reality. The percentage of people using applications to facilitate their mobility and enable the purchase of tickets is high, which creates a favorable environment for the possible implementation of further modern solutions in Gdynia. Readiness for digital innovation suggests promising prospects for future progress, which will enhance the convenience, accessibility, and efficiency of the city's mobility infrastructure. The obtained results prove the importance of the role the digital world plays these days and confirm how the impact of technology on the transportation sector has helped to develop new opportunities for urban mobility. Thus, the research hypothesis has been supported. Most of Gdynia’s public and shared transport systems’ users benefit from the available modern technological solutions contributing therefore to

smarter and more sustainable urban development: 96% of all survey participants declared that they were users of various types of applications and that these applications helped them with urban traveling, while 77% of them regularly bought electronic tickets for available modes of public transport in the city.

2. KASZUBA A. (doctoral student at GMU), Przybyłowski A., Kuzia M., 2024, „Sustainable mobility challenges - case study of the offshore center in Gdansk transport accessibility", Economics and Environment, 90(3), 843, s. 1-12 ; DOI: 10.34659/eis.2024.90.3.843; Impact Factor: 1.000, MNiSW Score: 100 pkt.

This case study investigates the impact of transport accessibility on employee preferences and behaviour in the context of changing the premises location, using the example of the Maritime Institute of Gdynia Maritime University (GMU), located at the newly opened Offshore Center in Gdansk seaport. This pilot study aims to contribute to urban mobility planning by exploring how to transport accessibility influences employee behaviour and by proposing strategies to improve commuting conditions and promote more sustainable solutions. An important rationale for undertaking this research is that Urban mobility planning is one of the key elements in building a sustainable future. Strategic management of urban transport traffic not only reduces congestion and minimises the negative impact on the environment but also positively affects the improvement of residents' quality of life. Furthermore, following the Corporate Sustainability Reporting Directive approved by the European Union in 2023, companies are obliged to submit annual reports on their environmental impact. One of its elements is the calculation of the organization's carbon footprint, which includes emissions caused by means of transport, including emissions from commuting to work.
Therefore, a research hypothesis was formulated, stating that he relocation to new premises with limited transport accessibility may, as a consequence, influence the choice of commuting transportation methods among employees, potentially leading to a shift towards less sustainable means of transport.
As a result of the conducted study, it was determined that the participants predominantly relied on cars for commuting. They cited reasons such as time-saving, comfort, and the flexibility to undertake other errands. However, motivations for using public transport and bicycles centred around cost savings, environmental concerns, and health considerations. Despite the inclination towards sustainable modes of transportation, challenges such as long travel times, inadequate infra-structure, and safety concerns deterred employees from embracing alternatives to car commuting. The study shed light on employees' apprehensions regarding the new location, including infrastructure shortcomings, increased commuting distances, and limited public transport options. The lack of cycling infrastructure and air pollution concerns emerged as significant deterrents to sustainable commuting practices, leading to an almost complete abandonment of active forms of transportation. Addressing these challenges requires a multifaceted approach. Employees expressed a desire for improved infrastructure, enhanced public transport options, and subsidies for monthly tickets. Additionally, the proposal for a company bus service garnered substantial support, indicating a willingness to embrace collective commuting solutions.
This case study reveals the critical role of transport accessibility in shaping sustainable mobility behaviour. As organisations navigate relocations and expansions, prioritising accessible locations and investing in supportive infrastructure emerge as imperative steps towards fostering sustainable commuting practices and mitigating environmental impacts. By aligning transportation policies with employee needs and environmental objectives, organisations can significantly contribute to promoting sustainable mobility and creating healthier, more livable urban environments. The lessons learned from this study can contribute to broader efforts in promoting sustainable mobility and enhancing the overall quality of urban life.
The research hypothesis has been positively verified, which allows for the conclusion that the relocation to new premises with limited transport accessibility may, as a consequence, influence the choice of commuting transportation methods among employees, potentially leading to a shift towards less sustainable means of transport.

ATTACHMENTS

Adequacy of the education program and individual research plans to the learning outcomes for qualifications at PRK level 8 and their implementation

No.	File type	Filename
1	Education programmes during the evaluation period	2019_resolution_education_program_DS_GMU.p
2	Education programmes during the evaluation period	2020_resolution_education_program_DS_GMU.p
3	Education programmes during the evaluation period	2021_resolution_education_program_DS_GMU.p
4	Education programmes during the evaluation period	2022_resolution_education_program_DS_GMU.p
5	Education programmes during the evaluation period	2023_resolution_education_program_DS_GMU.p
6	Education programmes during the evaluation period	2024_resolution_education_program_DS_GMU.p

Qualifications of academic teachers or research staff conducting education at the doctoral school

No.	File type	Filename
1	management and quality studies	profiles_management_commodi
2	civil engineering, geodesy and transport	profiles_civil_engineering_geode
3	earth and related environmental sciences	profiles_earth_and_related_envir
4	automation, electronics, electrical engineering and space technologies	profiles_automation_electronics_
5	automation, electronics and electrical engineering	info_eng.pdf

Quality of scientific or artistic supervision and support for conducting scientific activities

No.	File type	Filename
1	Internal regulations that pertain to the midterm evaluation and that are in force during the evaluation period, such as evaluation rules and criteria	internal_regulation_mid-term_evaluation_automation.pdf
2	Internal regulations that pertain to the midterm evaluation and that are in force during the evaluation period, such as evaluation rules and criteria	internal_regulation_mid-term_evaluation_management.pdf
3	Internal regulations that pertain to the midterm evaluation and that are in force during the evaluation period, such as evaluation rules and criteria	Mid-term_Evaluation_Form.pdf

STATEMENTS

- [x] I hereby declare that the information contained in the self-assessment report is fully consistent with the factual and legal status.
- [x] I hereby declare that the information contained in the self-assessment report in Polish and English is fully identical in substance.
- [x] I hereby declare that the documents attached to the self-assessment report in Polish and English are fully identical in substance.

Signature

AUTHORIZATIONS

Added files

Upoważnienie_Prorektor.pdf

RESOLUTION NO. 190/XVI
OF THE SENATE OF GDYNIA MARITIME UNIVERSITY
of May 30, 2019
on establishing the Education Program for the Doctoral School at Gdynia Maritime University for the academic year 2019/2020

Pursuant to § 37 section 1 point 16 of the Statute of Gdynia Maritime University, in connection with Article 201 section 4 of the Act of July 20, 2018 – the Law on Higher Education and Science (Journal of Laws of 2018, item 1668, as amended), and Article 291 of the Act of July 3, 2018 – on provisions introducing the Act - the Law on Higher Education and Science (Journal of Laws of 2018, item 1669, as amended), the Senate resolves as follows:

§ 1

The education program for doctoral students at the Doctoral School at Gdynia Maritime University, which constitutes the annex to this resolution, is hereby adopted.

§ 2

This resolution shall enter into force on the date of its adoption.

Chair of the Senate

Prof. Dr Eng. Janusz Zarębski

Gdynia Maritime University

Annex No. 1 to Resolution No. 190/XVI
of the Senate of Gdynia Maritime University of May 30, 2019

Education program for the Doctoral School at Gdynia Maritime University

1. Doctoral education at Gdynia Maritime University (GMU) takes place within the framework of a single Doctoral School (DS GMU). Education in the Doctoral School is based on the education program and an individual research plan, the implementation of which is subject to continuous supervision by the supervisors and the Director of the Doctoral School.

2. Doctoral education at Gdynia Maritime University lasts 8 semesters and concludes with the submission of the doctoral dissertation.

3. The education program of the Doctoral School enables the acquisition of knowledge, skills, and social competencies required for the level 8 of the Polish Qualifications Framework (PRK)[1], and its realization forms the basis for preparing the doctoral dissertation as well as developing skills for scientific and teaching work.

4. The education program in the Doctoral School includes both mandatory and optional courses organized for all Doctoral School participants, i.e., doctoral students from two scientific disciplines in which GMU runs the Doctoral School. Due to the interdisciplinary nature of education in the Doctoral School, doctoral students may participate in courses assigned to a different discipline than the discipline within which the doctoral student prepares the doctoral dissertation.

5. The education program for the Doctoral School at Gdynia Maritime University includes the following:

Courses/Module	Number of hours	Form of classes	Form of credit	Learning outcomes (PRK symbol)
Two courses covering the issues related to the discipline of automation, electronics, and electrical engineering	2x15h	Mandatory lectures for doctoral students in the discipline of automation, electronics, and electrical engineering Optional lectures for doctoral students in the	Exam	P8S_WG P8S_KK

1. Regulation of the Minister of Science and Higher Education of November 14, 2018, on the characteristics of the second-degree learning outcomes for qualifications at the levels 6-8 of the Polish Qualifications Framework (Journal of Laws of 2018, item 2218)

Courses/Module	Number of hours	Form of classes	Form of credit	Learning outcomes (PRK symbol)
		discipline of management and quality studies		
Two courses covering the issues related to the discipline of management and quality studies	2x15h	Mandatory lectures for doctoral students in the discipline of management and quality science Optional lectures for doctoral students in the discipline of automation, electronics, and electrical engineering	Exam	P8S_WG P8S_KK
English language	30 per academic year x 4 years = 120h	Optional course for doctoral students of both disciplines	Graded credit	P8S_UK
Methodology of scientific work	15h	Mandatory lecture for doctoral students of both disciplines	Exam	P8S_WG P8S_UW P8S_KK
Economic determinants of scientific activity	10h	Mandatory lecture for doctoral students of both disciplines	Graded credit	P8S_WK
Legal and ethical determinants of scientific activity	10h	Mandatory lecture for doctoral students of both disciplines	Graded credit	P8S_WK P8S_KR
Transfer of knowledge and technology to the economic and social sectors	5h	Mandatory lecture for doctoral students of both disciplines	Graded credit	P8S_WK P8S_UW P8S_KO
Research results and know-how commercialization	5h	Mandatory lecture for doctoral students of both disciplines	Graded credit	P8S_WK
Principles of communication in research and teaching activity	15h	Mandatory lecture for doctoral students of both disciplines	Graded credit	P8S_UK
Research project management	10h	Mandatory lecture for doctoral students of both disciplines	Graded credit	P8S_UO

1. Regulation of the Minister of Science and Higher Education of November 14, 2018, on the characteristics of the second-degree learning outcomes for qualifications at the levels 6-8 of the Polish Qualifications Framework (Journal of Laws of 2018, item 2218)

Courses/Module	Number of hours	Form of classes	Form of credit	Learning outcomes (PRK symbol)
Professional practicum in the form of teaching first- and second-cycle students, conducted independently or in a team with other teachers	10h per academic year x 4 years = 40h	Mandatory participation for doctoral students of both disciplines	Graded credit	P8S_UU

6. The list of courses comprising the issues related to both scientific disciplines, in which GMU runs the Doctoral School, shall be published by the Director of the Doctoral School in a timely manner, allowing the commencement of education in the Doctoral School of Gdynia Maritime University in the academic year 2019/2020.

1. Regulation of the Minister of Science and Higher Education of November 14, 2018, on the characteristics of the second-degree learning outcomes for qualifications at the levels 6-8 of the Polish Qualifications Framework (Journal of Laws of 2018, item 2218)

RESOLUTION NO. 259/XVI
OF THE SENATE OF GDYNIA MARITIME UNIVERSITY
of June 4, 2020
on establishing the Education Program for the Doctoral School at Gdynia Maritime University for the academic year 2020/2021

Pursuant to § 37 section 1 point 16 of the Statute of Gdynia Maritime University, in connection with Article 201 section 4 of the Act of July 20, 2018 – the Law on Higher Education and Science (Journal of Laws of 2018, item 1668, as amended), and Article 291 of the Act of July 3, 2018 – on provisions introducing the Act - the Law on Higher Education and Science (Journal of Laws of 2018, item 1669, as amended), the Senate resolves as follows:

§ 1

The education program for doctoral students at the Doctoral School at Gdynia Maritime University, which constitutes the annex to this resolution, is hereby adopted.

§ 2

This resolution shall enter into force on the date of its adoption.

Chair of the Senate

Prof. Dr Eng. Janusz Zarębski

Gdynia Maritime University

Annex No. 1 to Resolution No. 259/XVI
of the Senate of Gdynia Maritime University
of June 4, 2020

Education program for the Doctoral School at Gdynia Maritime University

1. Doctoral education at Gdynia Maritime University (GMU) takes place within the framework of a single Doctoral School (DS GMU). Education in the Doctoral School is based on the education program and an individual research plan, the implementation of which is subject to continuous supervision by the supervisors and the Director of the Doctoral School.

2. Doctoral education at Gdynia Maritime University lasts 8 semesters and concludes with the submission of the doctoral dissertation.

3. The education program of the Doctoral School enables the acquisition of knowledge, skills, and social competencies required for the level 8 of the Polish Qualifications Framework (PRK)[1], and its realization forms the basis for preparing the doctoral dissertation as well as developing skills for scientific and teaching work.

4. The education program in the Doctoral School includes both mandatory and optional courses organized for all Doctoral School participants, i.e., doctoral students from two scientific disciplines in which GMU runs the Doctoral School. Due to the interdisciplinary nature of education in the Doctoral School, doctoral students may participate in courses assigned to a different discipline than the discipline within which the doctoral student prepares the doctoral dissertation.

5. The education program for the Doctoral School at Gdynia Maritime University includes the following:

Courses/Module	Number of hours	Form of classes	Form of credit	Learning outcomes (PRK symbol)
Two courses covering the issues related to the discipline of automation, electronics, and electrical engineering	2x15h	Mandatory lectures for doctoral students in the discipline of automation, electronics, and electrical engineering Optional lectures for doctoral students in the discipline of management and quality studies	Exam	P8S_WG P8S_KK

1. Regulation of the Minister of Science and Higher Education of November 14, 2018, on the characteristics of the second-degree learning outcomes for qualifications at the levels 6-8 of the Polish Qualifications Framework (Journal of Laws of 2018, item 2218)

Courses/Module	Number of hours	Form of classes	Form of credit	Learning outcomes (PRK symbol)
Two courses covering the issues related to the discipline of management and quality studies	2x15h	Mandatory lectures for doctoral students in the discipline of management and quality science Optional lectures for doctoral students in the discipline of automation, electronics, and electrical engineering	Exam	P8S_WG P8S_KK
English language	30 per academic year x 4 years = 120h	Optional course for doctoral students of both disciplines	Graded credit	P8S_UK
Methodology of scientific work	15h	Mandatory lecture for doctoral students of both disciplines	Exam	P8S_WG P8S_UW P8S_KK
Economic determinants of scientific activity	10h	Mandatory lecture for doctoral students of both disciplines	Graded credit	P8S_WK
Legal and ethical determinants of scientific activity	10h	Mandatory lecture for doctoral students of both disciplines	Graded credit	P8S_WK P8S_KR
Transfer of knowledge and technology to the economic and social sectors	5h	Mandatory lecture for doctoral students of both disciplines	Graded credit	P8S_WK P8S_UW P8S_KO
Research results and know-how commercialization	5h	Mandatory lecture for doctoral students of both disciplines	Graded credit	P8S_WK
Principles of communication in scientific and teaching activities	15h	Mandatory lecture for doctoral students of both disciplines	Graded credit	P8S_UK
Research project management	10h	Mandatory lecture for doctoral students of both disciplines	Graded credit	P8S_UO
Professional practicum in the form of teaching first- and	10h per academic	Mandatory participation for	Graded credit	P8S_UU

1. Regulation of the Minister of Science and Higher Education of November 14, 2018, on the characteristics of the second-degree learning outcomes for qualifications at the levels 6-8 of the Polish Qualifications Framework (Journal of Laws of 2018, item 2218)

Courses/Module	Number of hours	Form of classes	Form of credit	Learning outcomes (PRK symbol)
second-cycle students, conducted independently or in a team with other teachers	year x 4 years = 40h	doctoral students of both disciplines		

6. The list of courses comprising the issues related to both scientific disciplines, in which GMU runs the Doctoral School, shall be published by the Director of the Doctoral School in a timely manner, allowing the commencement of education in the Doctoral School of Gdynia Maritime University in the academic year 2020/2021.

1. Regulation of the Minister of Science and Higher Education of November 14, 2018, on the characteristics of the second-degree learning outcomes for qualifications at the levels 6-8 of the Polish Qualifications Framework (Journal of Laws of 2018, item 2218)

RESOLUTION NO. 26/XVII
OF THE SENATE OF GDYNIA MARITIME UNIVERSITY
of March 11, 2021

on establishing the Education Program for the Doctoral School at Gdynia Maritime University for individuals admitted for the academic year 2021/2022

Pursuant to Article 201, section 4 of the Act of July 20, 2018 – the Law on Higher Education and Science (Journal of Laws of 2020, item 85, as amended) and § 16 section 1 point 22 of the Statute of Gdynia Maritime University, the Senate resolves as follows:

§ 1

The education program for doctoral students at the Doctoral School at Gdynia Maritime University, which constitutes the annex to this resolution, is hereby adopted.

§ 2

This resolution shall enter into force on the date of its adoption.

Chair of the Senate

Prof. Dr Hab. Eng. Capt. Adam Weintrit

Annex No. 1 to Resolution No. 26/XVII
of the Senate of Gdynia Maritime University of March 11, 2021

Education program for the Doctoral School at Gdynia Maritime University for individuals admitted for the academic year 2021/2022

1. Doctoral education at Gdynia Maritime University (GMU) takes place within the framework of a single Doctoral School (DS GMU). Education in the Doctoral School is based on the education program and an individual research plan, the implementation of which is subject to continuous supervision by the supervisors and the Director of the Doctoral School.

2. Doctoral education at Gdynia Maritime University lasts 8 semesters and concludes with the submission of the doctoral dissertation.

3. The education program of the Doctoral School enables the acquisition of knowledge, skills, and social competencies required for the level 8 of the Polish Qualifications Framework (PRK)[1], and its realization forms the basis for preparing the doctoral dissertation as well as developing skills for scientific and teaching work.

4. The education program in the Doctoral School includes both mandatory and optional courses organized for all Doctoral School participants, i.e., doctoral students from two scientific disciplines in which GMU runs the Doctoral School. Due to the interdisciplinary nature of education in the Doctoral School, doctoral students may participate in courses assigned to a different discipline than the discipline within which the doctoral student prepares the doctoral dissertation.

5. The education program for the Doctoral School at Gdynia Maritime University includes the following:

Courses/Module	Number of hours	Form of classes	Form of credit	Learning outcomes (PRK symbol)
Two courses covering the issues related to the discipline of automation, electronics, and electrical engineering to be chosen from a pool proposed by the Faculty of Electrical Engineering	2x15h	Mandatory lectures for doctoral students in the discipline of automation, electronics, and electrical engineering Optional lectures for doctoral students in the discipline of	Exam	P8S_WG, P8S_KK

1. Regulation of the Minister of Science and Higher Education of November 14, 2018, on the characteristics of the second-degree learning outcomes for qualifications at the levels 6-8 of the Polish Qualifications Framework (Journal of Laws of 2018, item 2218)

Courses/Module	Number of hours	Form of classes	Form of credit	Learning outcomes (PRK symbol)
		management and quality studies		
Two courses covering the issues related to the discipline of management and quality studies to be chosen from a pool proposed by the Faculty of Management and Quality Science	2x15h	Mandatory lectures for doctoral students in the discipline of management and quality science Optional lectures for doctoral students in the discipline of automation, electronics, and electrical engineering	Exam	P8S_WG P8S_KK
English language	30 per academic year x 4 years = 120h	Optional course for doctoral students of both disciplines	Graded credit	P8S_UK
Methodology of scientific work	15h	Mandatory lecture for doctoral students of both disciplines	Exam	P8S_WG, P8S_UW P8S_KK
Two courses covering the issues related to advanced data analysis methods proposed by the Faculty Electrical Engineering and the Faculty of Management and Quality Science	2x15h	Mandatory lectures for doctoral students of both disciplines	Exam	P8S_WG P8S_UW
Economic determinants of scientific activity	10h	Mandatory lecture for doctoral students of both disciplines	Graded credit	P8S_WK
Legal and ethical determinants of scientific activity	10h	Mandatory lecture for doctoral students of both disciplines	Graded credit	P8S_WK P8S_KR
Transfer of knowledge and technology to the economic and social sectors	5h	Mandatory lecture for doctoral students of both disciplines	Graded credit	P8S_WK P8S_UW P8S_KO
Research results and know-how commercialization	5h	Mandatory lecture for doctoral students of both disciplines	Graded credit	P8S_WK

1. Regulation of the Minister of Science and Higher Education of November 14, 2018, on the characteristics of the second-degree learning outcomes for qualifications at the levels 6-8 of the Polish Qualifications Framework (Journal of Laws of 2018, item 2218)

Courses/Module	Number of hours	Form of classes	Form of credit	Learning outcomes (PRK symbol)
Principles of communication in research and teaching activity	15h	Mandatory lecture for doctoral students of both disciplines	Graded credit	P8S_UK
Research project management	10h	Mandatory lecture for doctoral students of both disciplines	Graded credit	P8S_UO
Professional practicum in the form of teaching first- and second-cycle students, conducted independently or in a team with other teachers	10h per academic year x 4 years = 40h	Mandatory participation for doctoral students of both disciplines	Graded credit	P8S_UU

6. The list of courses comprising the issues related to both scientific disciplines, in which GMU runs the Doctoral School, shall be published by the Director of the Doctoral School in a timely manner, allowing the commencement of education in the Doctoral School of Gdynia Maritime University in the academic year 2021/2022.

1. Regulation of the Minister of Science and Higher Education of November 14, 2018, on the characteristics of the second-degree learning outcomes for qualifications at the levels 6-8 of the Polish Qualifications Framework (Journal of Laws of 2018, item 2218)

RESOLUTION NO. 83/XVII
OF THE SENATE OF GDYNIA MARITIME UNIVERSITY
of January 20, 2022

on establishing the Education Program for the Doctoral School at Gdynia Maritime University for the academic year 2022/2023

Pursuant to Article 28, section 1 point 12 of the Act of July 20, 2018 – the Law on Higher Education and Science (Journal of Laws of 2021, item 478, as amended) and § 89 section 3 of the Statute of Gdynia Maritime University, the Senate resolves as follows:

§ 1

The education program for doctoral students at the Doctoral School at Gdynia Maritime University, which constitutes the annex to this resolution, is hereby adopted.

§ 2

This resolution shall enter into force on the date of its adoption.

Chair of the Senate

Prof. Dr Hab. Eng. Tomasz Tarasiuk
I Deputy Rector

Annex No. 1 to Resolution No. 83/XVII of the Senate of Gdynia Maritime University of January 20, 2022

Education program for the Doctoral School at Gdynia Maritime University

1. Doctoral education at Gdynia Maritime University (GMU) takes place within the framework of a single Doctoral School (DS GMU). Education in the Doctoral School is based on the education program and an individual research plan, the implementation of which is subject to continuous supervision by the supervisors and the Director of the Doctoral School.

2. Doctoral education at Gdynia Maritime University lasts 8 semesters and concludes with the submission of the doctoral dissertation.

3. The education program of the Doctoral School enables the acquisition of knowledge, skills, and social competencies required for the level 8 of the Polish Qualifications Framework (PRK)[1], and its realization forms the basis for preparing the doctoral dissertation as well as developing skills for scientific and teaching work.

4. The education program in the Doctoral School includes both mandatory and optional courses organized for all Doctoral School participants, i.e., doctoral students from two scientific disciplines in which GMU runs the Doctoral School. Due to the interdisciplinary nature of education in the Doctoral School, doctoral students may participate in courses assigned to a different discipline than the discipline within which the doctoral student prepares the doctoral dissertation.

5. The education program for the Doctoral School at Gdynia Maritime University includes the following:

Courses/Module	**Number of hours**	**Form of classes**	**Form of credit**	**Learning outcomes (PRK symbol)**
Two courses covering the issues related to the discipline of automation, electronics, and electrical engineering to be chosen from a pool proposed by the Faculty of Electrical Engineering	2x15h	Mandatory lectures for doctoral students in the discipline of automation, electronics, and electrical engineering Optional lectures for doctoral students in the discipline of management and quality studies	Exam	P8S_WG, P8S_KK

1. Regulation of the Minister of Science and Higher Education of November 14, 2018, on the characteristics of the second-degree learning outcomes for qualifications at the levels 6-8 of the Polish Qualifications Framework (Journal of Laws of 2018, item 2218)

Courses/Module	Number of hours	Form of classes	Form of credit	Learning outcomes (PRK symbol)
Two courses covering the issues related to the discipline of management and quality studies to be chosen from a pool proposed by the Faculty of Management and Quality Science	2x15h	Mandatory lectures for doctoral students in the discipline of management and quality science Optional lectures for doctoral students in the discipline of automation, electronics, and electrical engineering	Exam	P8S_WG P8S_KK
English language	30 per academic year x 4 years = 120h	Mandatory lectures for doctoral students of both disciplines of DS GMU until obtaining a B2 certificate, thereafter optional	Graded credit	P8S_UK
Methodology of scientific work	15h	Mandatory lecture for doctoral students of both disciplines	Exam	P8S_WG P8S_UW P8S_KK
Two courses covering the issues related to advanced data analysis methods proposed by the Faculty Electrical Engineering and the Faculty of Management and Quality Science	2x15h	Mandatory lectures for doctoral students of both disciplines	Exam	P8S_WG P8S_UW
Economic determinants of scientific activity	10h	Mandatory lecture for doctoral students of both disciplines	Graded credit	P8S_WK
Legal and ethical determinants of scientific activity	10h	Mandatory lecture for doctoral students of both disciplines	Graded credit	P8S_WK P8S_KR
Transfer of knowledge and technology to the economic and social sectors	5h	Mandatory lecture for doctoral students of both disciplines	Graded credit	P8S_WK P8S_UW P8S_KO
Research results and know-how commercialization	5h	Mandatory lecture for doctoral students of both disciplines	Graded credit	P8S_WK

1. Regulation of the Minister of Science and Higher Education of November 14, 2018, on the characteristics of the second-degree learning outcomes for qualifications at the levels 6-8 of the Polish Qualifications Framework (Journal of Laws of 2018, item 2218)

Courses/Module	Number of hours	Form of classes	Form of credit	Learning outcomes (PRK symbol)
Principles of communication in scientific and teaching activities	15h	Mandatory lecture for doctoral students of both disciplines	Graded credit	P8S_UK
Research project management	10h	Mandatory lecture for doctoral students of both disciplines	Graded credit	P8S_UO
One course offered by the Doctoral School conducted in English	10h	Mandatory lecture for doctoral students in all disciplines of DS GMU	Graded credit	P8S_UK P8S_UO P8S_KO
Professional practicum in the form of teaching first- and second-cycle students, conducted independently or in a team with other teachers	10h per academic year x 4 years = 40h	Mandatory participation for doctoral students of both disciplines	Credit	P8S_UU
Doctoral seminar	20h per academic year x 4 years = 80h	Mandatory for doctoral students in all disciplines of DS GMU	Credit	P8S_WG P8S_UW P8S_UK P8S_KK P8S_KR
Doctoral workshop	20h per academic year x 4 years = 80h	Mandatory for doctoral students in all disciplines of DS GMU	Credit	P8S_UO P8S_UU P8S_KK
Reporting session	6h per academic year x 4 years = 24h	Mandatory for doctoral students in all disciplines of DS GMU	Credit	P8S_WG P8S_UW P8S_UK
Occupational health and safety	2h	Mandatory for doctoral students in all disciplines of DS GMU	Credit	P8S_KO
Library training	2h	Mandatory for doctoral students in all disciplines of DS GMU	Credit	P8S_WG P8S_WK

1. Regulation of the Minister of Science and Higher Education of November 14, 2018, on the characteristics of the second-degree learning outcomes for qualifications at the levels 6-8 of the Polish Qualifications Framework (Journal of Laws of 2018, item 2218)

6. The list of courses comprising the issues related to both scientific disciplines, in which GMU runs the Doctoral School, shall be published by the Director of the Doctoral School in a timely manner, allowing the commencement of education in the Doctoral School of Gdynia Maritime University in the academic year 2022/2023.

1. Regulation of the Minister of Science and Higher Education of November 14, 2018, on the characteristics of the second-degree learning outcomes for qualifications at the levels 6-8 of the Polish Qualifications Framework (Journal of Laws of 2018, item 2218)

RESOLUTION NO. 169/XVII
OF THE SENATE OF GDYNIA MARITIME UNIVERSITY
of March 2, 2023

on establishing the Education Program for the Doctoral School at Gdynia Maritime University for the academic year 2023/2024

Pursuant to Article 201, section 4 of the Act of July 20, 2018 – the Law on Higher Education and Science (Journal of Laws of 2022, item 574, as amended) and § 89, section 3 of the Statute of Gdynia Maritime University, the Senate resolves as follows:

§ 1

The education program for doctoral students at the Doctoral School at Gdynia Maritime University, which constitutes the annex to this resolution, is hereby adopted.

§ 2

This resolution shall enter into force on the date of its adoption.

Chair of the Senate

Prof. Dr Hab. Eng. Capt. Adam Weintrit

Gdynia Maritime University

Annex No. 1 to Resolution No. 169/XVII
of the Senate of Gdynia Maritime University
of March 22, 2023.

Educational Program of the Doctoral School at Gdynia Maritime University

1. Doctoral education at Gdynia Maritime University (GMU) takes place within the framework of a single Doctoral School (DS GMU). Education in the Doctoral School is based on the education program and an individual research plan, the implementation of which is subject to continuous supervision by the supervisors and the Director of the Doctoral School.

2. Doctoral education at Gdynia Maritime University lasts 8 semesters and concludes with the submission of the doctoral dissertation.

3. The education program of the Doctoral School enables the acquisition of knowledge, skills, and social competencies required for the level 8 of the Polish Qualifications Framework (PRK)[1], and its realization forms the basis for preparing the doctoral dissertation as well as developing skills for scientific and teaching work.

4. The education program in the Doctoral School includes both mandatory and optional courses organized for all Doctoral School participants, i.e., doctoral students of the four scientific disciplines in which GMU runs the Doctoral School. Due to the interdisciplinary nature of education in the Doctoral School, doctoral students may participate in courses assigned to a different discipline than the discipline within which the doctoral student prepares the doctoral dissertation.

5. The education program for the Doctoral School at Gdynia Maritime University includes the following:

Course/Module	**Number of hours**	**Form of classes**	**Form of credit**	**Learning outcomes (PRK symbol[1])**
Two courses covering the issues related to the discipline of Automation, electronics, electrical engineering and space technologies to be chosen from a pool proposed by the Faculty of Electrical Engineering	2x15h	Mandatory lectures for doctoral students of the discipline of automation, electronics, electrical engineering and space technologies Optional lectures for doctoral students of other disciplines in DS GMU	Exam	P8S_WG P8S_KK

1. Regulation of the Minister of Science and Higher Education of November 14, 2018, on the characteristics of the second-degree learning outcomes for qualifications at levels 6-8 of the Polish Qualifications Framework (Journal of Laws of 2018, item 2218).

Course/Module	Number of hours	Form of classes	Form of credit	Learning outcomes (PRK symbol[1])
Two courses covering the issues related to the discipline of management and quality studies to be chosen from a pool proposed by the Faculty of Management and Quality Science	2x15h	Mandatory lectures for doctoral students of the discipline of management and quality studies Optional lectures for doctoral students of other disciplines in DS GMU	Exam	P8S_WG P8S_KK
Two courses covering the issues related to the discipline of civil engineering, geodesy and transport to be chosen from a pool proposed by the Faculty of Navigation	2x15h	Mandatory lectures for doctoral students of civil engineering, geodesy and transport Optional lectures for doctoral students from other disciplines in DS GMU	Exam	P8S_WG P8S_KK
Two courses covering the issues related to related to the discipline of of earth and related environmental sciences to be chosen from a pool proposed by the Maritime Institute	2x15h	Mandatory lectures for doctoral students of earth and related environmental sciences Optional lectures for doctoral students from other disciplines in DS GMU	Exam	P8S_WG P8S_KK
English language	30h per academic year x 4 years = 120h	Mandatory lectures for doctoral students in all disciplines of DS GMU until obtaining a B2 certificate, thereafter optional	Graded credit	P8S_UK
Methodology of scientific work	15h	Mandatory lecture for doctoral students in all disciplines of DS GMU	Exam	P8S_WG P8S_UW P8S_KK
Two courses covering the issues related to advanced data analysis methods proposed by the Faculty of Electrical Engineering, the Faculty of Management and Quality Science, the Faculty of Navigation, the Maritime Institute	2x15h	Mandatory lectures for doctoral students in all disciplines of DS GMU	Exam	P8S_WG P8S_UW
Economic determinants of scientific activity	10h	Mandatory lecture for doctoral students in all disciplines of DS GMU	Graded credit	P8S_WK
Legal and ethical determinants of scientific activity	10h	Mandatory lecture for doctoral students in all disciplines of DS GMU	Graded credit	P8S_WK P8S_KR
Transfer of knowledge and technology to the economic and social sectors	5h	Mandatory lecture for doctoral students in all disciplines of DS GMU	Graded credit	P8S_WK P8S_UW P8S_KO
Research results and know-how commercialization	5h	Mandatory lecture for doctoral students in all disciplines of DS GMU	Graded credit	P8S_WK
Principles of communication in research and teaching activity	15h	Mandatory lecture for doctoral students in all disciplines of DS GMU	Graded credit	P8S_UK

Course/Module	Number of hours	Form of classes	Form of credit	Learning outcomes (PRK symbol[1])
Research project management	10h	Mandatory lecture for doctoral students in all disciplines of DS GMU	Graded credit	P8S_UO
One course offered by the Doctoral School conducted in English	10h	Mandatory lecture for doctoral students in all disciplines of DS GMU	Graded credit	P8S_UK P8S_UO P8S_KO
Professional practicum in the form of teaching first- and second-cycle students, conducted independently or in a team with other teachers	10h per academic year x 4 years = 40h	Mandatory for doctoral students in all disciplines of DS GMU	Credit	P8S_UU
Doctoral seminar	20h per academic year x 4 years = 80h	Mandatory for doctoral students in all disciplines of DS GMU	Credit	P8S_WG P8S_UW P8S_UK P8S_KK P8S_KR
Doctoral workshop	20h per academic year x 4 years = 80h	Mandatory for doctoral students in all disciplines of DS GMU	Credit	P8S_UO P8S_UU P8S_KK
Reporting session	6h per academic year x 4 years = 24h	Mandatory for doctoral students in all disciplines of DS GMU	Credit	P8S_WG P8S_UW P8S_UK
Occupational health and safety training	2h	Mandatory for doctoral students in all disciplines of DS GMU	Credit	P8S_KO
Library training	2h	Mandatory for doctoral students in all disciplines of DS GMU	Credit	P8S_WG P8S_WK

6. The list of courses covering the issues related to both scientific disciplines, in which GMU runs the Doctoral School, shall be published by the Director of the Doctoral School in a timely manner, allowing the commencement of education in the Doctoral School of Gdynia Maritime University in the academic year 2023/2024 academic year.

RESOLUTION NO. 250/XVII
OF THE SENATE OF GDYNIA MARITIME UNIVERSITY
of March 21, 2024

on establishing the Education Program for the Doctoral School at Gdynia Maritime University for the academic year 2024/2025

Pursuant to Article 201, section 4 of the Act of July 20, 2018 – the Law on Higher Education and Science (Journal of Laws of 2023, item 742, as amended) and § 89, section 3 of the Statute of Gdynia Maritime University, the Senate resolves as follows:

§ 1

The education program for doctoral students at the Doctoral School at Gdynia Maritime University, which constitutes the annex to this resolution, is hereby adopted.

§ 2

This resolution shall enter into force on the date of its adoption.

Chair of the Senate

Prof. Dr Hab. Eng. Capt. Adam Weintrit

Educational Program of the Doctoral School at Gdynia Maritime University

1. Doctoral education at Gdynia Maritime University (GMU) takes place within the framework of a single Doctoral School (DS GMU). Education in the Doctoral School is based on the education program and an individual research plan, the implementation of which is subject to continuous supervision by the supervisors and the Director of the Doctoral School.

2. Doctoral education at Gdynia Maritime University lasts 8 semesters and concludes with the submission of the doctoral dissertation.

3. The education program of the Doctoral School enables the acquisition of knowledge, skills, and social competencies required for the level 8 of the Polish Qualifications Framework (PRK)[1], and its realization forms the basis for preparing the doctoral dissertation as well as developing skills for scientific and teaching work.

4. The education program in the Doctoral School includes both mandatory and optional courses organized for all Doctoral School participants, i.e., doctoral students of the four scientific disciplines in which GMU runs the Doctoral School. Due to the interdisciplinary nature of education in the Doctoral School, doctoral students may participate in courses assigned to a different discipline than the discipline within which the doctoral student prepares the doctoral dissertation.

5. The education program for the Doctoral School at Gdynia Maritime University includes the following:

Course/Module	**Number of hours**	**Form of classes**	**Form of credit**	**Learning outcomes (PRK symbol)**
Two courses covering the issues related to the discipline of automation, electronics, electrical engineering and space technologies	2x15h	Mandatory lectures for doctoral students of the discipline of automation, electronics, electrical engineering and space technologies Optional lectures for doctoral students of other disciplines in DS GMU	Exam	P8S_WG P8S_KK
Two courses covering the issues related to the discipline of management and quality studies	2x15h	Mandatory lectures for doctoral students of the discipline of management and quality studies Optional lectures for doctoral students of other disciplines in DS GMU	Exam	P8S_WG P8S_KK

1. Regulation of the Minister of Science and Higher Education of November 14, 2018, on the characteristics of the second-degree learning outcomes for qualifications at levels 6-8 of the Polish Qualifications Framework (Journal of Laws of 2018, item 2218).

Course/Module	Number of hours	Form of classes	Form of credit	Learning outcomes (PRK symbol)
Two courses covering the issues related to the discipline of civil engineering, geodesy and transport	2x15h	Mandatory lectures for doctoral students of civil engineering, geodesy and transport Optional lectures for doctoral students from other disciplines in DS GMU	Exam	P8S_WG P8S_KK
Two courses covering the issues related to related to the discipline of earth and related environmental sciences	2x15h	Mandatory lectures for doctoral students of earth and related environmental sciences Optional lectures for doctoral students from other disciplines in DS GMU	Exam	P8S_WG P8S_KK
English language	30h per academic year x 4 years = 120h	Mandatory lectures for doctoral students in all disciplines of DS GMU until obtaining a B2 certificate, thereafter optional	Graded credit	P8S_UK
Methodology of scientific work	15h	Mandatory lecture for doctoral students in all disciplines of DS GMU	Exam	P8S_WG P8S_UW P8S_KK
Two courses covering the issues related to advanced data analysis methods	2x15h	Mandatory lectures for doctoral students in all disciplines of DS GMU	Exam	P8S_WG P8S_UW
Economic determinants of scientific activity	10h	Mandatory lecture for doctoral students in all disciplines of DS GMU	Graded credit	P8S_WK
Legal and ethical determinants of scientific activity	10h	Mandatory lecture for doctoral students in all disciplines of DS GMU	Graded credit	P8S_WK P8S_KR
Transfer of knowledge and technology to the economic and social sectors	5h	Mandatory lecture for doctoral students in all disciplines of DS GMU	Graded credit	P8S_WK P8S_UW P8S_KO
Research results and know-how commercialization	5h	Mandatory lecture for doctoral students in all disciplines of DS GMU	Graded credit	P8S_WK
Principles of communication in research and teaching activity	15h	Mandatory lecture for doctoral students in all disciplines of DS GMU	Graded credit	P8S_UK
Research project management	10h	Mandatory lecture for doctoral students in all disciplines of DS GMU	Graded credit	P8S_UO
One course offered by the Doctoral School conducted in English	10h	Mandatory lecture for doctoral students in all disciplines of DS GMU	Graded credit	P8S_UK P8S_UO P8S_KO
Career coaching	5h + 1h per person	Mandatory seminar for doctoral students in all disciplines of DS GMU	Credit	P8S_UO P8S_UU P8S_KO

Course/Module	Number of hours	Form of classes	Form of credit	Learning outcomes (PRK symbol)
Professional practicum in the form of teaching first- and second-cycle students, conducted independently or in a team with other teachers	10h per academic year x 4 years = 40h	Mandatory for doctoral students in all disciplines of DS GMU	Credit	P8S_UU
Doctoral seminar	20h per academic year x 4 years = 80h	Mandatory for doctoral students in all disciplines of DS GMU	Credit	P8S_WG P8S_UW P8S_UK P8S_KK P8S_KR
Doctoral workshop	20h per academic year x 4 years = 80h	Mandatory for doctoral students in all disciplines of DS GMU	Credit	P8S_UO P8S_UU P8S_KK
Reporting session	6h per academic year x 4 years = 24h	Mandatory for doctoral students in all disciplines of DS GMU	Credit	P8S_WG P8S_UW P8S_UK
Occupational health and safety training	2h	Mandatory for doctoral students in all disciplines of DS GMU	Credit	P8S_KO
Library training	2h	Mandatory for doctoral students in all disciplines of DS GMU	Credit	P8S_WG P8S_WK

6. The list of courses covering the issues related to both scientific disciplines, in which GMU runs the Doctoral School, shall be published by the Director of the Doctoral School in a timely manner, allowing the commencement of education in the Doctoral School of Gdynia Maritime University in the academic year 2024/2025 academic year.

SECOND LEVEL CHARACTERISTICS OF LEARNING OUTCOMES FOR QUALIFICATIONS AT LEVEL 8 OF THE POLISH QUALIFICATIONS FRAMEWORK, TYPICAL FOR QUALIFICATIONS OBTAINED WITHIN THE HIGHER EDUCATION AND SCIENCE SYSTEM

Category of the characteristics of learning outcomes	Descriptive category - aspects of fundamental importance	Component code of the description	Level 8
Knowledge: **knows and understands**	Scope and depth – completeness of cognitive perspective and interrelationships	**P8S_WG**	**P8S_WG_1** to the extent that existing paradigms can be revised – global achievements, including theoretical foundations as well as general issues and selected specific issues – relevant to a given scientific or artistic discipline **P8S_WG_2** main development trends of scientific or artistic disciplines in which education is provided **P8S_WG_3** methodology of scientific research **P8S_WG_4** principles of disseminating the results of scientific activity, also in open access mode
	Context – conditions, effects	**P8S_WK**	**P8S_WK_1** fundamental dilemmas of contemporary civilization **P8S_WK_2** economic, legal, ethical and other essential conditions of scientific activity **P8S_WK_3** basic principles of knowledge transfer to the economic and social sphere and commercialization of the results of scientific activity and know-how related to these results
Skills **is able to**	Using knowledge – solved problems and tasks performed	**P8S_UW**	**P8S_UW_1** use knowledge from various fields of science or art to creatively identify, formulate and innovatively solve complex problems or perform tasks of a research character, in particular: - define the aim and subject of scientific research, formulate a research hypothesis, - develop research methods, techniques and tools and apply them creatively, - draw conclusions based on scientific research results **P8S_UW_2** critically analyze and assess the results of scientific research, expert activity and other works of a creative character and their contribution to the development of knowledge **P8S_UW_3** transfer the results of scientific activity to the economic sphere
	Communicating – receiving and formulating statements, disseminating knowledge in the scientific environment and using a foreign language	**P8S_UK**	**P8S_UK_1** communicate on specialist topics to a degree that enables active participation in the international scientific environment **P8S_UK_2** disseminate the results of scientific activity, also in popular forms **P8S_UK_3** initiate a debate **P8S_UK_4** participate in scientific discourse **P8S_UK_5** use a foreign language at level B2 of the Common European Framework of Reference for Languages to a degree that enables participation in the international scientific and professional environment
	Work organization - planning and teamwork	**P8S_UO**	**P8S_UO_1** plan and implement individual and team research or creative ventures, also in the international environment

	Learning – planning their own development and the development of others	**P8S_UU**	**P8S_UU_1** independently plan and act for their own development and inspire and organize the development of others **P8S_UU_2** plan teaching activities or groups of teaching activities and implement them using modern methods and tools
Social competences: **is ready to**	Assessments – a critical approach	**P8S_KK**	**P8S_KK_1** critical assessment of the achievements within a given scientific or artistic discipline **P8S_KK_2** critical assessment of their own contribution to the development of a given scientific or artistic discipline **P8S_KK_3** recognition of the importance of knowledge in solving cognitive and practical problems
	Responsibility – fulfilling social obligations and acting in the public interest	**P8S_KO**	**P8S_KO_1** fulfilling social obligations of researchers and creators **P8S_KO_2** initiating activities for the public interest **P8S_KO_3** thinking and acting in an entrepreneurial manner
	Professional role – independence and development of ethos	**P8S_KR**	**P8S_KR_1** maintaining and developing the ethos of the research and creative environments, including: - conducting scientific activities in an independent manner, - respecting the principle of public ownership of the results of scientific activities, taking into account the principles of intellectual property protection

CHARACTERISTICS OF LEARNING OUTCOMES	Course title																					
	Methodology of Scientific Work	Principles of Communication in Research and Teaching Activities	Legal and Ethical Determinants in Scientific Activity	Economic Determinants of Scientific Activity	Transfer of Knowledge and Technology to the Economic and Social Sectors	Research Project Management	Research Results and Know-How Commercialization	A course from the Doctoral School pool in English	English Language	Courses in the discipline of automation, electronics, electrical engineering and space technologies	Courses in the discipline of management and quality studies	Courses in the discipline of civil engineering, geodesy and transport	Courses in the discipline of earth and related environmental sciences	Data Mining	Qualitative and Quantitative Research Results Analysis	Career Coaching	Professional Practicum	Doctoral Seminar	Doctoral Workshop	Reporting Session	Occupational Health and Safety Training	Library Training
	The number of covered learning outcomes																					
	EPK	EPK	EPK	EPK	EPK	EPK	EPK	EPK	EPK	EPK	EPK	EPK	EPK	EPK	EPK	EPK	EPK	EIPB	EIPB	EIPB	MO	MO
KNOWLEDGE: KNOWS AND UNDERSTANDS																						
P8S_WG: Scope and depth – completeness of cognitive perspective and interrelationships																						
P8S_WG_1: to the extent that existing paradigms can be revised – global achievements, including theoretical foundations as well as general issues and selected specific issues – relevant to a given scientific or artistic discipline	•									•	•	•	•									
P8S_WG_2: main development trends of scientific or artistic disciplines in which education is provided	•									•	•	•	•									
P8S_WG_3: methodology of scientific research	•									•	•	•	•	•	•			•		•		
P8S_WG_4: principles of disseminating the results of scientific activity, also in open access mode	•																	•				•
P8S_WK: Context – conditions, effects																						
P8S_WK_1: fundamental dilemmas of contemporary civilization			•	•			•															
P8S_WK_2: economic, legal, ethical and other essential conditions of scientific activity			•	•			•															•
P8S_WK_3: basic principles of knowledge transfer to the economic and social sphere and commercialization of the results of scientific activity and know-how related to these results			•	•	•		•															

SKILLS: IS ABLE TO																					
P8S_UW: Using knowledge – solved problems and tasks performed																					
P8S_UW_1: use knowledge from various fields of science or art to creatively identify, formulate and innovatively solve complex problems or perform tasks of a research character, in particular: - define the aim and subject of scientific research, formulate a research hypothesis, - develop research methods, techniques and tools and apply them creatively, - draw conclusions based on scientific research results	•													•	•			•		•		
P8S_UW_2: critically analyze and assess the results of scientific research, expert activity and other works of a creative character and their contribution to the development of knowledge	•													•	•					•		
P8S_UW_3: transfer the results of scientific activity to the economic sphere	•				•																	
P8S_UK: Communicating – receiving and formulating statements, disseminating knowledge in the scientific environment and using a foreign language																					
P8S_UK_1: communicate on specialist topics to a degree that enables active participation in the international scientific environment		•						•	•											•		
P8S_UK_2: disseminate the results of scientific activity, also in popular forms		•							•											•		
P8S_UK_3: initiate a debate		•							•									•		•		
P8S_UK_4: participate in scientific discourse		•							•									•		•		
P8S_UK_5: use a foreign language at level B2 of the Common European Framework of Reference for Languages to a degree that enables participation in the international scientific and professional environment								•	•													
P8S_UO: Work organization - planning and teamwork																						
P8S_UO_1: plan and implement individual and team research or creative ventures, also in the international environment						•		•								•			•			
P8S_UU: Learning – planning their own development and the development of others																						
P8S_UU_1: independently plan and act for their own development and inspire and organize the development of others																•	•		•			
P8S_UU_2: plan teaching activities or groups of teaching activities and implement them using modern methods and tools																•	•					

SOCIAL COMPETENCES: IS READY TO																						
P8S_KK: Assessments – a critical approach																						
P8S_KK_1: critical assessment of the achievements within a given scientific or artistic discipline	•									•	•	•	•					•	•			
P8S_KK_2: critical assessment of their own contribution to the development of a given scientific or artistic discipline	•									•	•	•	•						•			
P8S_KK_3: recognition of the importance of knowledge in solving cognitive and practical problems	•									•	•	•	•						•			
P8S_KO: Responsibility – fulfilling social obligations and acting in the public interest																						
P8S_KO_1: fulfilling social obligations of researchers and creators					•			•								•						
P8S_KO_2: initiating activities for the public interest					•											•					•	
P8S_KO_3: thinking and acting in an entrepreneurial manner					•											•					•	
P8S_KR: Professional role – independence and development of ethos																						
P8S_KR_1: maintaining and developing the ethos of the research and creative environments, including: - conducting scientific activities in an independent manner, - respecting the principle of public ownership of the results of scientific activities, taking into account the principles of intellectual property protection			•															•				

GDYNIA MARITIME UNIVERSITY
Doctoral School

COURSE DESCRIPTION

Code of course	EIPB1	Name of course	in Polish	**SEMINARIUM DOKTORANCKIE**
			in English	**DOCTORAL SEMINAR**

Level of qualification	**Doctoral School**
Mode of study	**full-time**
Profile of study	**general academic**
Status of the course	**compulsory**
Rigor	**credit**

Semester	**Number of hours in the semester**			
	L	**C**	**Lb**	**P**
I, II, III, IV, V, VI, VII, VIII	4	6		
Total number of hours during studies	80			

L-lecture, C-practical classes, Lb-laboratory, P-project

Prerequisites relating to knowledge, skills and other competences
No prerequisites

Course aims
Presentation of the basic principles of preparing doctoral dissertations and ongoing monitoring of the progress of doctoral students' work in preparing their own doctoral dissertations.

Learning outcomes for the course (EKP)		
Symbol	**After completing the course the doctoral student:**	**Reference to the field learning outcomes (symbol PRK[1])**
EUP_1	Knows and understands the principles and the requirements to be followed in the preparation of doctoral dissertations.	P8S_WG_3; P8S_WG_4; P8S_UW_1;
EUP_2	Is able to use tools for bibliometric analyses and documenting text.	P8S_WG_3; P8S_WG_4;
EUP_3	Is able to identify a practical, scientific, research problem and formulate research hypotheses.	P8S_UW_1; P8S_KK_1;
EUP_4	Is able to design and implement a research process in accordance with the developed research methodology specific to a given discipline.	P8S_UW_1;
EUP_5	Is able to prepare and make a presentation on the current progress of work on the doctoral dissertation and participate in a scientific discussion.	P8S_UK_3; P8S_UK_4; P8S_KR_1;

[1] Regulation of MNiSW (ENGLISH: Ministry of Science and Higher Education)of November 14, 2018, on the second degree characteristics of learning outcomes for qualifications at levels 6-8 of the Polish Qualifications Framework (Journal of Laws 2018, item 2218),

Course content	Number of hours				Reference to EUP
	L	C	Lb	P	
The principles of preparing doctoral dissertations and the requirements set for them.	1				EUP_1
The structure and scope of doctoral dissertations.	1				EUP_1
Tools and methods of conducting bibliometric analyses.	1				EUP_2
The principles of documenting scientific texts.	1				EUP_2
Planning the student's own scientific research.		3			EUP_3, EUP_4
Identification of a practical, scientific, research problem and the formulation of the aim, questions and hypotheses.		3			EUP_3; EUP_4; EUP_5
Total number of hours	**4**	**6**			

Methods of verifying the learning outcomes for the course									
Symbol EUP	**Test**	**Oral exam**	**Written exam**	**Pass test**	**Report**	**Project**	**Presentation**	**Practical exam**	**Others**
EUP_1							X		
EUP_2							X		
EUP_3							X		
EUP_4							X		
EUP_5							X		

Criteria for crediting the course
Presentation – involves delivering a presentation on the progress in the preparation of the dissertation and actively participating in the discussion.

Basic literature
Pieter J., Ogólna metodologia pracy naukowej, Wyd. Zakład Narodowy im. Ossolińskich, 1967 Kuciński K., Elementy metodyki rozprawy doktorskiej, Wyd. Difin, 2015 Mendel T., Metodyka pisania prac doktorskich, Wyd. Nauk. CONTACT, Poznań 2010
Additional literature
Literature selected individually for the area and scope of the research conducted

Person responsible for the course	
Supervisors of doctoral students of DS GMU	all faculties of GMU and other Polish and foreign higher education and research institutions
The other persons conducting the course	
Assistant supervisors of doctoral students of DS GMU	all faculties of GMU and other Polish and foreign higher education and research institutions

DS GMU – Doctoral School of Gdynia Maritime University

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COURSE DESCRIPTION

Code of course	EIPB2	Name of course	in Polish	**PRACOWNIA DOKTORANCKA**
			in English	**DOCTORAL WORKSHOP**

Level of qualification	**Doctoral School**
Mode of study	**full-time**
Profile of study	**general academic**
Status of course	**compulsory**
Rigor	**credit**

Semester	**Number of hours in the semester**			
	L	**C**	**Lb**	**P**
I, II, III, IV, V, VI, VII, VIII		5	5	
Number of hours in semester	80			

L-lecture, C-practical classes, Lb-laboratory, P-project

Prerequisites relating to knowledge, skills and other competences
No prerequisites

Course aims
Preparation of a doctoral dissertation and development of academic achievements qualifying for the application for the doctoral degree.

Learning outcomes for the course (EUP)		
Symbol	**After completing the course the doctoral student Is able to:**	**Reference to the field learning outcomes (symbol PRK[1])**
EUP_1	Has advanced knowledge of the area of the research conducted, based on the latest scientific publications, allowing for planning and implementing individual and team research ventures, also in the international environment.	P8S_UO_1; P8S_UU_1; P8S_KK_1
EUP_2	Is able to independently plan and implement activities for their own development, being critical of the achievements within their scientific discipline as well as their own contribution to the development of this discipline.	P8S_UO_1; P8S_UU_1; P8S_KK_2
EUP_3	Understands the importance of knowledge in solving practical and cognitive problems and is able to critically evaluate the achievements of their scientific discipline, identifying unrecognized or poorly recognized areas.	P8S_KK_3

[1] Regulation of MNiSW (ENGLISH: Ministry of Science and Higher Education)of November 14, 2018, on the second degree characteristics of learning outcomes for qualifications at levels 6-8 of the Polish Qualifications Framework (Journal of Laws 2018, item 2218),

Course content	Number of hours				Reference to EUP
	L	C	Lb	P	
Discussions concerning the scope of the research focused on planning and implementing the research venture.		2	1		EUP_1
Integrating knowledge from different sources to identify, formulate and solve complex tasks within the discipline.		2	2		EUP_2
Developing competences in thinking and acting in a creative way.		1	2		EUP_3
Total number of hours		**5**	**5**		

Methods of verifying the learning outcomes for the course									
Symbol EUP	**Test**	**Oral exam**	**Written exam**	**Pass test**	**Report**	**Project**	**Presentation**	**Practical exam**	**Others**
EUP_1								X	
EUP_2								X	
EUP_3								X	

Criteria for crediting the course
Preparing a publication, conference presentation or grant application – credit is granted upon submitting the work to a publisher, organizing committee or financing institution.

Basic literature
Literature selected individually for the area and scope of the research conducted
Additional literature
Literature selected individually for the area and scope of the research conducted

Person responsible for the course	
Supervisors of doctoral students of DS GMU	all faculties of UMG and other Polish and foreign higher education and research institutions
The other persons conducting the course	
Assistant supervisors of doctoral students of DS GMU	all faculties of UMG and other Polish and foreign higher education and research institutions

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COURSE DESCRIPTION

Code of course	EIPB3	Name of course	in Polish	**SESJA SPRAWOZDAWCZA**
			in English	**REPORTING SESSION**

Level of qualification	**Doctoral School**
Mode of study	**full-time**
Profile of study	**general academic**
Status of course	**compulsory**
Rigor	**credit**

Semester	**Number of hours in the semester**			
	L	**C**	**Lb**	**P**
I, II, III, IV, V, VI, VII, VIII	3			
Total number of hours during studies	24			

L-lecture, C-practical classes, Lb-laboratory, P-project

Prerequisites relating to knowledge, skills and other competences
No prerequisites

Course aims
Preparing the doctoral student to methodically present the results of their research in the context of achievements of the leading discipline and related disciplines, also enabling them to initiate a public debate, and to provide regular reports on the progress of work in implementing the education program at DS GMU as well as on the preparation of their own doctoral dissertation.

Learning outcomes for the course (EKP)		
Symbol	**After completing the course the doctoral student:**	**Reference to the field learning outcomes (symbol PRK[1])**
EUP_1	Knows the methods, techniques and tools for conducting research specific to the discipline as well as to creatively apply them and develop.	P8S_WG_3; P8S_UW_1
EUP_2	Is able to critically analyze and assess the results of current research, indicating the existing gaps, and thus define new scientific problems and justify their importance, also during public discussion.	P8S_UW_2; P8S_UK_1; P8S_UK_3; P8S_UK_4
EUP_3	Fulfills social obligations related to the conducted research in the creation process by presenting its results and participating in public discussion on them.	P8S_UK_2; P8S_UK_3

[1] Regulation of MNiSW (ENGLISH: Ministry of Science and Higher Education)of November 14, 2018, on the second degree characteristics of learning outcomes for qualifications at levels 6-8 of the Polish Qualifications Framework (Journal of Laws 2018, item 2218),

Course content	Number of hours				Reference to EUP
	L	C	Lb	P	
Methodical preparation of presentations and reports on scientific and didactic activities in accordance with the requirements of DS GMU.	1				EUP_1; EUP_2; EUP_3
Presentation of the planned and implemented results of their own scientific research and other activities in the academic environment.	1				EUP_1; EUP_2; EUP_3
Participation in the discussion of their own scientific problem in the context of its importance for the development of the discipline and the correctness of the research procedure.	1				EUP_1; EUP_2; EUP_3
Total number of hours	**3**				

Methods of verifying the learning outcomes for the course									
Symbol EUP	**Test**	**Oral exam**	**Written exam**	**Pass test**	**Report**	**Project**	**Presentation**	**Practical exam**	**Others**
EUP_1							X		
EUP_2							X		
EUP_3							X		

Criteria for crediting the course
Presentation – credit is granted upon making the presentation on the progress in the implementation of the educational program and in the preparation of the work as well as upon the active participation in the discussion.

Basic literature
Pieter J., Ogólna metodologia pracy naukowej, Wyd. Zakład Narodowy im. Ossolińskich, 1967 Kuciński K., Elementy metodyki rozprawy doktorskiej, Wyd. Difin, 2015 Mendel T., Metodyka pisania prac doktorskich, Wyd. Nauk. CONTACT, Poznań 2010
Additional literature
Literature selected individually for the area and scope of the research conducted

Person responsible for the course	
Supervisors of doctoral students of DS GMU	all faculties of UMG and other Polish and foreign higher education and research institutions
The other persons conducting the course	
Assistant supervisors of doctoral students of DS GMU	all faculties of UMG and other Polish and foreign higher education and research institutions

DS GMU – Doctoral School of Gdynia Maritime University

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COURSE DESCRIPTION

Code of course	EPK_WE_1	Name of course	in Polish	**METODY OPTYMALNEGO STEROWANIA AUTOMATYCZNYMI UKŁADAMI NA STATKU ORAZ ELEKTRYCZNYM NAPĘDEM GŁÓWNYM**
			in English	**OPTIMAL CONTROL METHODS OF AUTOMATIC SYSTEMS ON THE SHIP AND ELECTRIC MAIN DRIVE**

Level of qualification	**Doctoral School**
Mode of study	**full-time**
Profile of study	**general academic**
Status of the course	**compulsory**
Rigor	**exam**

Semester	**Number of hours in the semester**			
	L	**C**	**Lb**	**P**
I or II	15			
Total number during studies	15			

L-lecture, C-practical classes, Lb-laboratory, P-project

Prerequisites relating to knowledge, skills and other competences
Basic information on mathematics - optimization methods Basics of the theory of linear control system Basic information on automation of ship power systems

Course aims
Learning the theory and optimization methods for solving selected control process issues Learning the issues related to automatic ship motion control Learning the principles of control and elements of the ship's electric power system

Learning outcomes for the course (EUP)		
Symbol	**After completing the course the doctoral student:**	**Reference to the learning outcomes (symbol PRK[1])**
EUP_1	Knows and understands the methods and theory within selected areas of mathematics, including elements of discrete and applied mathematics and static, dynamic and multi-criteria optimization methods.	P8S_WG_1; P8S_WG_2;
EUP_2	Has the knowledge of the issues related to static, dynamic and multi-criteria optimization.	P8S_WG_1; P8S_WG_2;
EUP_3	Is able to formulate and solve optimization problems for various types of control processes.	P8S_WG_3;
EUP_4	Has the knowledge of modeling elements of an automatic control system, filtering measured signals, determining the optimal route of the voyage and algorithms used to control the movement of a ship.	P8S_WG_1; P8S_WG_2;

EUP_5	Is able to communicate with specialists and non-specialists on problems related to the automatic control of the movement of a ship, using specialist language.	P8S_KK_1; P8S_KK_2; P8S_KK_3;
EUP_6	Knows the basic terminology and has knowledge related to electric power systems on a ship and the electric main drive.	P8S_WG_2; P8S_WG_3;
EUP_7	Has the skills in applying the acquired knowledge in relation to electric power systems and electric main drives on a ship.	P8S_WG_2;
EUP_8	Has the knowledge in the field of developing automated ship control systems.	P8S_WG_1; P8S_WG_2;

[1] Regulation of MNiSW (ENGLISH: Ministry of Science and Higher Education)of November 14, 2018, on the second degree characteristics of learning outcomes for qualifications at levels 6-8 of the Polish Qualifications Framework (Journal of Laws 2018, item 2218),

Course content	**Number of hours**				**Reference to EUP**
	L	**C**	**Lb**	**P**	
Methods and types of optimization tasks	1				EUP_1, EUP_2, EUP_3
Static optimization	2				EUP_1, EUP_2, EUP_3
Dynamic optimization	1				EUP_1, EUP_2, EUP_3
Multi-criteria optimization	1				EUP_1, EUP_2, EUP_3
Mathematical modeling of the ship, the installed actuators, and the external interferences affecting the system.	1				EUP_3, EUP_4, EUP_5
Methods of filtering the state variables describing the ship's motion, measured in the presence of external interferences and the methods of estimating the unmeasured state variables	1				EUP_3, EUP_4, EUP_5
Generating trajectories given for a moving ship and, on their basis, determining the reference signals directing its motion	1				EUP_3, EUP_4, EUP_5
Methods and algorithms used to control the ship's motion on a course, along a given trajectory and in the systems of dynamic positioning	2				EUP_3, EUP_4, EUP_5
Electrical power sources on a ship	1				EUP_6, EUP_7 EUP_8
Ship's electrical power network	1				EUP_6, EUP_7 EUP_8
The main electric drive on a ship	3				EUP_6, EUP_7 EUP_8
Total number of hours	**15**				

Methods of verifying the learning outcomes for the course									
Symbol EUP	**Test**	**Oral exam**	**Written exam**	**Pass test**	**Report**	**Project**	**Presentation**	**Practical exam**	**Others**
EUP_1		X					X		
EUP_2		X					X		
EUP_3		X					X		
EUP_4		X					X		
EUP_5		X					X		
EUP_6		X					X		
EUP_7		X					X		
EUP_8		X					X		

Criteria for crediting the course
Presentation on a specific issue and an oral exam

Basic literature
Lisowski J., *Metody optymalizacji*, Wydawnictwo Akademii Morskiej w Gdyni, Gdynia 2017.
Fossen T.I., *Handbook of marine craft hydrodynamics and motion control*, John Wiley & Sons, Ltd, 2011.
Robinson S.M., *Electric Ship Propulsion*, Andesite Press 2017, ISBN-10: 1375748017.
Additional literature
Yong J., *Optimization theory - a concise introduction*, World Scientific Publishing, Singapore 2018.

Sørensen A.J., *Marine control systems: propulsion and motion control of ships and ocean structures*. Lecture notes. Marine Technology Centre, Trondheim, Norway. 2013.
Giuffrida M., *Electrical Plants and Electric Propulsion on Ships*, Raleigh, N.C. 2013.

Person responsible for the course	
Prof. Dr habilitated Eng. Józef Lisowski	Department of Autonomous Systems Faculty of Computer Science, GMU
The other persons conducting the course	
Dr habilitated Eng. Andrzej Łebkowski, Prof. of GMU Dr habilitated Eng. Mirosław Tomera, Prof. of GMU	Department of Renewable Energy Sources and Electromobility Department of Ship and Industrial Automation Faculty of Electrical Engineering GMU

GDYNIA MARITIME UNIVERSITY
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COURSE DESCRIPTION

Code of course	EPK_WE_2	Name of course	in Polish	**TRANSMISJA INFORMACJI W OKRĘTOWYCH SYSTEMACH KONTROLNO-POMIAROWYCH**
			in English	**INFORMATION TRANSMISSION IN SHIP CONTROL AND MEASUREMENT SYSTEMS**

Level of qualification	**Doctoral School**
Mode of study	**full-time**
Profile of study	**general academic**
Status of the course	**compulsory**
Rigor	**exam**

Semester	**Number of hours in the semester**			
	L	**C**	**Lb**	**P**
I or II	15			
Total number during studies	15			

L-lecture, C-practical classes, Lb-laboratory, P-project

Prerequisites relating to knowledge, skills and other competences
Basic knowledge of mathematics and physics within the first and second degree studies of technical sciences. Basic knowledge of electrical and non-electrical metrology implemented using electrical methods. Knowledge of the basics of electrical engineering, electronics and automation.

Course aims
Learning the theoretical and practical methods of measuring selected non-electrical quantities used in extensive industrial automation systems, where a ship is a special case. Learning the methods of conducting measurements and control in the areas potentially at risk of explosion. Deepening knowledge of the methods and technical means used in transmitting information in measurement and control systems.

Learning outcomes for the course (EUP)		
Symbol	**After completing the course the doctoral student:**	**Reference to the learning outcomes (symbol PRK[1])**
EUP_1	Knows and understands the methods and theory in selected areas of metrology, in particular the measurements of non-electrical quantities in extensive industrial automation systems.	P8S_WG_1; P8S_WG_2; P8S_WG_3;
EUP_2	Is able to formulate and solve research tasks in the area of information transmission in extensive monitoring and control systems used in ship automation systems.	P8S_WG_2; P8S_WG_3;
EUP_3	Is ready to critically assess achievements within the discipline as well as their own achievements in solving cognitive and practical problems.	P8S_KK_1; P8S_KK_2; P8S_KK_3;

[1] Regulation of MNiSW (ENGLISH: Ministry of Science and Higher Education)of November 14, 2018, on the second degree characteristics of learning outcomes for qualifications at levels 6-8 of the Polish Qualifications Framework (Journal of Laws 2018, item 2218),

Course content	Number of hours				Reference to EUP
	L	C	Lb	P	
Monitoring systems used on ships, Centralized analog. Centralized microprocessor. Distributed systems.	1				EUP_1, EUP_2, EUP_3,
General model of monitoring and control. Alarms, measurement channels, executive or control channels. Field devices.	1				EUP_1, EUP_2, EUP_3,
Measurements and control in explosion-hazardous areas.	1				EUP_1, EUP_2, EUP_3,
Binary measurement channel. Temperature measurement channel with Pt-100 sensor, TC.	1				EUP_1, EUP_2, EUP_3,
Analog standards used in the measurement channels. Current standard, two-wire 4-20mA.	2				EUP_1, EUP_2, EUP_3,
Programmable field devices. Hart. FF, Profibus PA.	2				EUP_1, EUP_2, EUP_3,
Digital interfaces. Properties and types. Bus, media and interface functions. Impact of interference.	2				EUP_1, EUP_2, EUP_3,
Wired interfaces: the interface family: RS, SPI, I2C, CAN, Ethernet, PLC.	2				EUP_1, EUP_2, EUP_3,
Wireless interfaces: WiFi, WirlessHART, ZigBee, Bluetooth, IrDA. ISM band.	2				EUP_1, EUP_2, EUP_3,
Demonstration of serial interface operation with discussion of the communication protocol.	1				EUP_1, EUP_2, EUP_3,
Total number of hours	**15**				

Methods of verifying the learning outcomes for the course									
Symbol EUP	**Test**	**Oral exam**	**Written exam**	**Pass test**	**Report**	**Project**	**Presentation**	**Practical exam**	**Others**
EUP_1		X				X			
EUP_2		X				X	X		
EUP_3		X				X	X		

Criteria for crediting the course
Designing a measurement track on a given topic, oral discussion of the results of the work as a form of the oral exam. Developing an algorithm for reproducing data sent via the interface based on the description of the communication protocol. Presentation of the results.

Basic literature

Maśnicki R., Mindykowski J., *Metrologia*, Akademia Morska w Gdyni, Gdynia 2015

Świsulski D. *Systemy pomiarowe-laboratorium*, Wydawnictwo PG, Gdańsk 2001

Nowak S., *Elektryczne i nieelektryczne urządzenia Ex,* Automatic System Engineering Sp. z o.o. Gdańsk, 2015

Zakrzewski J., *Czujniki i przetworniki pomiarowe, Podręcznik problemowy*, Wydawnictwo Politechniki Śląskiej, Gliwice 2004, Poland

Frączek J., Waluś J.,(redaktorzy). Laboratorium miernictwa przemysłowego, Wydawnictwo Politechniki Śląskiej, Gliwice 2002, Poland

Dudojć B., Zastosowanie iskrobezpiecznych torów pomiarowych w dwuprzewodowym standardzie 4-20mA na statkach morskich, Przegląd Elektrotechniczny, 9/2009, str.:94-101

Nawrocki W., Rozproszone systemy pomiarowe, WKŁ, 1/2006.

Bogusz J., Lokalne interfejsy szeregowe, BTC, 2004.

Nawrocki W., Measurement Systems and Sensors, Second Edition, ARTECH HOUSE, 2016.

Additional literature

PN-EN 60651:2009. Czujniki platynowe przemysłowych termometrów rezystancyjnych i platynowe czujniki temperatury

PN-EN 60584-1:2014 Termoelementy -- Część 1: Specyfikacje i tolerancje EMF

Namur recommendation NE043, Standardization of the Signal Level for the Failure Information of Digital Transmitter.

PN-EN 60079-25:2007 Urządzenia elektryczne w przestrzeniach zagrożonych wybuchem gazów - Część 25: Systemy iskrobezpieczne

Frączek J., Aparatura przeciwwybuchowa w wykonaniu iskrobezpiecznym, Śląskie Wydawnictwo Techniczne Katowice (1995).
IEC 62828-1:2017 Reference conditions and procedures for testing industrial and process measurement transmitters - Part 1: General procedures for all types of transmitters

Person responsible for the cours	
Prof. Dr habilitated Eng. Janusz Mindykowski	Department of Marine Electrical Power Engineering, Faculty of Electrical Engineering, GMU
The other persons conducting the course	
Dr Eng. Bolesław Dudojć Dr Eng. Romuald Maśnicki	Department of Marine Electrical Power Engineering, Faculty of Electrical Engineering, GMU

GDYNIA MARITIME UNIVERSITY
Doctoral School

COURSE DESCRIPTION

Code of course	EPK_WE_3	Name of course	in Polish	**LUTOWANIE UKŁADÓW ELEKTRONICZNYCH – WSPÓŁCZESNE WYZWANIA I PERSPEKTYWY ROZWOJU**
			in English	**SOLDERING OF ELECTRONIC CIRCUITS – CONTEMPORARY CHALLENGES AND DEVELOPMENT PROSPECTS**

Level of qualification	**Doctoral School**
Mode of study	**full-time**
Profile of study	**general academic**
Status of the course	**compulsory**
Rigor	**exam**

Semester	**Number of hours in the semester**			
	L	**C**	**Lb**	**P**
I or II	15			
Total number during studies	15			

L-lecture, C-practical classes, Lb-laboratory, P-project

Prerequisites relating to knowledge, skills and other competences
Basic knowledge of mathematics and physics within the first and second degree studies of technical sciences. Knowledge of the basics of electrical engineering, electronics and automation.

Course aims
Learning the technology of electronic circuit assembly. Learning the impact of the assembly conditions on the parameters of soldered joints. Identifying solder joint defects. Learning the methods of characterization of the soldered joint. Expanding the scope of knowledge in the field of modern characterization techniques. Learning the impact of surface mounting on the electrical and thermal parameters of electronic circuits (application aspect).

Learning outcomes for the course (EUP)		
Symbol	**After completing the course the doctoral student:**	**Reference to the learning outcomes (symbol PRK[1])**
EUP_1	Knows and understands methods and theory in selected areas of electronic device design.	P8S_WG_1; P8S_WG_2; P8S_WG_3;
EUP_2	Is able to formulate and solve research tasks in the study of the quality and reliability of soldered joints.	P8S_WG_2; P8S_WG_3;
EUP_3	Is ready to critically assess achievements within the discipline as well as their own achievements in solving cognitive and practical problems.	P8S_KK_1; P8S_KK_2; P8S_KK_3;

[1] Regulation of MNiSW (ENGLISH: Ministry of Science and Higher Education)of November 14, 2018, on the second degree characteristics of learning outcomes for qualifications at levels 6-8 of the Polish Qualifications Framework (Journal of Laws 2018, item 2218)

Course content	Number of hours				Reference to EUP
	L	C	Lb	P	
Types of substrates. Types of electrical connections	1				EUP_1, EUP_2, EUP_3,
Soldering material	2				EUP_1, EUP_2, EUP_3,
Soldering process	1				EUP_1, EUP_2, EUP_3,
Selected soldering methods	2				EUP_1, EUP_2, EUP_3,
Methods of characterizing soldered joints	2				EUP_1, EUP_2, EUP_3,
Microstructure of soldered joints	2				EUP_1, EUP_2, EUP_3,
Soldered joint defects	2				EUP_1, EUP_2, EUP_3,
Application studies	2				EUP_1, EUP_2, EUP_3,
Prospects for the development of surface mounting	1				EUP_1, EUP_2, EUP_3,
Total number of hours	**15**				

Methods of verifying the learning outcomes for the course									
Symbol EUP	**Test**	**Oral exam**	**Written exam**	**Pass test**	**Report**	**Project**	**Presentation**	**Practical exam**	**Others**
EUP_1	x								
EUP_2	x								
EUP_3	x								

Criteria for crediting the course
Passing a test on the topics presented in lectures. Proposing the doctoral student's own experiment.

Basic literature
Górecki K., Przemysław P., Skwarek A., „Konstrukcja urządzeń elektronicznych" , Uniwersytet Morski w Gdyni, Gdynia 2022
Additional literature
Bukat K., Hackiewicz H, „Lutowanie bezołowiowe", Wydawnictwo btc, Warszawa 2007 Subramanian „Lead-free Solders. Materials Reliability of Electronics", Wiley 2012 Illes B., Krammer O., Geczy A., " Reflow Soldering,. Aparatus and heat transfer processes", Elsevier 2020

Person responsible for the course	
Dr habilitated Agata Skwarek-Illés, Prof. of GMU	Department of Power Electronics, Faculty of Electrical Engineering, GMU
The other persons conducting the course	

GDYNIA MARITIME UNIVERSITY
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COURSE DESCRIPTION

Code of course	EPK_WE_4	Name of course	in Polish	**MODELOWANIE ELEKTRONICZNYCH ELEMENTÓW I UKŁADÓW MOCY**
			in English	**MODELING OF POWER ELECTRONIC COMPONENTS AND NETWORKS**

Level of qualification	**Doctoral School**
Mode of study	**full-time**
Profile of study	**general academic**
Status of the course	**compulsory**
Rigor	**exam**

Semester	**Number of hours in the semester**			
	W	**C**	**Lb**	**P**
I or II	15			
Total number during studies	15			

L-lecture, C- practical classes, Lb-laboratory, P-project

Prerequisites relating to knowledge, skills and other competences
Basic knowledge of electrical engineering, semiconductor devices, and power electronics. Basic ability to use programs for computer analysis of electronic systems.

Course aims
Learning the methods of computer analysis of power supply systems. Learning the forms of lumped models of diodes, bipolar transistors, unipolar transistors, and IGBTs. Learning the method of formulating averaged models of switched-mode converters. Learning the method of developing electrothermal models of power elements and systems. Gaining practical skills in calculating the characteristics of power elements and systems.

Learning outcomes for the course (EUP)		
Symbol	**After completing the course the doctoral student:**	**Reference to the learning outcomes (symbol PRK[1])**
EUP_1	Presents the concept of formulating lumped models of semiconductor power devices, taking into account thermal phenomena and methods of computer analysis of switched-mode systems.	P8S_WG_1; P8S_WG_2; P8S_WG_3; P8S_KK_1
EUP_2	Is able formulate models of switched-mode systems with varied accuracy.	P8S_WG_2; P8S_WG_3; P8S_KK_2
EUP_3	Is able to perform computer analysis of a selected switched-mode power supply system using the averaged model method and the selected algorithm of fast analysis of transient states.	P8S_WG_2; P8S_WG_3; P8S_KK_3

[1] Regulation of MNiSW (ENGLISH: Ministry of Science and Higher Education)of November 14, 2018, on the second degree characteristics of learning outcomes for qualifications at levels 6-8 of the Polish Qualifications Framework (Journal of Laws 2018, item 2218),

Course content	Number of hours				Reference to EUP
	W	C	L	P	
Introduction. Classification of semiconductor device models and the concept of their formulation	1				EUP_1, EUP_2, EUP_3
The form of lumped models of diodes and bipolar, unipolar and IGBT transistors	2				EUP_1, EUP_2, EUP_3
The method of formulation and the form of lumped electrothermal models of power semiconductor elements	2				EUP_1, EUP_2, EUP_3
Modeling methods of switched-mode converters dedicated to the analysis of transient states	2				EUP_1, EUP_2, EUP_3,
Averaged models of switched-mode converters	2				EUP_1, EUP_2, EUP_3,
Methods of accelerated analysis of transient states of switched-mode converters	2				EUP_1, EUP_2, EUP_3,
Implementation of selected models of power electronic components and systems in the program SPICE and sample analyses of these systems	4				EUP_1, EUP_2, EUP_3,
Total number of hours	**15**				

Methods of verifying the learning outcomes for the course

Symbol EUP	Test	Oral exam	Written exam	Pass test	Report	Project	Presentation	Practical exam	Others
EUP_1		X							
EUP_2		X							
EUP_3								X	

Criteria for crediting the course

Performing calculations of the characteristics of selected power systems using the indicated method of modeling power elements, as well as presenting and interpreting the obtained results in a discussion with the lecturer.

Basic literature

1. K. Górecki: Układy przetwarzania energii elektrycznej w elektronice. Wydawnictwo Tekst, Bydgoszcz, 2009.
2. Ch. P. Basso: Switch-Mode Power Supply SPICE Cookbook. McGraw-Hill, New York, 2001.
3. R. Ericson, D. Maksimovic: Fundamentals of Power Electronics. Kluwer Academic Publisher, Norwell, 2001.
4. K. Górecki: Metody komputerowej analizy układów impulsowych. Wydawnictwo Tekst, Bydgoszcz, 2010.
5. M. K. Kazimierczuk, Pulse-width modulated DC-DC power converters. John Wiley & Sons: New Jersey, USA , 2015.
6. M. H. Rashid, Power electronics handbook. Butterworth-Heinemann: Oxford, UK, 2017.
7. M.H. Rashid, Spice for Power Electronics and Electric Power; CRC Press: Boca Raton, FL, USA, 2006.

Additional literature

1. K. Górecki, J. Zarębski, P. Górecki, P. Ptak: Compact thermal models of semiconductor devices – a review. International Journal of Electronics and Telecommunications, Vol. 65, No. 2, 2019, pp. 151-158.
2. P. Górecki, K. Górecki: Methods of Fast Analysis of DC-DC Converters – A Review. Electronics, Vol. 10, No. 23, 2021, 2920.
3. Górecki K., Zarębski J.: The method of a fast electrothermal transient analysis of single-inductance dc-dc converters. IEEE Transactions on Power Electronics, Vol. 27, No. 9, 2012, pp. 4005-4012.

Person responsible for the course	
Prof. Dr habilitated Eng. Krzysztof Górecki	Department of Marine Electronics, Faculty of Electrical Engineering, GMU
The other persons conducting the course	
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GDYNIA MARITIME UNIVERSITY
Doctoral School

COURSE DESCRIPTION

Code of course	EPK_ WIM _1	Name of course	in Polish	**WZAJEMNE ODDZIAŁYWANIE OCEANU I KLIMATU**
			in English	**INTERACTIONS OF THE OCEAN AND THE CLIMATE**

Level of qualification	**Doctoral School**
Mode of study	**full-time**
Profile of study	**general academic**
Status of the course	**compulsory**
Rigor	**exam**

Semester	**Number of hours in the semester**			
	L	**C**	**Lb**	**P**
I or II	15			
Total number during studies	15			

L-lecture, C-practical classes, Lb-laboratory, P-project

Prerequisites relating to knowledge, skills and other competences
Knowledge and skills in physics, geography, oceanography or related subjects at the level of the first and second cycle studies

Course aims
Familiarizing the doctoral students with the planet's energy balance Familiarizing the doctoral students with the impact of climate and its changes on the changes of the properties of sea waters.

Learning outcomes for the course (EUP)		
Symbol	**After completing the course the doctoral student:**	**Reference to the learning outcomes (symbol PRK[1])**
EUP_1	Has the knowledge in the area of climate and its changes throughout the history of the Earth and of current changes in the context of historical changes.	P8S_WG_1; P8S_WG_2; P8S_KK_1
EUP_2	Knows and understands the processes related to the absorption and emission of electromagnetic radiation in the short and long-wave spectrum.	P8S_WG_1; P8S_WG_3
EUP_3	Has the knowledge of the absorption of long-wave radiation by selected components of the atmosphere.	P8S_WG_1; P8S_WG_2
EUP_4	Is able to expand and transfer the knowledge about the energy balance of the Earth.	P8S_KK_1; P8S_KK_2; P8S_KK_3
EUP_5	Has the knowledge of the transport of thermal energy in the atmosphere and oceans, as well as of cyclical fluctuations of this transport.	P8S_WG_1; P8S_WG_2
EUP_6	Is able to communicate with specialists and non-specialists about the interactions between the ocean and climate, using the specialist language.	P8S_WG_1; P8S_WK_2
EUP_7	Knows the basic terminology, and has the knowledge related to carbon reservoirs and the short and long carbon cycle.	P8S_WG_1; P8S_WK_2

[1] Regulation of MNiSW (ENGLISH: Ministry of Science and Higher Education)of November 14, 2018, on the second degree characteristics of learning outcomes for qualifications at levels 6-8 of the Polish Qualifications Framework (Journal of Laws 2018, item 2218),

Course content	Number of hours				Reference to EUP
	L	C	Lb	P	
Introduction: Climate and its changes throughout the history of the Earth, the extent of the oceans and the consequences for the organisms that inhabited them	1				EUP_1; EUP_4
Radiation: energy transmission by radiation, black body, short- and long-wave radiation, absorption of radiation, atmospheric windows. Albedo, the ability to reflect radiation, the emission temperature of the planet and its observations	2				EUP_1, EUP_2, EUP_3
The greenhouse effect, the characteristics of greenhouse gases and their impact on the spectrum of terrestrial radiation, the role of clouds and aerosols in the energy balance	2				EUP_2, EUP_3
Energy transport between the intertropical and polar regions, global atmospheric circulation, climate zones	2				EUP_1, EUP_5, EUP_6
Energy transport in the oceans: thermohaline circulation, the consequences of the changes in circulation on climate, short-term ocean circulations: El Niño La Niña, Pacific Decadal Oscillation (PDO), Atlantic Multidecadal Oscillation (AMO)	2				EUP_1, EUP_5, EUP_6
Carbon reservoirs, carbon dioxide and methane in the fast carbon cycle. Carbon flow in the environment: atmosphere, oceans, soil, permafrost and methane hydrates. The free carbon cycle: volcanoes, weathering of rocks, formation of sediments	2				EUP_7
Current climate change: carbon dioxide emissions in the industrial era, the disrupted carbon cycle, changes in the energy balance of the Earth, melting glaciers and rising of the sea level	2				EUP_1, EUP_4, EUP_7
The Earth's energy balance, changes in the amount of energy stored in the Earth's climate system: oceans, atmosphere, land, and glaciers. In-situ and satellite measurements	2				EUP_1, EUP_2
Total number of hours	**15**				

Methods of verifying the learning outcomes for the course									
Symbol EUP	**Test**	**Oral exam**	**Written exam**	**Pass test**	**Report**	**Project**	**Presentation**	**Practical exam**	**Others**
EUP_1		X					X		
EUP_2		X					X		
EUP_3		X					X		
EUP_4		X					X		
EUP_5		X					X		
EUP_6		X					X		
EUP_7		X					X		
EUP_8		X					X		

Criteria for crediting the course
Presentation on a specific issue and an oral exam

Basic literature
1. M. Popkiewicz, A. Kardaś, S. Malinowski, Nauka o klimacie, Post Factum, 2018 2. 6 raport IPCC (Intergovernmental Panel on Climate Change), dostępny on-line: https://report.ipcc.ch/ar6/wg2/IPCC_AR6_WGII_FullReport.pdf
Additional literature
1. 6 raport IPCC (Intergovernmental Panel on Climate Change), Podsumowanie dla decydentów, dostępny on-line: https://www.ipcc.ch/report/ar6/wg2/downloads/outreach/Raport_IPCC_cz2_29_11_22_OST.pdf 2. Dessler Andrew, Introduction to Modern Climate Change, Cambridge University Press, 2015.

Person responsible for the course	
Dr habilitated Włodzimierz Freda, Prof. of GMU	Department of Physics, Faculty of Marine Engineering, GMU
The other persons conducting the course	
Dr habilitated Zbigniew Otremba, Prof. of GMU	Department of Physics, Faculty of Marine Engineering, GMU

GDYNIA MARITIME UNIVERSITY
Doctoral School

COURSE DESCRIPTION

Code of course	EPK_ WIM _2	Name of course	in Polish	**SUBSTANCJE CHEMICZNE W ŚRODOWISKU MORSKIM**
			in English	**CHEMICAL SUBSTANCES IN MARINE ENVIRONMENT**

Level of qualification	**Doctoral School**
Mode of study	**full-time**
Profile of study	**general academic**
Status of the course	**compulsory**
Rigor	**exam**

Semester	**Number of hours in the semester**			
	L	**C**	**Lb**	**P**
I or II	15			
Total number during studies	15			

L-lecture, C-practical classes, Lb-laboratory, P-project

Prerequisites relating to knowledge, skills and other competences
Knowledge and skills within the basic chemistry and natural sciences at the level of the first and second cycle studies in non-chemical and non-oceanographic fields

Course aims
Acquiring the knowledge on selected problems in the field of seawater chemistry, the circulation of chemical substances of natural and anthropogenic origin in the marine environment and its importance and impact on biocenosis

Learning outcomes for the course (EUP)		
Symbol	**After completing the course the doctoral student:**	**Reference to the learning outcomes (symbol PRK[1])**
EUP_1	Defines basic concepts, knows and uses the terminology from the field of marine chemistry.	P8S_WG_1; P8S_WG_2; P8S_KK_1
EUP_2	Knows the basic elements, ions and chemical compounds found in sea water, presents their circulation in the marine ecosystem and their mutual interrelationships, also identifies physical, geological, chemical and biological factors affecting the distribution and behavior of chemical compounds.	P8S_WG_1; P8S_WG_3
EUP_3	Knows the origin of selected pollutants in marine environments and understands the relationship between their physicochemical properties and behavior in the environment.	P8S_WG_1; P8S_WG_2
EUP_4	Is able to explain chemical processes occurring in the marine environment and understands the role of input and output material and its circulation in the marine environment, explains and relates these processes to other natural science disciplines.	P8S_KK_1; P8S_KK_2; P8S_KK_3

EUP_5	Understands the role of the circulation of chemical substances (including nutrients and pollutants) in marine ecosystems in the context of the entire environment, and is able to expand and transfer the knowledge and lead discussions in this area, using a specialist language; moreover, is able to critically interpret the scientific data and the results of monitoring the presence of chemicals in sea water.	P8S_WG_1; P8S_WG_2; P8S_KK_1; P8S_KK_2; P8S_KK_3

[1] Regulation of MNiSW (ENGLISH: Ministry of Science and Higher Education)of November 14, 2018, on the second degree characteristics of learning outcomes for qualifications at levels 6-8 of the Polish Qualifications Framework (Journal of Laws 2018, item 2218),

Course content	**Number of hours**				**Reference to EUP**
	L	**C**	**Lb**	**P**	
Structure, physical and chemical properties of water; the composition and properties of sea water, a comparison	2				EUP_1
The main groups of chemical substances in the marine environment and their mutual interactions and chemical transformations. Determinants of sea water composition	3				EUP_1, EUP_2, EUP_4
Circulation of selected elements in the marine environment. Mass balance, geochemical budget. The impact of the environmental parameters on changes in the circulation of elements, chemical equilibrium	2				EUP_1, EUP_2, EUP_3, EUP_4, EUP_5
Natural and anthropogenic transfer of chemical compounds from the atmosphere, land and bottom sediments to sea waters and interactions at their boundary. Remineralization	2				EUP_1, EUP_3, EUP_4, EUP_5
Physicochemical properties, sources and fate of selected pollutants of the marine environment, possibilities of reducing their negative effects	2				EUP_1, EUP_3, EUP_4, EUP_5
Processes of biomagnification and bioaccumulation of chemical compounds in the trophic network of the marine ecosystem. Primary production	2				EUP_1, EUP_2, EUP_3, EUP_4, EUP_5
Elements of radiochemistry of the marine environment	2				EUP_1, EUP_2, EUP_3, EUP_4, EUP_5
Total number of hours	**15**				

Methods of verifying the learning outcomes for the course									
Symbol EUP	**Test**	**Oral exam**	**Written exam**	**Pass test**	**Report**	**Project**	**Presentation**	**Practical exam**	**Others**
EUP_1		X					X		
EUP_2		X					X		
EUP_3		X					X		
EUP_4		X					X		
EUP_5		X					X		

Criteria for crediting the course
Presentation on a scientific problem selected in consultation with the teacher and an oral exam.

Basic literature
1. Biogeochemistry of marine dissolved matter. 2014. Academic Press, Amsterdam (https://www.sciencedirect.com/book/9780124059405/biogeochemistry-of-marine-dissolved-organic-matter) 2. Pilson M., 2013. An introduction to the chemistry of the sea, 2nd ed, Cambridge University Press (https://www.cambridge.org/core/books/an-introduction-to-the-chemistry-of-the-sea/3F3142B6C163A06BF0AD513D82A3EF18) 3. Manahan S.E. 2010. Environmental chemistry, 9th ed, CRC Press, Boca Raton, London, New York (http://repository.universitasbumigora.ac.id/862/728/212%20Environmental%20Chemistry%2C%20Ninth%20Edition%20%28%20PDFDrive%20%29.pdf) 4. Bolałek J, Falkowska L.1999. Analiza chemiczna wody morskiej, Wydawnictwo Uniwersytetu Gdańskiego, Gdańsk
Additional literature
1. Clark R.B., 2001, Marine pollution, Oxford University Press, Oxford, New York

2. HELCOM. 2010. Hazardous substances in the Baltic Sea, Baltic Sea Environment Proceedings No. 120B (https://helcom.fi/helcom-at-work/publications/)
3. HELCOM. 2021. Baltic Sea regional nutrient recycling strategy (https://helcom.fi/helcom-at-work/publications/)
4. HELCOM. 2021. Inputs of hazardous substances to the Baltic Sea. Baltic Sea Environment Proceedings No.179 (https://helcom.fi/helcom-at-work/publications/)
5. Skwarzec B. 2010. Radionuklidy. W: Fizyczne, biologiczne i chemiczne badania morskich osadów dennych, Bolałek J. (red) Wydawnictwo Uniwersytetu Gdańskiego, Gdańsk
6. Czasopisma (m.in.): Annual Review of Marine Science, Bulletin of Marine Science, Environmental Science & Technology, Journal of Marine Science and Engineering, Marine Chemistry, Marine Ecology, Marine Environmental Research, Marine Pollution Bulletin
7. Literatura studiowana samodzielnie przez doktoranta

Person responsible for the course	
Dr habilitated Magdalena Bogalecka, Prof. of GMU	Department of Industrial Products Quality and Chemistry, Faculty of Management and Quality Science, GMU
The other persons conducting the course	
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GDYNIA MARITIME UNIVERSITY
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COURSE DESCRIPTION

Code of course	EPK_WIM _3	Name of course	in Polish	**OPTYKA ŚRODOWISKA MORSKIEGO**
			in English	**MARINE ENVIRONMENT OPTICS**

Level of qualification	**Doctoral School**
Mode of study	**full-time**
Profile of study	**general academic**
Status of the course	**compulsory**
Rigor	**exam**

Semester	**Number of hours in the semester**			
	L	**C**	**Lb**	**P**
I or II	15			
Total number during studies	15			

L-lecture, C-practical classes, Lb-laboratory, P-project

Prerequisites relating to knowledge, skills and other competences
Knowledge and skills within the basics of mathematics and natural sciences at the level of the first cycle technical studies

Course aims
Acquiring the knowledge and developing research competences in the field of optical methods for tracking processes in the sea and atmosphere

Learning outcomes for the course (EUP)		
Symbol	**After completing the course the doctoral student:**	**Reference to the learning outcomes (symbol PRK[1])**
EUP_1	Defines the key concepts, knows and uses the terminology in the field of light transfer in the marine environment.	P8S_WG_1; P8S_KK_1
EUP_2	Is able to identify the relationships between physical, chemical and biological processes in the sea and the formation of the light field above and below the sea surface.	P8S_WG_1; P8S_KK_1
EUP_3	Knows the principles of operation of optical instruments in relation to research in the environment and the laboratory.	P8S_WG_2; P8S_WK_1
EUP_4	Is able to didactically present the processes of mutual interaction of radiant energy with the components of sea water.	P8S_WG_3; P8S_KK_2; P8S_KK_3

[1] Regulation of MNiSW (ENGLISH: Ministry of Science and Higher Education)of November 14, 2018, on the second degree characteristics of learning outcomes for qualifications at levels 6-8 of the Polish Qualifications Framework (Journal of Laws 2018, item 2218)

Course content	Number of hours				Reference to EUP
	L	C	Lb	P	
Laws of geometric and quantum optics	4				EUP_1, EUP_2, EUP_3, EUP_4
Spectral characteristics of solar energy in relation to its transmission in the atmosphere and water	2				EUP_1, EUP_2, EUP_3, EUP_4
Macroscopic and microscopic interactions of light with seawater	2				EUP_1, EUP_2, EUP_3, EUP_4
Quantities characterizing the spectral, spatial and angular distribution of light transfer in the water column	2				EUP_1, EUP_2, EUP_3, EUP_4
Optical methods in remote detection and identification of sea pollution	3				EUP_1, EUP_2, EUP_3, EUP_4
Fluorimetry of seawater in the ultrafiolet	2				EUP_1, EUP_2, EUP_3, EUP_4
Total number of hours	**15**				

Methods of verifying the learning outcomes for the course									
Symbol EUP	**Test**	**Oral exam**	**Written exam**	**Pass test**	**Report**	**Project**	**Presentation**	**Practical exam**	**Others**
EUP_1		X					X		
EUP_2		X					X		
EUP_3		X					X		
EUP_4		X					X		

Criteria for crediting the course
The basis for obtaining a positive grade for the course is the preparation of a presentation on a scientific problem selected in consultation with the teacher and providing at least 60% correct answers during the oral exam

Basic literature

1. Jerlov N.G., 1976. Marine optics, Elsevier Scientific, 1976
2. Dera J., Fizyka morza, PWN, Warszawa, 2003
3. Mobley C.D., 1994. Light and Water, Radiative Transfer in Natural Waters, Academic, 1994
4. Spinrad R.W., Carder K.L., Perry M.J., Ocean Optics, Oxford, 1994
5. Bukata R.P., Jerome J.H., Kondratyev K.Ya., Pozdnyakov D.V., Optical Properties and Remote Sensing of Inland and Coastal Waters, CRC Press,1995
6. Shifrin K.S., Physical Optics of Ocean Water, Ameriis able to Institute of Physics, 1988

Additional literature

1. Lednicka B., Otremba Z., Piskozub J. Vector irradiance modelling in a seawater column for assessing the detection capabilities of an oil-in-water emulsion, *Optics Express*, Volume 32, Issue 17, 2024
2. Lednicka B., Otremba Z., Piskozub J. Light Penetrating the Seawater Column as the Indicator of Oil Suspension—Monte Carlo Modelling for the Case of the Southern Baltic Sea, *Sensors*, Volume 23, Issue 3, 2023
3. Baszanowska E., Otremba Z., Kubacka M. Fluorescent analyses of sediments and near-seabed water in the area of the WW2 shipwreck "Stuttgart", *Scientific Reports*, Volume 14, Issue 1, 2024
4. Otremba Z. Oil droplets as light absorbents in seawater, *Optics Express*, Volume 15, Issue 14, 2007
5. The impact on the reflectance in VIS of a type of crude oil film floating on the water surface, *Optics Express*, Volume 7, Issue 3, 2000
6. Materiały cyklicznej konferencji *Ocean Optics*

Person responsible for the course	
Dr habilitated Zbigniew Otremba, Prof. of GMU	Department of Physics, Faculty of Marine Engineering, GMU
The other persons conducting the course	
-	-

GDYNIA MARITIME UNIVERSITY
Doctoral School

COURSE DESCRIPTION

Code of course	EPK_ WN _2	Name of course	in Polish	**MODELOWANIE DYNAMIKI OBIEKTÓW**
			in English	**MODELING OF OBJECT DYNAMICS**

Level of qualification	**Doctoral School**
Mode of study	**full-time**
Profile of study	**general academic**
Status of the course	**compulsory**
Rigor	**exam**

Semester	**Number of hours in the semester**			
	L	**C**	**Lb**	**P**
I or II	15			
Total number during studies	15			

L-lecture, C-practical classes, Lb-laboratory, P-project

Prerequisites relating to knowledge, skills and other competences
Knows and understands algebraic and differential equations, the Laplace transformation, and classical physics
Is able to develop a simple computer algorithm
Is ready to independently conduct analytical research

Course aims
The role and importance of models of object dynamics in assessing transport safety

Learning outcomes for the course (EUP)		
Symbol	**After completing the course the doctoral student:**	**Reference to the learning outcomes (symbol PRK[1])**
EUP_1	Is able to use precise concepts used to describe phenomena and dynamic properties of objects	P8S_WG_1; P8S_WG_2
EUP_2	Is able to identify simple models of objects	P8S_WG_1; P8S_WG_2; P8S_KK_1
EUP_3	Is able to analytically determine the equilibrium state and examine the stability of a linear system described by an equation of n-th order differential	P8S_WG_3; P8S_KK_2
EUP_4	Is able to explain the models used to describe the dynamics of selected mechanical objects	P8S_WG_2; P8S_WG_3; P8S_KK_2; P8S_KK_3
EUP_5	Knows the models of object dynamics used in assessing transport safety	P8S_WG_1; P8S_WG_3; P8S_KK_1; P8S_KK_3

[1] Regulation of MNiSW (ENGLISH: Ministry of Science and Higher Education) of November 14, 2018, on the second degree characteristics of learning outcomes for qualifications at levels 6-8 of the Polish Qualifications Framework (Journal of Laws 2018, item 2218),

Course content	Number of hours				Reference to EUP
	L	C	Lb	P	
Methods of testing object dynamics	2				EUP_1, EUP_2
Construction and analysis of object models of object dynamics	2				EUP_1, EUP_2
Analytical methods of testing object dynamics	2				EUP_1, EUP_2 EUP_3
Construction and verification of simulation models	2				EUP_2, EUP_3 EUP_4, EUP_5
Examples of the application of dynamic effects	1				EUP_2, EUP_3 EUP_4, EUP_5
Models of dynamics of surface and underwater ships	3				EUP_2, EUP_3 EUP_4, EUP_5
Using the models of object dynamics in assessing transport safety	3				EUP_2, EUP_3 EUP_4, EUP_5
Total number of hours	**15**				

Methods of verifying the learning outcomes for the course									
Symbol EUP	**Test**	**Oral exam**	**Written exam**	**Pass test**	**Report**	**Project**	**Presentation**	**Practical exam**	**Others**
EUP_1			X						
EUP_2			X						
EUP_3			X						
EUP_4			X						
EUP_5			X						

Criteria for crediting the course
The exam in the form of a written test, must be passed with at least 60% of the maximum possible points.

Basic literature
Abramowicz-Gerigk T. Bezpieczeństwo manewrów krytycznych statków w systemie transportowym Autostrady Morskiej. Oficyna Wydawnicza Politechniki Warszawskiej. Warszawa 2012. Czemplik A. Praktyczne wprowadzenie do opisu, analizy i symulacji dynamiki obiektów. Oficyna Wydawnicza Politechniki Wrocławskiej, Wrocław 2017, e-book Czemplik A. Modele dynamiki układów fizycznych dla inżynierów. Wydawnictwo Naukowo-Techniczne. Warszawa 2008. Dudziak J. Teoria Okrętu. FPPOiGM, Gdańsk, 2008
Additional literature
Gerigk M. Kompleksowa metoda oceny bezpieczeństwa statku w stanie uszkodzonym z uwzględnieniem analizy ryzyka. Wydawnictwo Politechniki Gdańskiej. Gdańsk 2010. Kalicka R. Podstawy automatyki i robotyki. Wydawnictwo Politechniki Gdańskiej, Gdańsk 2016 Kozłowski M., Choromański W., Grabarek I., Czerepicki A., Marczuk K. Pojazdy autonomiczne i systemy transportu autonomicznego. Wydawnictwo Naukowe PWN. Warszawa 2021.Osowski S., Modelowanie i symulacja układów i procesów dynamicznych, Oficyna Wydawnicza Politechniki Warszawskiej, Warszawa 2007

Person responsible for the course	
Dr habilitated Eng. Teresa Abramowicz-Gerigk, Prof. of GMU	Department of Ship Operations, Faculty of Navigation, GMU
The other persons conducting the course	
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GDYNIA MARITIME UNIVERSITY
Doctoral School

COURSE DESCRIPTION

Code of course	EPK_WZNJ_1	Name of course	in Polish	**PODSTAWY ZARZĄDZANIA**
			in English	**FUNDAMENTALS OF MANAGEMENT**

Level of qualification	**Doctoral School**
Mode of study	**full-time**
Profile of study	**general academic**
Status of the course	**compulsory**
Rigor	**exam**

Semester	**Number of hours in the semester**			
	L	**C**	**Lb**	**P**
I or II	15			
Total number of hours during studies	15			

L-lecture, C- practical classes, Lb-laboratory, P-project

Prerequisites relating to knowledge, skills and other competences
No prerequisites

Course aims
Learning the concepts and tools for managing contemporary organizations, diagnosing and solving organizational problems in the market environment, and making use of the acquired knowledge in building the doctoral student's own scientific achievements.

Learning outcomes for the course (EUP)		
Symbol	**After completing the course the doctoral student:**	**Reference to the learning outcomes (symbol PRK[1])**
EUP_1	Knows the terminology, the world achievements including theoretical foundations, general issues and selected specific issues concerning processes, resources, organizational structures and mechanisms impacting the functioning and transformation of organizations in the knowledge-based economy.	P8S_WG_1; P8S_WG_2; P8S_KK_3
EUP_2	Identifies and analyzes phenomena and problems occurring in the organization's environment, and then adapts to them the methods and tools of the organization's activity; is able to use the knowledge about the functions of management in order to identify, formulate and search for solutions to complex problems of an organization and to perform research tasks.	P8S_WG_2; P8S_WG_3; P8S_KK_1; P8S_KK_2
EUP_3	Is able to communicate and speak on specialist topics in the field of organization management to a degree that enables their participation in the international scientific environment; is ready to independently plan and act for their own development, and critically assess their own achievements and contribution to the development of the discipline of management and quality sciences.	P8S_KK_1; P8S_KK_2; P8S_KK_3

[1] Regulation of MNiSW (ENGLISH: Ministry of Science and Higher Education)of November 14, 2018, on the second degree characteristics of learning outcomes for qualifications at levels 6-8 of the Polish Qualifications Framework (Journal of Laws 2018, item 2218)

Course content	Number of hours				Reference to EUP
	L	C	Lp	P	
Subject and scope of management and quality sciences, the interdisciplinary nature of science and its connection with practice. The concept and essence of an organization, the cycle of organized action, the efficiency of an organization, typologies and evolution of an organization.	2				EUP_1, EUP_2
Management of an organization. Basic concepts, the principles and functions of management, the functions of an organization. Management as a decision-making process. The manager as a designer of the model of organization's management: activities, skills and roles of the manager, the management style. The manager versus teamwork.	3				EUP_2, EUP_3
Planning in an organization. Types of goals, the importance of vision, mission, and strategy. Types of strategies. Planning stages. Identification and analysis of entities in the surroundings and their relationships with the organization. The comparative analysis method SWOT. Product management.	3				EUP_2, EUP_3
Organizing. Division of labor. The process and principles of designing organizational structures, the division and selected types of structures, structural-creative factors, contemporary trends in the evolution of organizational structures.	2				EUP_1, EUP_3
Motivation as a managerial function. The essence and mechanisms of motivation, human needs, their classification and significance in the process, selected theories of motivation and their application. Motivation tools and their classifications – the system of motivation.	2				EUP_1, EUP_2
Managerial control: types, stages, functions and significance in the management process. The principles of developing and functioning of the management control system.	1				EUP_1, EUP_2
Management in the context of change. Change and the development of an organization. The essence, goals, selected types of organizational changes. The efficiency of an organizational in the period of change. Diagnostic and prognostic approach to designing changes. People's reactions to organizational changes, resistance to change, their consequences and methods of prevention.	2				EUP_2, EUP_3
Total number of hours	**15**				

Methods of verifying the learning outcomes for the course

Symbol EUP	Test	Oral exam	Written exam	Pass test	Report	Project	Presentation	Practical exam	Others
EUP_1			X						
EUP_2			X						
EUP_3			X						

Criteria for crediting the course

The exam in a descriptive or oral form; must be passed with at least 60% of the maximum possible points.

Basic literature

Czermiński A., Czerska M., Nogalski B., Rutka R., Apanowicz J., *Zarzadzanie organizacjami*, TNOiK, Toruń 2002.
Griffin R.W., *Podstawy zarządzania organizacjami*, PWN, Warszawa 2007.
Zakrzewska-Bielawska A. (red*.), Podstawy zarządzania. Teoria i ćwiczenia*, a Wolters Kluwer business, Warszawa 2012.

Additional literature

Jemielniak D., Latusek-Jurczak D., *Zarządzanie. Teoria i praktyka w pigułce*. Poltext, Warszawa 2014.
Robbins S.P., DeCenzo D. A., *Podstawy zarządzania*, PWE, Warszawa 2002.
Koźmiński A., Piotrowski W. (red.), *Zarządzanie. Teoria i praktyka*, WN PWN, Warszawa 2013.
Stoner J., Freeman R., Gilbert D. Jr, *Kierowanie*, PWE, PWE, Warszawa 1999.

Person responsible for the course	
dr Katarzyna Szelągowska-Rudzka	Department of Management and Economics, Faculty of Management and Quality Science, GMU
The other persons conducting the course	
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GDYNIA MARITIME UNIVERSITY
Doctoral School

COURSE DESCRIPTION

Code of course	EPK_WZNJ_2	Name of course	in Polish	**EWOLUCJA NAUK O JAKOŚCI**
			in English	**EVOLUTION OF QUALITY SCIENCES**

Level of qualification	**Doctoral School**
Mode of study	**full-time**
Profile of study	**general academic**
Status of the course	**compulsory**
Rigor	**exam**

Semester	**Number of hours in the semester**			
	L	**C**	**Lb**	**P**
I or II	15			
Total number during studies	15			

L-lecture, C-practical classes, Lb-laboratory, P-project

Prerequisites relating to knowledge, skills and other competences
No prerequisites

Course aims
To familiarize the doctoral students with the role and importance of quality issues in the management of organizations and for competitiveness in the product and service market.

Learning outcomes for the course (EUP)		
Symbol	**After completing the course the doctoral student:**	**Reference to the learning outcomes (symbol PRK[1])**
EUP_1	Knows the basic terminology related to quality issues.	P8S_WG_1; P8S_WG_2
EUP_2	Has the knowledge of quality systems, their role and importance in managing organizations.	P8S_WG_2; P8S_KK_1
EUP_3	Is able to use the knowledge of quality to diagnose problems in the organization.	P8S_WG_3; P8S_KK_3
EUP_4	Understands the need to build knowledge in the field of quality management to implement innovations and to develop the organization.	P8S_WG_3; P8S_KK_2
EUP_5	Uses the knowledge in the field of quality to build the competitiveness of the organization on the market of production of products and services.	P8S_KK_1; P8S_KK_3

[1] Regulation of MNiSW (ENGLISH: Ministry of Science and Higher Education)of November 14, 2018, on the second degree characteristics of learning outcomes for qualifications at levels 6-8 of the Polish Qualifications Framework (Journal of Laws 2018, item 2218),

Course content	Number of hours				Reference to EUP
	L	C	Lb	P	
Quality – definitions and terminology.	3				EUP_1, EUP_2
Development of quality sciences – from antiquity to modern times. The ability to define differences in the approach to quality.	3				EUP_1, EUP_2
The importance of interdisciplinarity in the development of quality sciences. The role of social, physical and natural sciences.	2				EUP_1, EUP_2 EUP_3
Planning the development of various organizations on the basis of quality.	2				EUP_2, EUP_3 EUP_4, EUP_5
Understanding and properly interpreting factors impacting quality costs.	1				EUP_2, EUP_3 EUP_4, EUP_5
Using the quality knowledge to meet the needs of organizations in the changing environment.	1				EUP_2, EUP_3 EUP_4, EUP_5
A multidimensional (comprehensive) approach to quality. Quality of management, organization, work, goods and services, education, life, environment.	3				EUP_2, EUP_3 EUP_4, EUP_5
Total number of hours	**15**				

Methods of verifying the learning outcomes for the course

Symbol EUP	Test	Oral exam	Written exam	Pass test	Report	Project	Presentation	Practical final test	Others
EUP_1			X						
EUP_2			X						
EUP_3			X						
EUP_4			X						
EUP_5			X						

Criteria for crediting the course

The exam in a descriptive form; must be passed with at least 60% of the maximum possible points.

Basic literature

Bielawa A.: *Postrzeganie i rozumienie jakości – przegląd definicji jakości.* Zeszyty Naukowe Uniwersytetu Szczecińskiego. Studia i Prace Wydziału Nauk Ekonomicznych i Zarządzania. 2011, nr 21 Przedsiębiorstwo zorientowane na wiedzę, 143-152.
http://Studia_i_Prace_Wydzialu_Nauk_Ekonomicznych_i_Zarzadzania-r2011-t21-s143-152.pdf
Łukasiński W.: *Dylematy jakości.* Zeszyty Naukowe Uniwersytet Ekonomiczny w Krakowie, 2009, nr 806, 129-140. https://r.uek.krakow.pl/bitstream/123456789/1814/1/168302822.pdf
Borys T.: *Interdyscyplinarność nauk o jakości.* Zarządzanie i Finanse, 2012, 3 (1), 7-23.
Urban W.: *Definicje jakości usług - różnice oraz ich przyczyny*. Problemy Jakości, 2007, 3, 4-9.
Kosiorek D.: *Jakość w teorii i praktyce zarządzania organizacjami.* Zarządzanie i Finanse, 1(1), 339-358.

Additional literature

Wysokińska-Senkus A.: *Ewolucja standaryzacji i zarządzania jakością w sektorze gospodarki żywnościowej na świecie a proces globalizacji.* Roczniki Akademii Rolniczej w Poznaniu, 2006, CCCLXXVII, 239-248.
Skrzypek A.: *Jakościowe aspekty doskonalenia zarządzania organizacją.* Zeszyty Naukowe Uniwersytetu Przyrodniczo--Humanistycznego w Siedlcach, Seria: Administracja i Zarządzanie, 2014, 100, 131-146.
Śleziński K.: *Filozoficzne implikacje zmieniającego się obrazu rzeczywistości przyrodniczej.* Ruch Filozoficzny, 2019, 3, 154-166.
Grudowski P., Lewandowski K.: *Pojęcie jakości kształcenia i uwarunkowania jej kwantyfikacji w uczelniach wyższych.* Zarządzanie i Finanse, 2012, 3 (1), 394-403.

Person responsible for the course	
Prof. Dr habilitated Maria Śmiechowska	Department of Quality Management, Faculty of Management and Quality Science, GMU
The other persons conducting the course	
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GDYNIA MARITIME UNIVERSITY
Doctoral School

COURSE DESCRIPTION

Code of course	EPK_WZNJ_3	Name of course	in Polish	**SPOŁECZNE I GOSPODARCZE CELE I FUNKCJE LOGISTYKI**
			in English	**SOCIAL AND ECONOMIC GOALS AND FUNCTIONS OF LOGISTICS**

Level of qualification	**Doctoral School**
Mode of study	**full-time**
Profile of study	**general academic**
Status of the course	**compulsory**
Rigor	**exam**

Semester	**Number of hours in the semester**			
	L	**C**	**Lb**	**P**
I or II	15			
Total number during studies	15			

L-lecture, C – practical classes, Lb-laboratory, P-project

Prerequisites relating to knowledge, skills and other competences
No prerequisites

Course aims
The aim of the lecture is to familiarize the doctoral students with the utilitarian model of the logistics support system, of theoretical and practical utility values in terms of providing the appropriate human, material and information resources indispensable in every purposeful human activity, both in the sphere of collective management within enterprises, economic and social organizations, cities and agglomerations, various institutions, as well as in relation to individually implemented activities by each person. Within the lecture the assumptions of research techniques will be presented that enable overcoming theoretical and practical problems related to polysemy, syncretism and delimitation of logistics, and that introduce the desired order in the identification, assessment and design of rational logistics support solutions. The content presented during the lecture is to facilitate the identification of service and integration functions of logistics at the theoretical level, which in the practical application are the inspiration and the source of various, creating highly efficient, effective supply chains, reaching for multiple synergistic benefits, very often of the nature of contemporary competitive advantages. The aim of the lecture is to familiarize the doctoral students with, among others: goals of logistics, its place and role in contemporary socio-economic systems, with the correct use of the conceptual nomenclature of logistics, transferring the skills to identify logistics support processes in relation to any purposeful human activity.

Learning outcomes for the course (EUP)		
Symbol	**After completing the course the doctoral student:**	**Reference to the learning outcomes (symbol PRK[1])**
EUP_1	Knows and understands the semantic, merit, and methodological problems of learning and applying logistics in practice. Knows the research techniques of logistics and selected utilitarian tools of its practical application. Knows the social and economic goals and functions of logistics. Knows and understands the conditions and criteria for optimizing logistics activities. Understands the role and importance of the logistics support system in every purposeful human activity. Knows the basics of the functioning of the logistics services market.	P8S_WG_1; P8S_WG_2
EUP_2	Is able to define the main processes (basic - supported by logistics) and logistics processes handling and supporting basic processes (production). Is able to, in relation to each logistics process, identify the basic components of the logistics system that enables the implementation of logistics tasks. Is able to distinguish processes and operations, such as transport, storage, packaging as components of the logistics process from the same activities as components of the basic process (manufacturing). Is able to initiate a merit discussion on the theoretical and practical aspects of logistics and disseminate the objective goals and functions of logistics and its pro-innovative sources of rationalization of economic and social processes.	P8S_WG_3; P8S_KK_1; P8S_KK_2
EUP_3	Is ready to critically assess the theory of logistics, widespread in numerous Polish and English-language literature, based on the belief that logistics processes are the sum of certain standard types of activities, such as transport, warehousing, forwarding, etc., which in reality may constitute processes that also require logistical support.	P8S_WG_3; P8S_KK_2; P8S_KK_3

[1] Regulation of MNiSW (ENGLISH: Ministry of Science and Higher Education)of November 14, 2018, on the second degree characteristics of learning outcomes for qualifications at levels 6-8 of the Polish Qualifications Framework (Journal of Laws 2018, item 2218),

Course content The concept of the lecture assumes the presentation of the content in the form of contrasts (versuses) on the one hand between the popularized, most often incorrectly understood tasks and functions of logistics, and the systemic and process approach to logistics support tasks.	**Number of hours**				**Reference to EUP**
	L	**C**	**Lb**	**P**	
The multiplicity of theories, concepts, etymologies and provenances of logistics *versus* one logistics, one theory of logistics, uniform assumptions, goals and functions of logistics, having reference to every rational human activity.	3				EUP_1, EUP_3
Logistics as a synonym defining economic activity consisting in managing the flow and storage of goods *versus* logistic activities cannot be identified by the type of tasks performed. Not every transport process, warehousing process is in whole or in part a logistics process.	2				EUP_1, EUP_2 EUP_3,
12/9/7/6 properties/principles/rules of logistics *versus* 5 goals of the logistics process, implemented within the framework of the logistics system, forming together with the logistics process the Logistics Support System of the enterprise, organization.	3				EUP_1, EUP_2; EUP_3,
Narrow understanding of the rationality and effectiveness of logistics, with the basic criterion of minimizing costs and maximizing the effects of logistics activities *versus* the concept of global cost, specific rules for the application of criteria of optimal operation in the conditions of multi-criteria, the limited scope of functioning of the criterion of maximizing effects.	3				EUP_1, EUP_2; EUP_3,
Conceptual chaos regarding logistics support of global economic processes *versus* a uniformly restructured supply chain model. The impact of logistics solutions, especially as a result of the development of information logistics systems, on the development of innovative forms of functioning of modern supply chains.	4				EUP_2; EUP_3
Total number of hours	**15**				

Methods of verifying the learning outcomes for the course									
Symbol EUP	**Test**	**Oral exam**	**Written exam**	**Pass test**	**Report**	**Project**	**Presentation**	**Practical exam**	**Others**
EUP_1	X								X
EUP_2	X								X
EUP_3									X

Criteria for crediting the course
The final grade is based on two criteria: the result of the final test and participation of the doctoral students in the animated deliberations and discussions during the lecture. Both the criteria are expressed in points, with the maximum point value of the engagement during classes being half of the point value that can be obtained in the test. The threshold for being credited for the course is at least 60% of the maximum possible points.

Basic literature
M. Chaberek, *Ład logistyczny w gospodarowaniu*, Wyd. Uniw. Gdańskiego, Gdańsk 2020, https://wyd.ug.edu.pl/oferta_wydawnictwa/99229/lad_logistyczny_w_gospodarowaniu
Logistyka. Praca zbiorowa pod red. D. Kisperskiej-Moroń i S. Krzyżaniaka. Wyd. Instytut Logistyki i Magazynowania, Poznań 2009
M. Chaberek: *Theoretical, Regulatory and Practical Implications of Logistics*. "LogForum" 2014, 10(1), Scientific Jurnal of Logistics. p-ISSN 1895-2038, e-ISSN 1734-459X http:/www.logforum.net, s. 3-12.)
Additional literature
C. Mańkowski, *Synergia w logistyce,* Wyd. Uniw. Gdańskiego 2009
D. Weiland, P. Wierzbowski, *Logistyka informacji w gospodarce 4.0*, Wyd. UG, Gdańsk 2020, https://wyd.ug.edu.pl/oferta_wydawnictwa/99075/logistyka_informacji_w_gospodarce_40
A. Jezierski, *logistyczne determinanty kształtowania struktur rynku,* Wyd. Uniw. Gdańskiego, Gdańsk 2009
M. Chaberek, C. Mańkowski: *Teleological assumptions in the process of identification and evaluation of best logistics practices* [w:] Modelling of Logistcs Processes and Systems. Part XIX. Research Journal of the University of Gdańsk. Transport Economics and Logistics. Vol.71. Online bookstore: www.kiw.ug.edu.pl
M. Chaberek, *Makro i mikroekonomiczne aspekty wsparcia logistycznego*, Wyd. UG, Gdańsk 2002

Person responsible for the course	
Prof. dr habilitated Mirosław Chaberek	Department of Logistics and Transport Systems, Faculty of Management and Quality Science, GMU
The other persons conducting the course	
Dr Sławomir Skiba	Department of Logistics and Transport Systems, Faculty of Management and Quality Science, GMU

GDYNIA MARITIME UNIVERSITY
Doctoral School

COURSE DESCRIPTION

Code of course	EPK_WZNJ_4	Name of course	in Polish	**ROZWÓJ I KLASYFIKACJA OBSZARÓW BADAWCZYCH NAUKI O ZARZĄDZANIU I JAKOŚCI**
			in English	**DEVELOPMENT AND CLASSIFICATION OF RESEARCH AREAS OF MANAGEMENT AND QUALITY SCIENCES**

Level of qualification	**Doctoral School**
Mode of study	**full-time**
Profile of study	**general academic**
Status of the course	**compulsory**
Rigor	**exam**

Semester	**Number of hours in the semester**			
	L	**C**	**Lb**	**P**
I or II	15			
Total number during studies	15			

L-lecture, C-classes, Lb-laboratory, P-project

Prerequisites relating to knowledge, skills and other competences
No prerequisites

Course aims
The aim of the course is to familiarize the doctoral students with the emergence, development and classification of research areas of management and quality sciences, as the basis for defining a classifier of its subdisciplines. The main aim of the course defined in this way is disaggregated into the following partial objectives: • presentation of the socio-economic phenomena that made up the industrial revolution of the 19th century and that had a direct impact on the emergence of this science. Their result was the development of three centers, in which the research on problems of work and production was undertaken independently of one another. The results of this work constituted the basis for the emergence of scientific management, as management and quality sciences were then called. • indication of the emerging research directions called then management schools created during the changes in the environment, in which entities conducting activity operated. Their description was reduced to defining the factors determining their emergence and development, the basic research issues, the main representatives and an assessment of their contribution to the development of management and quality sciences. • determination of the ontological scope of each school, and thus determining the ontological scope of the entire discipline. This meant relating their research achievements and the factors determining their creation and their development to the classifier of subdisciplines of management sciences. The result of this was the assignment of research problems of individual management schools to the subdisciplines of this science indicated in the classifier, as well as the determination of the period of formation of individual subdisciplines, which was the effect of changes in the environment, in which entities conducting activity operated. • the fourth partial objective meant presenting the classifier of subdisciplines of management and quality sciences. In its analysis, attention was paid to the structure of the classifier, indicating the adopted classification criteria and the resulting classes of subdisciplines. The emphasis was placed on detailing the individual sub-disciplines and describing the thematic scopes of theoretical considerations and the research conducted within particular sub-disciplines.

Learning outcomes for the course (EUP)		
Symbol	**After completing the course the doctoral student:**	**Reference to the learning outcomes (symbol PRK[1])**
EUP_1	Knows the stages of development of scientific management.	P8S_WG_1; P8S_WG_2
EUP_2	Knows the classification of research areas of management and quality sciences.	P8S_WG_3; P8S_KK_1; P8S_KK_2
EUP_3	Is ready to critically assess the theory of management and quality sciences that is widespread in Polish and English literature.	P8S_WG_3; P8S_KK_2; P8S_KK_3

[1] Regulation of MNiSW (ENGLISH: Ministry of Science and Higher Education) of November 14, 2018, on the second degree characteristics of learning outcomes for qualifications at levels 6-8 of the Polish Qualifications Framework (Journal of Laws 2018, item 2218)

Course content	**Number of hours**				**Reference to EUP**
	L	**C**	**Lb**	**P**	
Basic branches of philosophy – philosophical disciplines.	3				EUP_1, EUP_3
Management and quality sciences as empirical sciences in the field of social sciences. Socio-economic phenomena of the 17th and 18th centuries as the genesis of the industrial revolution. The period of the industrial revolution of the 19th century and its impact on the emergence of management and quality sciences. Systematization of management and quality sciences. Engineering of organization and management in sciences of management and quality.	4				EUP_1, EUP_2 EUP_3
Schools of management and quality sciences and the factors determining their emergence and development. Achievements of the classical school of quality management sciences. Achievements of the interpersonal relations school. Achievements of the operational research school. Achievements of the social systems school. Achievements of the empirical school. Achievements of the praxeological school. Achievements of the systemic school. Achievements of the organizational game concept. Achievements of the situational approach.	4				EUP_1, EUP_2; EUP_3
The classifier of management and quality sciences as a compilation of research areas.	4				EUP_1, EUP_2; EUP_3
Total number of hours	**15**				

Methods of verifying the learning outcomes for the course									
Symbol EUP	**Test**	**Oral exam**	**Written exam**	**Pass test**	**Report**	**Project**	**Presentation**	**Practical exam**	**Others**
EUP_1		X							
EUP_2		X							
EUP_3		X							

Criteria for crediting the course
The final grade is based on the result of an oral exam and participation of the doctoral students in the animated deliberations and discussions during the lecture. Both the criteria are expressed in points, with the maximum point value of the engagement during classes being half of the point value that can be obtained in an oral exam. The threshold for being credited for the course is at least 60% of the maximum possible points.

Basic literature
G. Bełz, Sz. Cyfert, W. Czakon, W. Dyduch, D. Latusek, J. Jurczak, A. Niemczyk, A. Sopińska, A. Szpitter, M. Urbaniak, J. Wiktor, *Subdyscypliny w naukach o zarządzaniu i jakości 2.0*, http://www.knoiz.pan.pl/images/stories/pliki/pdf/Subdyscypliny_nauk_o_zarzdzaniu_i_jakoci.pdf [10.10.2020] A. K. Koźmiński (redaktor pracy zbiorowej), *Współczesne teorie organizacji*, PWN, Warszawa 1983 Z. Martyniak, *Historia myśli organizatorskiej*, Wydawnictwo Akademii Ekonomicznej w Krakowie, Kraków, 2002

Additional literature
Z. Martyniak, *Rozwój nauki organizacji i zarządzania*. *Wybrane zagadnienia metodologiczne*, [w] Organizacja i zarządzanie. Zarys problematyki (praca zbiorowa pod redakcją A. Stabryły i J. Trzcienieckiego), PWN, Warszawa, 1986 K. Zimniewicz, *Nauka organizacji i zarządzania*, PWN, Warszawa, 1990

Person responsible for the course	
Prof. Dr habilitated. Marek Lisiński	WSB University
The other persons conducting the course	
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GDYNIA MARITIME UNIVERSITY
Doctoral School

COURSE DESCRIPTION

Code of course	EPK 1	Name of course	in Polish	**ZASADY KOMUNIKOWANIA SIĘ W DZIAŁANOŚCI NAUKOWEJ I DYDAKTYCZNEJ**
			in English	**PRINCIPLES OF COMMUNICATION IN RESEARCH AND TEACHING ACTIVITIES**

Level of qualification	**Doctoral School**
Mode of study	**full-time**
Profile of study	**general academic**
Status of the course	**compulsory**
Rigor	**exam**

Semester	**Number of hours in the semester**			
	L	**C**	**Lb**	**P**
I	15			
Total number during studies	15			

L-lecture, C-classes, Lb-laboratory, P-project

Prerequisites relating to knowledge, skills and other competences
No prerequisites required.

Course aims
Learning the basic principles and methods of communication in scientific and teaching activities. Acquiring the skills of effective communication, including the identification and minimization of communication barriers and the implementation of effective communication strategies, thus as a consequence achieve the assumed communication goals in the undertaken scientific or teaching activities.

Learning outcomes for the course (EUP)		
Symbol	**After completing the course the doctoral student:**	**Reference to the learning outcomes (symbol PRK[1])**
EUP_1	Knows and understands the principles of effective communication in scientific and teaching activities.	P8S_UK_1
EUP_2	Is able to effectively communicate scientific or teaching content, achieving the assumed communication goals.	P8S_UK_1; P8S_UK_2
EUP_3	Is able to build listeners' trust and manage the audience's attention in scientific and teaching activities.	P8S_UK_3
EUP_4	Is able to identify and minimize the barriers to effective communication in scientific and teaching activities.	P8S_UK_4

[1] Regulation of MNiSW (ENGLISH: Ministry of Science and Higher Education)of November 14, 2018, on the second degree characteristics of learning outcomes for qualifications at levels 6-8 of the Polish Qualifications Framework (Journal of Laws 2018, item 2218),

Course content	Number of hours				Reference to EUP
	L	C	Lb	P	
Communication in scientific and teaching activity – introduction to the course	1				EUP_1
Communication in scientific and teaching activity – types and methods of communication. The conditions of the process of effective communication. Characteristics of the leading communication competences and skills	3				EUP_1, EUP_2
Communication methods versus building listeners' trust and managing the audience's attention. Methods of stimulating activity – examples of good practices in scientific and teaching activity	2				EUP_2; EUP_3, EUP_4
Difficult and atypical situations in the communication process in scientific and teaching activity. Handling difficult questions, the principles of providing feedback. Communication disruptions and barriers – causes and methods of counteracting	2				EUP_2; EUP_3, EUP_4
Characteristics of listeners versus selected communication strategies in scientific and teaching activity	2				EUP_2; EUP_3, EUP_4
Teaching and scientific presentations as a communication tool. The structure and features of a well-prepared presentation. Methods of presenting scientific and teaching content in the light of the requirements of the communication process. Preparation for the delivery of the presentation. Examples of good practices	4				EUP_1, EUP_2 EUP_3; EUP_4;
Etiquette and the principles of remote communication in scientific and teaching activities – selected aspects	1				EUP_1; EUP_4
Total number of hours	**15**				

Methods of verifying the learning outcomes for the course									
Symbol EUP	**Test**	**Oral exam**	**Written exam**	**Pass test**	**Report**	**Project**	**Presentation**	**Practical exam**	**Others**
EUP_1							X		
EUP_2							X		
EUP_3							X		
EUP_4							X		

Criteria for crediting the course
Presentation – credited with at least 60% of the maximum possible points.

Basic literature
McKay M., Davis M., Fanning P., Sztuka skutecznego komunikowania się, GWP, Gdańsk , 2021 Morreale S.P, Spitzberg B.H., Barge J. K., Komunikacja między ludźmi, WN PWN, Warszawa, 2020 Rzepka B., Efektywna komunikacja w zespole, Wyd. Edgard, Warszawa, 2012
Additional literature
Baker A., Doskonała umiejętność komunikacji, Wyd. Helion, Gliwice , 2004 Marcjanik M., Grzeczność w komunikacji językowej, WN PWN, Warszawa 2017 Adams K., Galanes G.J. Komunikacja w grupach, WN PWN, Warszawa 2008 Kulczycki E. (red.), Komunikacja naukowa w humanistyce, Wydawnictwo Naukowe Instytutu Filozofii UAM, Poznań 2017.

Person responsible for the course	
Dr Eng. Aleksandra Grobelna	Department of Marketing and Quantitative Methods, Faculty of Management and Quality Science, GMU
The other persons conducting the course	
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GDYNIA MARITIME UNIVERSITY
Doctoral School

COURSE DESCRIPTION

Code of course	EPK2	Name of course	in Polish	**METODOLOGIA PRACY NAUKOWEJ**
			in English	**METHODOLOGY OF SCIENTIFIC WORK**

Level of qualification	**Doctoral School**
Mode of study	**full-time**
Profile of study	**general academic**
Status of the course	**compulsory**
Rigor	**exam**

Semester	**Number of hours in the semester**			
	L	**C**	**Lb**	**P**
II	15			
Total number during studies	15			

L-lecture, C-classes, Lb-laboratory, P-project

Prerequisites relating to knowledge, skills and other competences
No prerequisites required.

Course aims
Preparing the doctoral students to correctly formulate the subject of the doctoral dissertation, the research aim, the research hypothesis, the selection of the appropriate research method and the classification of the work into the appropriate discipline and scientific field.

Learning outcomes for the course (EUP)		
Symbol	**After completing the course the doctoral student:**	**Reference to the learning outcomes (symbol PRK[1])**
EUP_1	Knows and understands to a degree that enables revision of the existing paradigms – the world achievements, including theoretical foundations as well as general issues and selected specific issues – appropriate for a given scientific or artistic discipline. Knows and understands the main development trends of scientific disciplines in which education is offered. Knows and understands the methodology of scientific research. Knows and understands the principles of disseminating the results of scientific activity, also in the open access mode.	P8S_WG_1; P8S_WG_2; P8S_WG_3; P8S_WG_4;
EUP_2	Is able to use the knowledge from various fields of science to creatively identify, formulate and innovatively solve complex problems or perform tasks of a research character, in particular: - define the aim and the subject of scientific research, formulate a research hypothesis, - develop research methods, techniques and tools, and apply them creatively, - draw conclusions based on the results of scientific research.	P8S_UW_1; P8S_UW_2; P8S_UW_3;

	Is able to critically analyze and assess the results of scientific research, expert activity and other works of a creative character and their contribution to the development of knowledge. Is able to transfer the results of scientific activity to the economic sphere.	
EUP_3	Is ready to critically assess the achievements within a given scientific discipline. Is ready to critically assess their own contribution to the development of a given scientific or artistic discipline. Is ready to recognize the importance of knowledge in solving cognitive and practical problems.	P8S_KK_1; P8S_KK_2; P8S_KK_3;

[1] Regulation of MNiSW (ENGLISH: Ministry of Science and Higher Education)of November 14, 2018, on the second degree characteristics of learning outcomes for qualifications at levels 6-8 of the Polish Qualifications Framework (Journal of Laws 2018, item 2218),

Course content	**Number of hours**				**Reference to EUP**
	L	**C**	**Lb**	**P**	
Classification of fields of science and scientific disciplines in Poland. Classification of fields of science and scientific disciplines according to OECD. Subdisciplines in management sciences – separation logic, identification of the conceptual model and thematic content.	2				EUP_1, EUP_2
Quality sciences as a subdiscipline in management and quality sciences – Identification and classification of research areas.	2				EUP_1, EUP_2
The principles of formulating a research problem, research aim and research hypothesis.	2				EUP_2
Theorems, paradigms and interdisciplinarity in scientific research.	1				EUP_1
The research method – selection of the conditions it should meet.	2				EUP_1, EUP_2
The empirical research process – phases, methods of empirical research: methods of examining secondary and primary data.	2				EUP_2,
Planning and conducting quantitative research – advantages and disadvantages, adherence to the basic procedures, the basic techniques in quantitative research.	2				EUP_2, EUP_3
Principles of qualification of scientific works in terms of their compatibility with a scientific discipline or subdiscipline – examples of the titles of works, research aims and hypotheses for specific research areas.	2				EUP_1, EUP_2, EUP_3
Total number of hours	**15**				

Methods of verifying the learning outcomes for the course									
Symbol EUP	**Test**	**Oral exam**	**Written exam**	**Pass test**	**Report**	**Project**	**Presentation**	**Practical exam**	**Others**
EUP_1		X					X		
EUP_2		X					X		
EUP_3		X					X		

Criteria for crediting the course
Crediting the course in the form of an oral examination and on the basis of the prepared outline of the doctoral dissertation including: the title of the thesis, formulation of the research aim, formulation of the research hypothesis and indication of the research method.

Basic literature
1. Rozporządzenie Ministra Nauki i Szkolnictwa Wyższego z dnia 20 września 2018 r. w sprawie dziedzin nauki i dyscyplin naukowych oraz dyscyplin artystycznych, Dz. U. z dnia 25 września 2018 r. Poz. 1818. 2. Porównanie dziedzin nauki/sztuki i dyscyplin naukowych/artystycznych wg OECD i Rozporządzenia MNiSZW w Polsce. Dziedziny naukowe wg OECD i Rozporządzenia Ministra Nauki i Szkol. Wyższego Dz.U.2018.1818. 3. Cyfert S., Dyduch W., Latusek-Jurczak D., Niemczyk J., Sopińska A., *Subdyscypliny w naukach o zarządzaniu – logika wyodrębnienia, identyfikacja modelu koncepcyjnego oraz zawartość tematyczna*, Organizacja i Kierowanie, 2014, Nr 1, (161), 37 – 48. 4. Zieliński J., *Metodologia pracy naukowej*, Oficyna Wydawnicza ASPRA-JR, Warszawa, 2012.

5. Poskrobko T., *Wybrane aspekty metodologii badań naukowych*, Wydawnictwo Ekonomia i Środowisko. Białystok 2020.
6. Sudoł S., *Zarządzanie jako dyscyplina naukowa, Metodologia Nauk o Zarządzaniu*, Przegląd Organizacji, 2016, Nr 4, 4 -11.
7. Salerno-Kochan R., Popek S., Halagarda M., Krzywonos M., *Nauki o jakości jako subdyscyplina w naukach o zarządzaniu i jakości. Identyfikacja obszarów badawczych*, Metodologia nauk o zarządzaniu i jakości, Przegląd Organizacji, Nr 8(967), 2020, 3-12.
8. Lisiński M., Szarucki M., *Metody Badawcze w Naukach o Zarządzaniu i Jakości*, PWE, 2021.

Additional literature

1. Borys T., Kusterka-Jefmańska M. (red.), *Statystyka z prostej perspektywy teorii zbiorów*, Wydawnictwo Uniwersytetu Ekonomicznego, Wrocław 2019.
2. Lisiński M., Natura nauk o zarządzaniu i jakości, [PDF], *Współczesne problemy rozwoju metodologii nauk o zarządzaniu, Zarządzanie i Finanse,* 2013 - zif.wzr.pl.

Person responsible for the course	
Prof. Dr. habilitated Eng. Piotr Przybyłowski	Department of Quality Management, Faculty of Management and Quality Science, GMU
The other persons conducting the course	
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GDYNIA MARITIME UNIVERSITY
Doctoral School

COURSE DESCRIPTION

Code of course	EPK3	Name of course	in Polish	**PRAWNE I ETYCZNE UWARUNKOWANIA DZIAŁALNOŚCI NAUKOWEJ**
			in English	**LEGAL AND ETHICAL DETERMINANTS IN SCIENTIFIC ACTIVITY**

Level of qualification	**Doctoral School**
Mode of study	**full-time**
Profile of study	**general academic**
Status of the course	**compulsory**
Rigor	**exam**

Semester	**Number of hours in the semester**			
	L	**C**	**Lb**	**P**
III	10			
Total number during studies	10			

L-lecture, C-classes, Lb-laboratory, P-project

Prerequisites relating to knowledge, skills and other competences
No prerequisites

Course aims
Transferring the knowledge of intellectual property law in the context of conducting scientific research. Shaping legal awareness of the copyright. Transferring the concepts and the principles regarding ethics in conducting scientific research.

Learning outcomes for the course (EUP)		
Symbol	**After completing the course the doctoral student:**	**Reference to the learning outcomes (symbol PRK[1])**
EUP_1	Knows and understands the principles of intellectual property law; understands the concept of a work.	P8S_WK_1; P8S_WK_2;
EUP_2	Has the knowledge of text editing and citing texts in terms of intellectual property law.	P8S_WK_1; P8S_WK_2;
EUP_3	Knows and understands the forms of intellectual property law protection.	P8S_WK_1; P8S_WK_2; P8S_WK_3; P8S_KR_1;
EUP_4	Knows the basic ethical principles regarding the conduct of scientific research.	P8S_WK_1; P8S_WK_2;
EUP_5	Has the knowledge of the basic areas of ethical dilemmas related to the conduct of scientific research.	P8S_WK_1; P8S_KR_1;

[1] Regulation of MNiSW (ENGLISH: Ministry of Science and Higher Education)of November 14, 2018, on the second degree characteristics of learning outcomes for qualifications at levels 6-8 of the Polish Qualifications Framework (Journal of Laws 2018, item 2218),

Course content	Number of hours				Reference to EUP
	L	C	Lb	P	
Subject and scope of intellectual property law. The concept of a work.	2				EUP_1, EUP_2 EUP_5
The principles of editing and citing scientific texts in terms of intellectual property law.	2				EUP_1, EUP_2 EUP_4
Copyright protection. The institution of permissible use. An employee's work.	2				EUP_2, EUP_3 EUP_5
The ethical principles of conducting scientific research.	2				EUP_1, EUP_2 EUP_4
Areas of ethical dilemmas in terms of conducting scientific research.	1				EUP_2, EUP_4 EUP_5
Awareness of gender equality in science.	1				EUP_2, EUP_4 EUP_5
Total number of hours	**10**				

Methods of verifying the learning outcomes for the course									
Symbol EUP	**Test**	**Oral exam**	**Written exam**	**Pass test**	**Report**	**Project**	**Presentation**	**Practical exam**	**Others**
EUP_1				X					
EUP_2				X					
EUP_3				X					
EUP_4				X					
EUP_5				X					

Criteria for crediting the course
Credit in the form of a written work, must be passed with at least 60% of the maximum possible points.

Basic literature
pod red. Joanna Sieńczyło-Chlabicz, Prawo własności intelektualnej. Teoria i praktyka, Warszawa 2021 Włodzimierz Galewicz, Etyczne i prawne granice badań naukowych, Warszawa 2013
Additional literature
pod red. Ryszard Markiewicz, Ustawy autorskie. Komentarze, Warszawa 2020 Zygmunt Bauman, Etyka ponowoczesna, Warszawa 2020

Person responsible for the course	
Dr habilitated Edvardas Juchnevicius, Prof. of University of Gdańsk	Faculty of Law and Administration, University of Gdańsk
The other persons conducting the course	
-	-

GDYNIA MARITIME UNIVERSITY
Doctoral School

COURSE DESCRIPTION

Code of course	EPK4	Name of course	in Polish	**EKONOMICZNE UWARUNKOWANIA DZIAŁALNOŚCI NAUKOWEJ**
			in English	**ECONOMIC DETERMINANTS OF SCIENTIFIC ACTIVITY**

Level of qualification	**Doctoral School**
Mode of study	**full-time**
Profile of study	**general academic**
Status of the course	**compulsory**
Rigor	**exam**

Semester	**Number of hours in the semester**			
	L	**C**	**Lb**	**P**
III	10			
Total number during studies	10			

L-lecture, C-classes, Lb-laboratory, P-project

Prerequisites relating to knowledge, skills and other competences
No prerequisites required.

Course aims
Knowledge of the Law on Higher Education and Science. Knowledge of the principles of financing research within the programs of NCN (National Science Centre), NCBiR (National Centre for Research and Development) and MNiSW (Ministry of Science and Higher Education). General knowledge of international programs and programs supporting scientific activities.

Learning outcomes for the course (EUP)		
Symbol	**After completing the course the doctoral student:**	**Reference to the learning outcomes (symbol PRK[1])**
EUP_1	Is able to explain the importance of conducting scientific activity.	P8S_WK_1
EUP_2	Is able to conduct a discourse on the importance of scientific activity.	P8S_WK_1
EUP_3	Identifies the economic conditions of scientific activity.	P8S_WK_2
EUP_4	Identifies the socio-economic framework and programs supporting the conduct of scientific activity.	P8S_WK_3
EUP_5	Is able to analyze the conditions, including the economic conditions of conducting scientific activity.	P8S_WK_3
EUP_6	Is able to assess and plan actions for conducting scientific activity.	P8S_WK_2; P8S_WK_3

[1] Regulation of MNiSW (ENGLISH: Ministry of Science and Higher Education)of November 14, 2018, on the second degree characteristics of learning outcomes for qualifications at levels 6-8 of the Polish Qualifications Framework (Journal of Laws 2018, item 2218),

Course content	Number of hours				Reference to EUP
	L	C	Lb	P	
Science policy • the World • Europe • Poland	2				EUP_1, EUP_2
"Ecosystem" of scientific activity in Poland • Legal regulations • Types of science policy in Poland • Organizational infrastructure for conducting scientific activity in Poland • Scientific career • Supporting innovation	4				EUP_2, EUP_3, EUP_4, EUP_6
Financing scientific activity in Poland • Instruments of science policy • Financing institutions • Financing programs	4				EUP_4, EUP_5, EUP_6
Total number of hours	**10**				

Methods of verifying the learning outcomes for the course

Symbol EUP	Test	Oral exam	Written exam	Pass test	Report	Project	Presentation	Practical exam	Others
EUP_1							X		X
EUP_2							X		X
EUP_3							X		X
EUP_4							X		X
EUP_5							X		X
EUP_6							X		X

Criteria for crediting the course

Final presentation.
Credit in an oral form and within the discussion on problematic issues, and the defense of the doctoral student's own position.

Basic literature

- Websites of international, European and national institutions concerning the areas of administration related to higher education, science and research
- Websites of agencies financing scientific activities
- Websites of organizations supporting scientific activities
- Laws and regulations concerning the conduct of scientific activities

Additional literature

- Tomaszewski M., Świadek A., The impact of the economic conditions on the innovation activity of the companies from selected Balkan states. Economic Research-Ekonomska Istraživanja, 30:1, 1896-1913, DOI: 10.1080/1331677X.2017.1398099
- Hiadlovsky V., Hunady J., Orviska M., Pisar P., Research Activities and their Relation to Economic Performance of Regions in the European Union, Business Systems Research Journal 9(1), 2018, DOI: 10.2478/bsrj-2018-0004

Person responsible for the course	
Prof. Dr habilitated inż. Ireneusz Czarnowski	Faculty of Computer Science, GMU
The other persons conducting the course	
Dr habilitated Eng. Paweł Górecki, prof. UMG	Department of Ship and Industrial Automation, Faculty of Electrical Engineering, GMU

GDYNIA MARITIME UNIVERSITY
Doctoral School

COURSE DESCRIPTION

Code of course	EPK5	Name of course	in Polish	**TRANSFER WIEDZY I TECHNOLOGII DO SFERY GOSPODARCZEJ I SPOŁECZNEJ**
			in English	**TRANSFER OF KNOWLEDGE AND TECHNOLOGY TO THE ECONOMIC AND SOCIAL SECTORS**

Level of qualification	**Doctoral School**
Mode of study	**full-time**
Profile of study	**general academic**
Status of the course	**compulsory**
Rigor	**exam**

Semester	**Number of hours in the semester**			
	L	**C**	**Lb**	**P**
IV	5			
Total number during studies	5			

L-lecture, C-classes, Lb-laboratory, P-project

Prerequisites relating to knowledge, skills and other competences
No prerequisites required.

Course aims
The aim of the course is to present the issues related to the implementation of research and development projects by scientific units and the cooperation between enterprises and scientific units in order to implement the research results obtained.

Learning outcomes for the course (EUP)		
Symbol	**After completing the course the doctoral student:**	**Reference to the learning outcomes (symbol PRK[1])**
EUP_1	Knows and understands the basic principles of knowledge transfer to the economic and social spheres and commercialization of scientific results and know-how related to these results.	P8S_WK_3
EUP_2	Is able to transfer the results of scientific activity to the economic sphere.	P8S_UW_3
EUP_3	Is ready to fulfill the social obligations of researchers and creators.	P8S_KO_1
EUP_4	Is ready to initiate activities for the public interest.	P8S_KO_2
EUP_5	Is ready to think and act in an entrepreneurial manner.	P8S_KO_3

[1] Regulation of MNiSW (ENGLISH: Ministry of Science and Higher Education)of November 14, 2018, on the second degree characteristics of learning outcomes for qualifications at levels 6-8 of the Polish Qualifications Framework (Journal of Laws 2018, item 2218),

Course content	Number of hours				Reference to EUP
	L	C	Lb	P	
R&D projects (Research & Development). Specificity of research projects. Financing research and innovations from domestic and international funds. The basic principles of planning an R&D project.	3				EUP_2, EUP_3 EUP_5
Systems for commercializing scientific research. Marketing of research services. Presentation of the doctoral students' own research offer.	2				EUP_1, EUP_2, EUP_3, EUP_4, EUP_5
Total number of hours	**5**				

Methods of verifying the learning outcomes for the course									
Symbol EUP	**Test**	**Oral exam**	**Written exam**	**Pass test**	**Report**	**Project**	**Presentation**	**Practical exam**	**Others**
EUP_1							X		
EUP_2							X		
EUP_3							X		
EUP_4							X		
EUP_5							X		

Criteria for crediting the course
Credit in a descriptive form, must be passed with at least 60% of the maximum possible points.

Basic literature
Zarządzanie projektami badawczo-rozwojowymi w sektorze nauki. Praca zbiorowa pod redakcją Agnieszki Gryzik, Anny Knapińskiej. OPI-IB, Warszawa 2012. Komercjalizacja wyników badań naukowych – krok po kroku. Praca zbiorowa pod redakcją Doroty Markiewicz. Centrum Transferu Technologii Politechnika Krakowska, Kraków 2009. Transfer technologii z uczelni do biznesu. Tworzenie mechanizmów transferu technologii. Krzysztof Santarek (red.), Jan Bagiński, Aleksander Buczacki, Dariusz Sobczak, Anna Szerenos. Polska Agencja Rozwoju Przedsiębiorczości, Warszawa, 2008.
Additional literature
-

Person responsible for the course	
Dr. Eng. Marzena Wysińska-Gajek	Academy of Physical Education and Sport in Gdańsk
The other persons conducting the course	
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GDYNIA MARITIME UNIVERSITY
Doctoral School

COURSE DESCRIPTION

Code of course	EPK6	Name of course	in Polish	**ZARZĄDZANIE PROJEKTEM BADAWCZYM**
			in English	**RESEARCH PROJECT MANAGEMENT**

Level of qualification	**Doctoral School**
Mode of study	**full-time**
Profile of study	**general academic**
Status of the course	**compulsory**
Rigor	**exam**

Semester	**Number of hours in the semester**			
	L	**C**	**Lb**	**P**
IV	10			
Total number during studies	10			

L-lecture, C-classes, Lb-laboratory, P-project

Prerequisites relating to knowledge, skills and other competences
Knowledge of the principles of financing research within the programs of NCN (National Science Centre), NCBiR (National Centre for Research and Development) and MNiSW (Ministry of Science and Higher Education). General knowledge of international programs and support for scientific activities. Knowledge of research methodology.

Course aims
Strengthening the doctoral students' competences in the area of planning and managing a research project, risk aspects, as well as reporting and managing the project resources.

Learning outcomes for the course (EUP)		
Symbol	**After completing the course the doctoral student:**	**Reference to the learning outcomes (symbol PRK[1])**
EUP_1	Knows and understands the basic principles of research project management.	P8S_UO_1
EUP_2	Is able to assess the cognitive aspect and the significance of potential research results.	P8S_UO_1
EUP_3	Is able to formulate a research aim, identify the stages of a research project along with their budgeting, its resources, milestones and threats.	P8S_UO_1
EUP_4	Is able to analyze the conditions reducing risks in a research project.	P8S_UO_1
EUP_5	Knows the conventions of processing the research results, the principles related to their dissemination and transfer of these results to the economy.	P8S_UO_1
EUP_6	Is able to initiate and plan activities in a research project, and also manage research work in an objective manner.	P8S_UO_1

[1] Regulation of MNiSW (ENGLISH: Ministry of Science and Higher Education)of November 14, 2018, on the second degree characteristics of learning outcomes for qualifications at levels 6-8 of the Polish Qualifications Framework (Journal of Laws 2018, item 2218),

Course content	Number of hours				Reference to EUP
	L	C	Lb	P	
Classification of research, and types and kinds of projects	1				EUP_2
Assessment of the state of knowledge and the research perspective of a project	2				EUP_1, EUP_2
Planning the research problem. Tasks, resources and competences in the project	1				EUP_1, EUP_3, EUP_4, EUP_6
The project schedule, budgeting and its milestones	1				EUP_1, EUP_3, EUP_4, EUP_6
Processing the research results, dissemination of the project research results and their commercialization	1				EUP_1, EUP_3, EUP_5, EUP_6
Reporting, effect indicators and project settlement	1				EUP_1, EUP_3, EUP_5, EUP_6
Case study	3				EUP_1, EUP_4, EUP_5, EUP_6
Total number of hours	**10**				

Methods of verifying the learning outcomes for the course

Symbol EUP	Test	Oral exam	Written exam	Pass test	Report	Project	Presentation	Practical exam	Others
EUP_1							X	X	
EUP_2							X	X	
EUP_3							X	X	
EUP_4							X	X	
EUP_5							X	X	
EUP_6							X	X	

Criteria for crediting the course

Credit in the form of a presentation of the concept of the doctoral students' own research project and the discussion and defense of their own conclusion.

Basic literature

- J. Małkuch-Świtalska, Projekty naukowe. Zarządzanie w praktyce, PWN Warszawa 2020
- R. Basu, Managing projects in research and development, Gower Publishing Limited, Fernham 2015
- Zarządzanie projektem badawczym, praca zbiorowa pod red. J. Rzempały, Uniwersytet Ekonomiczny w Krakowie, Kraków 2015

Additional literature

- Dobre praktyki w zarządzaniu projektem badawczo-rozwojowym, „Szybka ścieżka" – dofinansowanie prac badawczo-rozwojowych przedsiębiorstw w Programie Operacyjnym Inteligentny Rozwój, Opracowanie NCBiR
- J. Ewart, K. Ames, Managing Your Academic Research Project, Springer, Singapore 2020
- Websites related to research grant competitions, including those announced by NCN (National Science Centre) and NCBiR (National Centre for Research and Development).

Person responsible for the course	
Prof. Dr habilitated Eng. Ireneusz Czarnowski	Faculty of Computer Science, GMU
The other persons conducting the course	
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GDYNIA MARITIME UNIVERSITY
Doctoral School

COURSE DESCRIPTION

Code of course	EPK7	Name of course	in Polish	**KOMERCJALIZACJA WYNIKÓW BADAŃ NAUKOWYCH I KNOW-HOW**
			in English	**RESEARCH RESULTS AND KNOW-HOW COMMERCIALIZATION**

Level of qualification	**Doctoral School**
Mode of study	**full-time**
Profile of study	**general academic**
Status of the course	**compulsory**
Rigor	**exam**

Semester	**Number of hours in the semester**			
	L	**C**	**Lb**	**P**
V	5			
Total number during studies	5			

L-lecture, C-classes, Lb-laboratory, P-project

Prerequisites relating to knowledge, skills and other competences
The doctoral student has the general knowledge of mathematics, physics, chemistry, biology, statistics and computer science indispensable to understand and interpret basic natural phenomena and processes necessary to identify needs and formulate simple solutions. Has the basic knowledge of the research methods and development trends used in them. The doctoral student knows the terminology used in scientific research assigned to the scientific discipline in which they are implementing their work. The doctoral student has the knowledge of legal, organizational, moral and ethical norms and principles that organize the social structures and institutions, and the regularities governing them, as well as their sources, nature, changes and methods of operation. The doctoral student has the knowledge of basic research methods, techniques and tools assigned to the scientific discipline in which they are implementing their work. The doctoral student is able to obtain, analyze, integrate and use the information from literature, databases, including electronic sources (also in a foreign language), interpret them and draw correct conclusions based on them. The doctoral student is able to perform an economic analysis as part of the scientific activity undertaken. The doctoral student understands the need for lifelong learning and is able to enhance and improve the acquired knowledge and skills. The doctoral student is willing to take on and engage in new initiatives and challenges, deepening their knowledge and skills. The doctoral student is able to express their thoughts, is willing to take on challenges and works both in a team and individually.

Course aims
Familiarizing the doctoral students with theoretical and practical aspects of intellectual property as a subject of commercialization. Stimulating the need in the doctoral students for creating innovations, their commercialization and implementation in socio-economic life.

Developing the skills in the doctoral students to analyze and formulate the results of scientific activity and know-how related to these results in order to initiate the commercialization process, the development of business models used in enterprises and the functioning of the innovation ecosystem. Presentation by the doctoral students of the research results and the know-how related to these results in the context of acquiring support tools for their further development.

Learning outcomes for the course (EUP)		
Symbol	**After completing the course the doctoral student:**	**Reference to the learning outcomes (symbol PRK[1])**
EUP_1	Has the knowledge of intellectual property (industrial property law, copyright and related law, know-how), innovations, innovation support mechanisms and is aware of the importance of commercialization of technology and knowledge in the development of the economy and business.	P8S_WK_1, P8S_WK_2, P8S_WK_3
EUP_2	Knows the key mechanisms of support and development of innovations, and the product/enterprise life cycle.	P8S_WK_3
EUP_3	Is able to analyze and assess the commercialization potential of an innovative solution using the known methods and tools.	P8S_WK_1, P8S_WK_2, P8S_WK_3
EUP_4	Is able to prepare and present the results of scientific activity and the know-how related to these results (investment teaser) in order to acquire support tools for the development of a venture, business, the economy and the social environment.	P8S_WK_1, P8S_WK_2, P8S_WK_3
EUP_5	Is able to think creatively, act in an entrepreneurial manner and define priorities for the implementation of a defined goal, in particular related to the shaping of new solutions based on scientific activity.	P8S_WK_1, P8S_WK_2, P8S_WK_3

[1] Regulation of MNiSW (ENGLISH: Ministry of Science and Higher Education)of November 14, 2018, on the second degree characteristics of learning outcomes for qualifications at levels 6-8 of the Polish Qualifications Framework (Journal of Laws 2018, item 2218),

Course content	**Number of hours**				**Reference to EUP**
	L	**C**	**Lb**	**P**	
Basic concepts: innovativeness, types of innovation, entrepreneurship, commercialization, intellectual property (including scientific results and know-how) – legal aspects. Evolution and dynamics of scientific and innovation policies as well as global competitiveness of enterprises. The significance of technology and knowledge transfer in the development of enterprises and the establishment of science-business relations.	2				EUP_1
Creation of new development ventures. Assessment of the implementation and commercial potential and the economic value of an innovation in the process of knowledge and technology transfer. Investment teaser.	1				EUP_3, EUP_4, EUP_5
Academic entrepreneurship. Start-ups and spin-offs/spin-outs, formal and legal conditions.	1				EUP_1, EUP_5
Instruments of innovation financing - private equity/venture capital – investment funds/financing institutions. Local and global eco-innovation system (Smart specializations) – supporting institutions.	1				EUP_1, EUP_2, EUP_4
Total number of hours	**5**				

Methods of verifying the learning outcomes for the course									
Symbol EUP	**Test**	**Oral exam**	**Written exam**	**Pass test**	**Report**	**Project**	**Presentation**	**Practical exam**	**Others**
EUP_1							X		X
EUP_2							X		X
EUP_3							X		X
EUP_4							X		X
EUP_5							X		X

Criteria for crediting the course
Credit in the oral form, must be passed with at least 60% of the maximum possible points.

Basic literature
1. Hockaday T., University Technology Transfer - What It Is and How to Do It., Johns Hopkins University Press, 2020 2. Sieńczyło-Chlabicz J. (red.), Komercjalizacja i transfer wyników badań naukowych i prac rozwojowych z uczelni do gospodarki, Wydawnictwo C.H.Beck, Warszawa 2017. 3. Matusiak K.B. (red.), Innowacje i Dtechnologii. Słownik pojęć, Polska Agencja Rozwoju Przedsiębiorczości, Warszawa 2011 . 4. Ustawa z dnia 4 lutego 1994 r. o prawie autorskim i prawach pokrewnych (Dz.U.2019.0.1231 z późn. zm.) 5. Ustawa z dnia z dnia 30 czerwca 2000 r. Prawo własności przemysłowej (Dz.U.2021.324 z późn. zm.)
Additional literature
1. Trott P., Innovation Management and New Product Development. Wydanie czwarte. Prentice Hall 2008. 2. Santarek K. (red.) Transfer technologii z uczelni do biznesu. Tworzenie mechanizmów transferu technologii, Polska Agencja Rozwoju Przedsiębiorczości, Warszawa 2008 3. Orłowski W.M., Komercjalizacja badań naukowych w Polsce. Bariery i możliwości ich przełamania, PwC, Warszawa 2013. 4. 4. Gwarda-Gruszczyńska E., Modele procesu komercjalizacji nowych technologii, Wydawnictwo Uniwersytetu Łódzkiego, Łódź 2013.

Person responsible for the course	
Dr Eng. Magdalena Kukowska-Kaszuba	Technology Transfer Centre of GMU
The other persons conducting the course	
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GDYNIA MARITIME UNIVERSITY
Doctoral School

COURSE DESCRIPTION

Code of course	EPK8	Name of course	in Polish	**ANALIZA WYNIKÓW BADAŃ JAKOŚCIOWYCH I ILOŚCIOWYCH**
			in English	**QUALITATIVE AND QUANTITATIVE RESEARCH RESULTS ANALYSIS**

Level of qualification	**Doctoral School**
Mode of study	**full-time**
Profile of study	**general academic**
Status of the course	**compulsory**
Rigor	**exam**

Semester	**Number of hours in the semester**			
	L	**C**	**Lb**	**P**
I or II	15			
Total number during studies	15			

L-lecture, C-classes, Lb-laboratory, P-project

Prerequisites relating to knowledge, skills and other competences
Basic knowledge of mathematics, probability calculus (probability theory) and descriptive statistics.

Course aims
Learning the basic methods and tools for conducting quantitative and qualitative analyses and drawing useful conclusions about the behavior of large populations, also learning the methods for communicating research results.

Learning outcomes for the course (EUP)		
Symbol	**After completing the course the doctoral student:**	**Reference to the learning outcomes (symbol PRK[1])**
EUP_1	Knows the methods of scientific research using statistical inference. Is able to use them to verify the assumptions made.	P8S_WG_3; P8S_UW_1; P8S_UW_2
EUP_2	Is able to formulate hypotheses that are verifiable on statistical grounds. Recognizes problems that may be subject to statistical inference.	P8S_WG_3; P8S_UW_1; P8S_UW_2
EUP_3	Is able to perform calculations related to statistical inference. Understands the need for their automation and the use of specialist information tools.	P8S_WG_3; P8S_UW_1; P8S_UW_2
EUP_4	Is able to infer the behavior of large populations and draw conclusions about the relationships occurring in them.	P8S_WG_3; P8S_UW_1; P8S_UW_2
EUP_5	Uses everyday language to interpret the obtained results.	P8S_WG_3; P8S_UW_1; P8S_UW_2

[1] Regulation of MNiSW (ENGLISH: Ministry of Science and Higher Education) of November 14, 2018, on the second degree characteristics of learning outcomes for qualifications at levels 6-8 of the Polish Qualifications Framework (Journal of Laws 2018, item 2218),

Course content	Number of hours				Reference to EUP
	L	C	Lb	P	
Introduction to the theory of statistical inference. Basic concepts	1				EUP_01; EUP_05
Using a sample in empirical research. Selection of sample size, methods of selecting sample elements, assessment of the representativeness of a sample.	1				EUP_01; EUP_03; EUP_04
Making use of statistical tests to infer the behavior of communities. Test construction, possibilities of their use, selected parametric and nonparametric tests, interpretation of the test results	3				EUP_01; EUP_02; EUP_03; EUP_04; EUP_05
Inferring the behavior of large populations. Cluster analysis, factor analysis, analysis of principal component.	3				EUP_03; EUP_04
Modeling relationships between factors. Simple and multiple regression, curvilinear models, assessment of the model quality.	3				EUP_02; EUP_03; EUP_04; EUP_05
Introduction to qualitative analysis. Selection of a sample for qualitative research, basic tools, advantages and disadvantages of qualitative research.	3				EUP_04; EUP_05
Total number of hours	**15**				

Methods of verifying the learning outcomes for the course									
Symbol EUP	**Test**	**Oral exam**	**Written exam**	**Pass test**	**Report**	**Project**	**Presentation**	**Practical exam**	**Others**
EUP_1							X		
EUP_2							X		
EUP_3							X		
EUP_4							X		
EUP_5							X		

Criteria for crediting the course
Presentation – must be passed with at least 60% of the maximum possible points.

Basic literature
Aczel A.D., Statystyka w zarządzaniu, Wydawnictwo Naukowe, PWN, Warszawa, 2017. Jóźwiak J., Podgórski J., Statystyka od podstaw, PWE, Warszawa, 2012. Ostasiewicz, S., Rusnak Z., Siedlecka U., Statystyka. Elementy teorii i zadania, Wydawnictwo Akademii Ekonomicznej, Wrocław, 2011. DeGroot M.H., Schervish M.J., Probability and Statistics, 3rd ed., Addison Wesley, 2001.
Additional literature
Łomnicki A., Wprowadzenie do statystyki dla przyrodników, Wydawnictwo Naukowe PWN, Warszawa 2007. Dziekan R., Szypuła R., Metody statystyczne w naukach przyrodniczych, Uczelnia Państwowa im. Jana Grodka w Sanoku, Sanok, 2021. Zastosowanie metod statystycznych w badaniach naukowych, Tomy I-V, StatSoft Polska, Kraków, 2008.

Person responsible for the course	
Dr Tomasz Owczarek	Faculty of Computer Science, GMU
The other persons conducting the course	
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GDYNIA MARITIME UNIVERSITY
Doctoral School

COURSE DESCRIPTION

Code of course	EPK9	Name of course	in Polish	**EKSPLORACJA DANYCH**
			in English	**DATA MINING**

Level of qualification	**Doctoral School**
Mode of study	**full-time**
Profile of study	**general academic**
Status of the course	**compulsory**
Rigor	**exam**

Semester	**Number of hours in the semester**			
	L	**C**	**Lb**	**P**
VI	15			
Total number during studies	15			

L-lecture, C-classes, Lb-laboratory, P-project

Prerequisites relating to knowledge, skills and other competences
Knowledge of descriptive statistics. Advanced skills in spreadsheet usage. Knowledge of the essence of the models of artificial intelligence and machine learning

Course aims
Learning the methods and tools dedicated to advanced data analysis based on the Big Data model and acquiring the basic skills in their application and interpretation of the obtained results.

Learning outcomes for the course (EUP)		
Symbol	**After completing the course the doctoral student:**	**Reference to the learning outcomes (symbol PRK[1])**
EUP_1	Identifies the importance of exploratory analysis in defining research problems.	P8S_WG_3; P8S_UW_1
EUP_2	Has the knowledge of the data mining process, its components and tools, and is able to plan this process together with its justification.	P8S_WG_3; P8S_UW_2
EUP_3	Is able to assess the results obtained using the data mining tools and methods.	P8S_UW_1; P8S_UW_2
EUP_4	Is able to plan the research related to the use of data mining methods, as well as to inspire their use in other areas of socio-economic development.	P8S_UW_1; P8S_UW_2
EUP_5	Is able to emphasize the importance of exploratory data analysis in searching for research problems, developing research, and solving complex research problems	P8S_WG_3

[1] Regulation of MNiSW (ENGLISH: Ministry of Science and Higher Education)of November 14, 2018, on the second degree characteristics of learning outcomes for qualifications at levels 6-8 of the Polish Qualifications Framework (Journal of Laws 2018, item 2218),

Course content	Number of hours				Reference to EUP
	L	C	Lb	P	
Exploratory tasks and techniques.	2				EUP_1, EUP_4, EUP_5
Data, their characteristics and the challenges of Big Data	2				EUP_2, EUP_4
Selected tools for advanced data analysis, their application and interpretation of the results.	5				EUP_1, EUP_2, EUP_3, EUP_4
Planning the research using data mining tools.	2				EUP_1, EUP_2 EUP_4, EUP_5
Case studies of exploratory data analysis applications.	4				EUP_1, EUP_2, EUP_3, EUP_5
Total number of hours	**15**				

Methods of verifying the learning outcomes for the course									
Symbol EUP	**Test**	**Oral exam**	**Written exam**	**Pass test**	**Report**	**Project**	**Presentation**	**Practical exam**	**Others**
EUP_1			X			X			
EUP_2			X			X			
EUP_3			X			X			
EUP_4			X			X			
EUP_5			X			X			

Criteria for crediting the course
The exam in the form of a presentation of the description of the research plan using the data mining tools, along with the justification for their use, and also with the formulation of the results from the preliminary data analysis. Passed with at least 60% of the maximum possible points.

Note: the doctoral student receives a grade above "satisfactory" if the achieved learning outcomes exceed the required minimum.

Basic literature

- Larose D., *Odkrywanie wiedzy z danych*. *Wprowadzanie do eskploracji danych*, PWN, 2006.
- Larose D., *Metody i modele eksploracji danych*, PWN 2008
- Attewell, P., Monaghan, D. B., & Kwong, D. (2015). *Data Mining for the Social Sciences: An Introduction* (1st ed.). University of California Press. http://www.jstor.org/stable/10.1525/j.ctt13x1gcg
- Reis J., Housley M., *Fundamentals of Data Engineering: Plan and Build Robust Data Systems*. Oreilly 2022
- Artykuły naukowe dostępne w bazach naukowych

Additional literature

- Badania Eksploracyjne, Portal The Story, https://thestory.is/pl/journal/badania-eksploracyjne/
- PHD Research Topic In Data Mining, PhDProject, https://phdprojects.org/phd-research-topic-data-mining/
- Theobald O., Machine Learning for Absolute Beginners. Scatterplot Press., 2017

Person responsible for the course	
Prof. Dr habilitated Eng. Ireneusz Czarnowski	Faculty of Computer Science, GMU
The other persons conducting the course	
-	-

GDYNIA MARITIME UNIVERSITY
Doctoral School

COURSE DESCRIPTION

Code of course	EPK11	Name of course	in Polish	**COACHING KARIERY**
			in English	**CAREER COACHING**

Level of qualification	**Doctoral School**
Mode of study	**full-time**
Profile of study	**general academic**
Status of the course	**compulsory**
Rigor	**exam**

Semester	**Number of hours in the semester**			
	L	**C**	**Lb**	**P**
VII	5	1		
Total number during studies	6			

L-lecture, C-classes, Lb-laboratory, P-project

Prerequisites relating to knowledge, skills and other competences
No prerequisites required

Course aims
Learning the basic principles and methods of supporting career development in a scientific and professional context. Acquiring the skills of career path planning, including the identification of key resources and barriers to professional development, as well as implementing the effective coaching strategies. The application of coaching tools and techniques to support the development of professional competences and the achievement of the set goals in managerial activity that is consistent with personal development.

Learning outcomes for the course (EUP)		
Symbol	**After completing the course the doctoral student:**	**Reference to the learning outcomes (symbol PRK[1])**
EUP_1	Knows and understands the principles of supporting career development, including the key coaching theories and techniques.	P8S_UO_1
EUP_2	Is able to effectively use coaching tools and methods in the process of supporting career development, adapting them to the individual's needs and goals.	P8S_UU_1; P8S_UU_2
EUP_3	Is able to manage the attention and engagement of the coaching process participants, creating favorable conditions for reflection and professional development.	P8S_KO_1; P8S_KO_2; P8S_KO_3

[1] Regulation of MNiSW (ENGLISH: Ministry of Science and Higher Education)of November 14, 2018, on the second degree characteristics of learning outcomes for qualifications at levels 6-8 of the Polish Qualifications Framework (Journal of Laws 2018, item 2218),

Course content	Number of hours				Reference to EUP
	L	C	Lb	P	
Motivation, coaching and mental health in the workplace. The role of well-being in employee engagement – an introduction to the course.	1				EUP_1
Recognizing their own needs as an employee and a team member and how to satisfy them, self-motivation techniques. Team manager as a leader, methods of influencing employees, errors in motivation.	2	1			EUP_1, EUP_2
Shaping the coaching skills: the language of communication, contextual listening, discovery questions, feedback. Techniques and criteria for positive interventions in the workplace.	2				EUP_2; EUP_3
Total number of hours	**5**	**1**			

Methods of verifying the learning outcomes for the course									
Symbol EUP	**Test**	**Oral exam**	**Written exam**	**Pass test**	**Report**	**Project**	**Presentation**	**Practical exam**	**Others**
EUP_1							X		
EUP_2							X		
EUP_3							X		

Criteria for crediting the course
Presentation – to be passed with at least 60% of the maximum possible points.

Basic literature
Wilczyńska M. i inni, *Moc coachingu*, Helion, Gliwice 2011 Goleman D., *Inteligencja emocjonalna w praktyce,* Media Rodzina, Poznań 1999 Whitmore J., *Coaching. trening efektywności*, Abedik, Poznań 2011
Additional literature
Sivanathan N., Arnold K. A., Turner N., Barlig, J. *Jak być dobrym liderem: przywództwo transformacyjne a dobrostan.* w: Linley, P. A., Joseph, S. (red.), Psychologia pozytywna w praktyce. PWN, Warszawa, 2007 Laloux F. *Pracować inaczej. Nowatorski model organizacji inspirowany kolejnym etapem rozwoju ludzkiej świadomości*, Studio Emka, 2015

Person responsible for the course	
Dr Agnieszka Czarnecka	Department of Management and Economics, Faculty of Management and Quality Science, GMU
The other persons conducting the course	
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GDYNIA MARITIME UNIVERSITY
Doctoral School

COURSE DESCRIPTION

Code of course	EPK12	Name of course	in Polish	**JĘZYK ANGIELSKI**
			in English	**ENGLISH LANGUAGE**

Level of qualification	**Doctoral School**
Mode of study	**full-time**
Profile of study	**general academic**
Status of the course	**compulsory**
Rigor	**exam**

Semester	**Number of hours in the semester**			
	L	**C**	**Lb**	**P**
I, II, III, IV, V, VI, VII, VIII		15		
Total number during studies	120			

L-lecture, C-classes, Lb-laboratory, P-project

Prerequisites relating to knowledge, skills and other competences
No prerequisites required.

Course aims
Developing reading and listening skills in English in order to effectively acquire and interpret information related to scientific activity and academic work. Theoretical and practical preparation for formulating statements and written works of a scientific nature in English. Preparing for competent communication in an international scientific and professional environment.

Learning outcomes for the course (EUP)		
Symbol	**After completing the course the doctoral student:**	**Reference to the learning outcomes (symbol PRK[1])**
EUP_1	Is able to construct and formulate scientific definitions in English.	P8S_UK_1; P8S_UK_2; P8S_UK_5
EUP_2	Is able to present orally and in writing the content containing numerical data, tables, graphs, and technical drawings in English.	P8S_WG_2; P8S_UK_5
EUP_3	Has the skills to prepare in English a self-presentation regarding their research interests.	P8S_UK_3; P8S_UK_4; P8S_UK_5

[1] Regulation of MNiSW (ENGLISH: Ministry of Science and Higher Education) of November 14, 2018, on the second degree characteristics of learning outcomes for qualifications at levels 6-8 of the Polish Qualifications Framework (Journal of Laws 2018, item 2218),

Course content	Number of hours				Reference to EUP
	L	C	Lb	P	
Problematic elements of the English orthography.		24			EUP_1, EUP_2, EUP_3
Construction and formulation of scientific definitions.		40			EUP_1, EUP_2, EUP_3
Description of tables, graphs and technical drawings.		16			EUP_1, EUP_2, EUP_3
Self-presentation of the doctoral students' own research interests.		40			EUP_1, EUP_2, EUP_3
Total number of hours		**120**			

Methods of verifying the learning outcomes for the course									
Symbol EUP	**Test**	**Oral exam**	**Written exam**	**Pass test**	**Report**	**Project**	**Presentation**	**Practical exam**	**Others**
EUP_1	X								X
EUP_2	X								X
EUP_3	X								X

Criteria for crediting the course
Credited on the basis of oral and written statements. To be passed with at least 60% of the maximum possible points.

Basic literature
Glasman-Deal H.: *Science research writing: for non-native speakers of English*. London: Imperial College Press, 2015. Wallwork A.: *English for Writing Research Papers*. Basel: Springer, 2016. Williams E.J.: *Presentations in English*. London: Macmillan, 2008.
Additional literature
Armer T.: *Cambridge English for Scientists*. Cambridge, CUP, 2012. Green A.E.: *Writing Science in Plain English*. Chicago, The University of Chicago Press, 2013.

Person responsible for the course	
Dr Mirosława Sztramska	Department of Foreign Languages, GMU
The other persons conducting the course	
Lecturers of the Department of Foreign Languages	Department of Foreign Languages, GMU

GDYNIA MARITIME UNIVERSITY
Doctoral School

COURSE DESCRIPTION

Code of course	EPK13	Name of course	in Polish	**PRAKTYKI ZAWODOWE**
			in English	**PROFESSIONAL PRACTICUM**

Level of qualification	**Doctoral School**
Mode of study	**full-time**
Profile of study	**general academic**
Status of the course	**compulsory**
Rigor	**exam**

Semester	**Number of hours in the semester**			
	L	**C**	**Lb**	**P**
I, II, III, IV, V, VI, VII, VIII		5		
Total number during studies	40			

L-lecture, C-classes, Lb-laboratory, P-project

Prerequisites relating to knowledge, skills and other competences
No prerequisites required.

Course aims
Preparation for conducting teaching activities in the form of a laboratory or classes. Mastering modern methods and techniques of conducting teaching activities for adults. Acquiring competences in the field of conducting teaching activities for adults.

Learning outcomes for the course (EUP)		
Symbol	**After completing the course the doctoral student:**	**Reference to the learning outcomes (symbol PRK[1])**
EUP_1	Has the knowledge of methodology and modern techniques of conducting teaching activities for adults.	P8S_UU_1; P8S_UU_2
EUP_2	Is able to plan and implement teaching activities in groups using the appropriate techniques and tools.	P8S_UU_1; P8S_UU_2

[1] Regulation of MNiSW (ENGLISH: Ministry of Science and Higher Education) of November 14, 2018, on the second degree characteristics of learning outcomes for qualifications at levels 6-8 of the Polish Qualifications Framework (Journal of Laws 2018, item 2218),

Course content	**Number of hours**				**Reference to EUP**
	L	**C**	**Lb**	**P**	
Motivation, coaching and mental health in the workplace. The role of well-being in employee engagement – an introduction to the course.		20			EUP_1; EUP_2
Recognizing their own needs as an employee and a team member and how to satisfy them, self-motivation techniques. Team manager as a leader, methods of influencing employees, errors in motivation.		20			EUP_1; EUP_2
Total number of hours		**40**			

Methods of verifying the learning outcomes for the course									
Symbol EUP	**Test**	**Oral exam**	**Written exam**	**Pass test**	**Report**	**Project**	**Presentation**	**Practical exam**	**Others**
EUP_1								X	
EUP_2								X	

Criteria for crediting the course
Credit based upon the completion of teaching activities with students and the assessment of the supervisor of professional practice and the assessment of students, passed with at least a satisfactory grade obtained from the professional practice supervisor and students.

Basic literature
Literature selected individually for the area and scope of the conducted educational activities.
Additional literature
Literature selected individually for the area and scope of the conducted research.

Person responsible for the course	
Supervisors of doctoral students of DS GMU	all faculties of GMU and other Polish and foreign higher education and research institutions
The other persons conducting the course	
Assistant supervisors of doctoral students of DS GMU	all faculties of GMU and other Polish and foreign higher education and research institutions

GDYNIA MARITIME UNIVERSITY
Doctoral School

COURSE DESCRIPTION

Code of course	MO1	Name of course	in Polish	**SZKOLENIE BHP**
			in English	**OCCUPATIONAL HEALTH AND SAFETY TRAINING**

Level of qualification	**Doctoral School**
Mode of study	**full-time**
Profile of study	**general academic**
Status of the course	**compulsory**
Rigor	**exam**

Semester	**Number of hours in the semester**			
	L	**C**	**Lb**	**P**
I	2			
Total number during studies	2			

L-lecture, C-classes, Lb-laboratory, P-project

Prerequisites relating to knowledge, skills and other competences
No prerequisites required.

Course aims
Acquiring the basic knowledge of occupational health and safety. Awareness of the obligations and the rights of the employee and the employer.

Learning outcomes for the course (EUP)		
Symbol	**After completing the course the doctoral student:**	**Reference to the learning outcomes (symbol PRK[1])**
EUP_1	Knows the legal documents in the field of occupational health and safety.	P8S_KO_2; P8S_KO_3
EUP_2	Characterizes the system of labor protection in Poland.	P8S_KO_2; P8S_KO_3
EUP_3	Identifies the basic obligations and rights of employers and employees.	P8S_KO_2; P8S_KO_3
EUP_4	Describes the procedure in the event of accidents at work and occupational diseases.	P8S_KO_2; P8S_KO_3
EUP_5	Determines the characteristics of the material work environment and assesses threats in the work environment.	P8S_KO_2; P8S_KO_3
EUP_6	Distinguishes the basic ergonomic concepts and aspects.	P8S_KO_2; P8S_KO_3

[1] Regulation of MNiSW (ENGLISH: Ministry of Science and Higher Education) of November 14, 2018, on the second degree characteristics of learning outcomes for qualifications at levels 6-8 of the Polish Qualifications Framework (Journal of Laws 2018, item 2218)

Course content	Number of hours				Reference to EUP
	L	C	Lb	P	
The occupational health and safety system in Poland – the organizational and legal system, supervisory bodies, qualifications and tasks of the occupational health and safety service.	0.5				EUP_1, EUP_2
The basic obligations of the employer and employee resulting from the Labor Code.	0.5				EUP_3
Factors in the work environment and the assessment of occupational risk. Accidents at work and occupational diseases.	0.5				EUP_4, EUP_5
Ergonomics in the work environment and employee protection measures.	0.5				EUP_6
Total number of hours	**2**				

Methods of verifying the learning outcomes for the course									
Symbol EUP	**Test**	**Oral exam**	**Written exam**	**Pass test**	**Report**	**Project**	**Presentation**	**Practical final exam**	**Others**
EUP_1						X			
EUP_2						X			
EUP_3						X			
EUP_4						X			
EUP_5						X			
EUP_6						X			

Criteria for crediting the course
Credit in the form of a descriptive project, must be passed with at least 60% of the maximum possible points.

Basic literature
Kodeks Pracy. Dział X – Bezpieczeństwo i higiena pracy Komosa A., *Bezpieczeństwo i higiena pracy*, Wydawnictwo Ekonomik, 2019 Rączkowski B., *BHP w praktyce*, ODDK, Gdańsk 2020 Stec D., *Zasady BHP w praktyce*, Wszechnica Podatkowa, Kraków 2011
Additional literature
Bryła R., *Bezpieczeństwo i higiena pracy*, Wyd. Elamed, Katowice 2011 PN-ISO 45001:2018-06 Systemy zarządzania bezpieczeństwem i higieną pracy – Wymagania i wytyczne stosowania Rozporządzenie Ministra Pracy i Polityki Socjalnej z dnia 26.09.1997 r. w sprawie ogólnych przepisów bezpieczeństwa i higieny pracy (Dz.U. 1997 nr 129 poz. 844, Dz.U. 2003 Nr 169 poz. 1650 – tekst jednolity, z póź. zm.) Siemiątkowski P., Boguszewski J., *Służba bhp, postępowanie powypadkowe i choroby zawodowe - praktyczny komentarz do rozporządzeń*, Wyd. Wiedza i Praktyka, Warszawa 2012

Person responsible for the course	
Dr Eng. Natalia Żak	Department of Quality Management, Faculty of Management and Quality Science, GMU
The other persons conducting the course	
Dr Eng. Joanna Wierzowiecka	Department of Quality Management, Faculty of Management and Quality Science, GMU

GDYNIA MARITIME UNIVERSITY
Doctoral School

COURSE DESCRIPTION

Code of course	MO2	Name of course	in Polish	**SZKOLENIE BIBLIOTECZNE**
			in English	**LIBRARY TRAINING**

Level of qualification	**Doctoral School**
Mode of study	**full-time**
Profile of study	**general academic**
Status of the course	**compulsory**
Rigor	**exam**

Semester	**Number of hours in the semester**			
	L	**C**	**Lb**	**P**
I	2			
Total number during studies	2			

L-lecture, C-classes, Lb-laboratory, P-project

Prerequisites relating to knowledge, skills and other competences
No prerequisites required.

Course aims
Enhancing and deepening knowledge related to the use of scientific information resources and the tools supporting the preparation of a doctoral dissertation and scientific publications.

Learning outcomes for the course (EUP)		
Symbol	**After completing the course the doctoral student:**	**Reference to the learning outcomes (symbol PRK[1])**
EUP_1	Has the knowledge of sources of scientific information	P8S_WG_4; P8S_WK_2
EUP_2	Is able to effectively use the multi-search engine dedicated to the library program and of the printed scientific items	P8S_WG_4; P8S_WK_2
EUP_3	Is able to properly specify an information query	P8S_WG_4; P8S_WK_2
EUP_4	Has the general knowledge of bibliometrics	P8S_WG_4; P8S_WK_2
EUP_5	Knows bibliography managers	P8S_WG_4; P8S_WK_2

[1] Regulation of MNiSW (ENGLISH: Ministry of Science and Higher Education) of November 14, 2018, on the second degree characteristics of learning outcomes for qualifications at levels 6-8 of the Polish Qualifications Framework (Journal of Laws 2018, item 2218)

Course content	Number of hours				Reference to EUP
	L	C	Lb	P	
Local and central catalogs	0.25				EUP_1, EUP_2, EUP_3, EUP_4, EUP_5
Electronic databases subscribed by GMU	0.25				EUP_1, EUP_2, EUP_3, EUP_4, EUP_5
Searching for information in scientific databases	0.25				EUP_1, EUP_2, EUP_3, EUP_4, EUP_5
Search services for scientific resources	0.25				EUP_1, EUP_2, EUP_3, EUP_4, EUP_5
Formulating and specifying the scientific issues searched	0.25				EUP_1, EUP_2, EUP_3
Digital repositories and libraries and the GMU repository of scientific publications	0.25				EUP_1, EUP_2, EUP_3, EUP_4, EUP_5
Tools for creating and managing bibliographies - bibliography managers	0.25				EUP_1, EUP_2, EUP_3, EUP_4, EUP_5
Databases of scientific publications and their citations	0.25				EUP_1, EUP_2, EUP_3, EUP_4, EUP_5
Total number of hours	**2**				

Methods of verifying the learning outcomes for the course									
Symbol EUP	**Test**	**Oral exam**	**Written exam**	**Pass test**	**Report**	**Project**	**Presentation**	**Practical final exam**	**Others**
EUP_1								X	
EUP_2								X	
EUP_3								X	
EUP_4								X	
EUP_5								X	

Criteria for crediting the course
The training is credited on the basis of attendance and activity during the discussion of the specific program content.

Basic literature

1. Pulikowski A. (2018). *Modelowanie procesu wyszukiwania informacji naukowej. Strategie i interakcje*. Katowice: Wydawnictwo Uniwersytetu Śląskiego.
2. Błaszkowska K., Florianowicz M. (2015). Naukowe bazy danych. W: *Pomysł – Badanie – Publikacja: Poradnik naukowy dla studentów kierunków medycznych*. P. Waszak, Ł. Budyńko (red.). Gdańsk: Gdański Uniwersytet Medyczny, s. 164-187.

Additional literature

1. Lublin A. (2021). Jak szybko i skutecznie wyszukiwać informacje w Internecie: https://cyberplac.pl/2020/08/30/jak-szybko-i-skutecznie-wyszukiwac-informacje-w-internecie/ (dostęp 20.02.2023)
2. Ratajczak-Mrozek M. (2021). Ochrona własności intelektualnej i etyka prowadzenia badań naukowych. *Rozprawa doktorska w naukach społecznych. Poradnik doktoranta i promotora pracy doktorskiej*. Ł Sułkowski, R. Lenart-Gansiniec (red.). Łódź: Wydawnictwo Społecznej Akademii Nauk, s. 167-190.

Person responsible for the course	
Dr Joanna Krzywonos	Main Library of GMU
The other persons conducting the course	
MSc Hanna Benkowska	Main Library of GMU

GDYNIA MARITIME UNIVERSITY
Doctoral School

COURSE DESCRIPTION

Code of course	EPK_ WN _1	Name of course	in Polish	**BADANIA NAUKOWE W TRANSPORCIE, GEODEZJI I NAWIGACJI**
			in English	**SCIENTIFIC RESEARCH IN TRANSPORT, GEODESY AND NAVIGATION**

Level of qualification	**Doctoral School**
Mode of study	**full-time**
Profile of study	**general academic**
Status of the course	**compulsory**
Rigor	**exam**

Semester	**Number of hours in the semester**			
	L	**C**	**Lb**	**P**
I or II	15			
Total number during studies	15			

L-lecture, C-practical classes, Lb-laboratory, P-project

Prerequisites relating to knowledge, skills and other competences
No prerequisites.

Course aims
To familiarize the doctoral students with the methodology of conducting scientific research in transport, geodesy and navigation.

Learning outcomes for the course (EUP)		
Symbol	**After completing the course the doctoral student:**	**Reference to the learning outcomes (symbol PRK[1])**
EUP_1	Knows the scientific research area of the discipline of civil engineering, geodesy and transport	P8S_WG_1; P8S_WG_2
EUP_2	Is able to use the basic terminology used in the discipline of civil engineering, geodesy and transport	P8S_WG_1; P8S_WG_2
EUP_3	Understands and is able to use the research methods used in transport, geodesy and navigation.	P8S_WG_3; KK_1
EUP_4	Is able to define scientific problems in the areas of transport, geodesy and navigation and independently design and realize the research process.	P8S_WG_3; P8S_KK_2
EUP_5	Is able to process the research results in the areas of transport, geodesy and navigation.	P8S_WG_3; P8S_KK_3

[1] Regulation of MNiSW (ENGLISH: Ministry of Science and Higher Education) of November 14, 2018, on the second degree characteristics of learning outcomes for qualifications at levels 6-8 of the Polish Qualifications Framework (Journal of Laws 2018, item 2218)

Course content	Number of hours				Reference to EUP
	L	C	Lb	P	
The research area of the discipline of civil engineering, geodesy and transport	2				EUP_1, EUP_2
The research issues and the terminology of the discipline of civil engineering, geodesy and transport	2				EUP_1, EUP_2
The research methods in transport, geodesy and navigation.	2				EUP_2, EUP_3
Defining the scientific problem, its design and the implementation of the research in transport, geodesy and navigation	2				EUP_3, EUP_4
Conducting the scientific research in transport, geodesy and navigation on selected examples	4				EUP_3 EUP_4
Processing the measurement results in transport, geodesy and navigation	3				EUP_4, EUP_5
Total number of hours	**15**				

Methods of verifying the learning outcomes for the course									
Symbol EUP	**Test**	**Oral exam**	**Written exam**	**Pass test**	**Report**	**Project**	**Presentation**	**Practical exam**	**Others**
EUP_1			X						
EUP_2			X						
EUP_3			X						
EUP_4			X						
EUP_5			X						

Criteria for crediting the course
The exam in a descriptive form, must be passed with at least 60% of the maximum possible points.

Basic literature
Wojewódzka-Król K., i in. Transport, tendencje zmian, Wydawnictwo PWN, Warszawa, 2022. Łyszkowicz A., Geodezja czyli sztuka mierzenia Ziemi, Wydawnictwo UWM, 2006. Urbański J., Kopacz Z., Posiła J., Nawigacja morska, Wydawnictwo AMW, 2000.
Additional literature
Malarski M., Inżynieria ruchu lotniczego, Wydawnictwo Oficyna Wydawnicza Politechniki Warszawskiej, Warszawa, 2006. Gajderowicz I., Odwzorowania Kartograficzne - podstawy, Wydawnictwo UWM, Olsztyn, 2009. Wróbel F., Vademecum nawigatora, Wydawnictwo Trademar, 2023. Specht C., System GPS, Wydawnictwo Bernardinum, Pelplin, 2007.

Person responsible for the course	
Prof. Dr habilitated Eng. Cezary Specht	Department of Transport, Faculty of Navigation, GMU
The other persons conducting the course	
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IRENEUSZ CZARNOWSKI

Professor Ireneusz Czarnowski is a graduate (1997) of the Gdynia Maritime University. In 2004, he gained a Doctor of Technical Sciences degree in computer science at the Faculty of Computer Science and Management of the Poznan University of Technology. In 2012, he subsequently received a postdoctoral degree in computer science from the Faculty of Computer Science and Management at the Wrocław University of Science and Technology. In 2023, he was granted the title of Professor of Engineering and Technical Sciences in information and communication technology. In 2024, he graduated with a postgraduate diploma in renewable energy at Wrocław University of Science and Technology.

During the years 1998-2005, he worked as an Assistant in the Department for Information Systems at the Faculty of Entrepreneurship and Commodity Science of Gdynia Maritime University. From 2005 until 2012, he held the post of Assistant Professor at the same department and consecutively worked as an academic lecturer at the Kashubian-Pomeranian Higher School in Wejherowo. From 2012 to 2023, he was a member of the research and teaching staff at Gdynia Maritime University in the position of Associate Professor, as well as performing the role of GMU Deputy Rector for Science. From 2023 until 2024, he continued his work as a Full Professor. Since 2024, he has been the Dean of the GMU Faculty of Computer Science.

Ireneusz Czarnowski's research interests focus on such topics as AI, machine learning, neural networks, evolutionary algorithms and optimization, data science and data engineering. He has led and was a partner in a project financed by the Minister for Science and Higher Education (MSHE), under the title *Classification algorithms in a distributed environment*. He was also a partner in the following research projects: *Application of asynchronous teams of software agents for optimization, simulation, and machine learning* (MSHE); *System of intelligent software agents for solving complex optimisation problems* (State Committee for Scientific Research – SCSR); *Population learning algorithms and the development of a software environment for their sequential and parallel usage* (SCSR) and *Scheduling algorithms for fault-tolerant programs and evaluation of the effectiveness of these algorithms based on computational experiments* (SCSR). He has led 8 Gdynia Maritime University-financed projects. He was a partner in two scientific research projects financed as part of international competitions, entitled *Prediction of product quality in glass manufacturing process* (Eunite Competition 2003) and *Cyber Security in Maritime Education and Training* (International Association of Maritime Universities and The Nippon Foundation).

He has also conducted R&D on behalf of business partners, as contracted by company HRTec as well as part of the *Regional Operational Programme for the Lodz Voivodeship for 2014-2022*. He has worked extensively with social and economic entities, including the development of research premises and areas for the *National Smart Specialisation*; he was involved in the development of research areas for the *Intelligent Specialisation of the Pomeranian Voivodeship*; he carried out an expert study on behalf of the National Information Processing Institute; he was involved in the work of an international expert team on the development of requirements for IT solutions for IAMU; he was a member of a group of experts on innovation and development, entitled *Technologies of Tomorrow* of the Office of the Marshal of the Pomorskie Voivodeship;

he took part as an expert in discussion panels on the topic “Maritime Higher Education” and “The Future of Maritime Education in Poland”; he was a member of a team of consultants supporting the preparation of the *European Funds for Pomerania 2021-2027* programme. He collaborated with limited liability companies Enamor and PasCom as part of the project for the National Centre for Research and Development entitled *Sesame of Knowledge, Competence and Skills*, co-financed by the EU as part of the *Operational Programme Knowledge Education Development for the years 2014-2020*. He has collaborated with many companies within the framework of the iMEN project for the development of the practical teaching infrastructure within the Faculties of Marine Engineering, Electrical Engineering, and Navigation at Gdynia Maritime University. As of 2020, he is a member of the *Research and Development* working group at the Ministry for Climate and Environment involved in work for the development of wind energy in Poland.

Other achievements: He is the author/co-author of **149** publications, the supervisor of **1** doctoral dissertation, a reviewer of **2** procedures for the conferral of a titular professorship, the supervisor of **8** postdoctoral procedures, a member of **3** postdoctoral commissions, and areviewer of **21** doctoral dissertations.

Bibliometric Data According to Scopus: FWCI=**0.68**, H-index: **15**, Number of citations: **728**, number of documents **87**.

PIOTR PRZYBYŁOWSKI

Professor Piotr Przybyłowski is a graduate of the Academy of Agriculture and Technology in Olsztyn (1969). He was awarded a Doctor of Technical Sciences degree in food technology and chemistry from the Faculty of Food Technology at the Academy in 1976. In 1985, he gained a postdoctoral degree in the field of technical sciences, specializing in food technology and chemistry, from the same institution. In 1980, he completed a four-month research internship at the Faculty of Microbiological Ecology in Jouy-en-Josas (INRA) near Paris and a one-month research internship at the Institute of Nutrition and Metabolic Diseases at the Nancy Academy of Medicine. In 1983, he undertook a 6-month research internship in Jouy–en–Josas, where he continued his previous research. In 1994, he was granted the title of Professor of Agricultural Sciences.

In 1986, he began work as a Assistant Professor at the Gdynia Maritime University within the Faculty of Business Administration, where from 1987 to 1993, and later from 2008 to 2016, he held the post of dean. In 1987-90, he worked as the head of Food and Alimentation onboard ships, and since 1991 he has headed the Department of Commodity Science and Cargo (currently the Department of Quality Management). He was elected rector of the University in 1996 and served until 2002.

He has also worked as a full professor at the Poznań Academy of Economics within the Faculty of Commodity Science, part of the Department of Chemistry of Natural Products and the Department of Product Ecology. From 2009 until 2017, he also worked as a visiting professor at the Medical University of Gdańsk, in the Department of Clinical Nutrition, part of the Faculty of Health Sciences. In his work, he attributes great importance to critical thinking, creativity,

innovation, multiculturalism, and the development of the ability of young people to adapt to new working conditions and life conditions. His work as an academic teacher was recognised in a poll in the *Dziennik Bałtycki* newspaper, in which he placed 2nd in the category Academic Teacher of the Year 2018.

The research undertaken by Piotr Przybyłowski concerns the impact of environmental factors, technological parameters, and storage and transport conditions on the quality of raw materials and food products. In addition, in collaboration with one of his doctoral students, he developed tools for measuring quality of life using indicators of sustainable development, which allowed for a new methodical approach to the problem using partial and total usability indicators, to assess and compare changes in the objective quality of life in terms of the social, economic and environmental order.

He is a member of prestigious scientific institutions and organisations such as the Committee for Food Science and Nutrition of the Polish Academy of Sciences, the International Association for Commodity Science and Technology, the Committee for Commodity Science – Quality Science of the Polish Academy of Sciences, the Committee for Bromatological Analysis of the Committee for Analysis of the Polish Academy of Sciences, and the Committee for Food Hygiene and Nutrition of the Polish Academy of Sciences. He has served as the Chair of the P06-T Section of the Scientific Research Committee, the President of the Gdansk Branch of the Polish Society of Food Technologists and the Vice-President of the Management Board of the Polish Commodity Science Society. Since 2014, he has been a member of the Pomeranian Quality Award Committee. In recognition of his extensive involvement in implementation and development and quality management, he received the Polish Honorary Quality Award at the 8th Pomeranian Quality Awards in 2005 and the Professor Romuald Kolman Pomeranian Quality Award in 2024.

He shares the knowledge he has acquired in official and academic visits to the USA, Mexico, and countries of the Near and Far East (Japan, China, Vietnam, and the United Arab Emirates), informing his students of the methods used by society in these countries to resolve environmental problems. In his teaching, Piotr Przybyłowski emphasises the connection between theoretical knowledge and practice, which is highly valued by his students and doctoral students for meeting their expectations.

Other achievements: He is the author of **381** publications, including **146** works published in national and international scientific journals, **1** book, **5** monographs, **34** chapters in monographs, **9** textbooks and academic scripts, **16** patents, **125** scientific papers and communications, and **45** unpublished works. He has supervised **9** doctoral students; reviewed **43** doctoral dissertations, **28** postdoctoral proceedings, **17** proceedings for the conferral of a titular professorship, and **2** motions for the conferral of the honorary title of Doctor *honoris causa*.

Bibliometric Data According to Scopus: FWCI=**0.95**, H-index: **5**, Number of citations: **86**, number of documents **6**.

ALEKSANDRA WILCZYŃSKA

GMU Associate Professor Dr hab. Aleksandra Wilczyńska is a graduate (1997) of the Gdynia Maritime University. She gained a Doctor of Economic Sciences degree in commodity science at Gdynia Maritime University in 2005. This was followed by a postdoctoral degree in economic sciences in the field of commodity science at the Faculty of Commodity Science at Cracow University of Economics in 2013.

She is a specialist in food and food quality assessment, a researcher on the impact of environmental pollution on the quality of food products, food safety, the antioxidant effect of food products, the quality of edible flowers, the quality of natural and traditional food, the use of natural antioxidant substances in cosmetics, and the attitudes and preferences of consumers and their behaviour towards food products and cosmetics.

During her career at GMU, she has headed and participated in projects financed by the University, State Committee for Scientific Research, and the National Science Centre. She has also led tasks as part of the *Education Matters* project, as part of the *Operational Programme Knowledge, Education, Development 2014-2020*, co-financed by the EU through the European Social Fund. She was the deputy manager of the project *PROGRESS – Development of Scientific Research in Management and Quality Science at GMU*, financed by the Minister for Science as part of the Regional Excellence Initiative for 2024-2027. She also headed a project which gained funding as part of the *Scientific Research-aided Intervention in the Apiculture Sector initiative*, conducted in 2024. She was a contractor in the JOHANN – *Joint development of Small Cruise Ship tourism heritage products in the Southern Baltic Sea Region* project, co-financed by EU funds as part of the *Southern Baltic Interreg Programme*, and a participant in the project *JOHANNA – Joint Staff Qualification in SB Destinations to increase the skilled workforce in the SBS and by that ensure a sustainable SCS development in the SBS STHB*. She was also a participant in the *ABC of Healthy Eating – ABC of Kids Nutrition* project, financed by the Carrefour Foundation. Dr hab. Aleksandra Wilczyńska is a member of programme committees and organiser of several national and international science conferences (including ICQMSc 2021, 2023, Trans-Nav 2021, 2023), and headed the science and organisation committee of the *International Conference on The Role of Commodity Science in Quality Management within a Knowledge-Based Economy*. She is a member of the Commodity Science – Quality Science Committee at the Polish Academy of Sciences.

She has taken part in the development of new fields of study. She is a co-author of 3 academic scripts and has written several course syllabi. She has held the roles of Secretary of the Faculty's Education Quality Committee, Chair and Member of the Faculty's Programme Committees, Chair of the Faculty's Scientific Research Committee, Head of the Department of Food and Quality Systems, Member of the GMU Senate, and Dean of the Faculty of Management and Quality Science of Gdynia Maritime University.

She has completed courses and training concerning internal system control on the following: the roles of environmental management system assistant; information security management system assistant; quality management system representative; energy management system

assistant; internal control system auditor; management system auditing in a laboratory; the role of food safety management system assistant; training on the improvement of standardised management systems; trainings: *Creating Study Programmes in Higher Education; Professional Development for Academic Staff; The Seven Rules of Educational Support for Persons with Disabilities; Professional Development for Academic Staff; Equal Opportunities in Access to Educational; Evacuation Procedures for People with Disabilities; Education Quality in the Light of International Standards; and PKA Evaluation Criteria;* English Language Training for GMU Staff, as well as a data analysis course using the Statistica Software Package. She also took part in a study visit as part of the project: *Leaders in Higher Education Management* at Aalborg University and Aalborg Centre For Problem Based Learning In Engineering Science And Sustainability Under The Auspices Of UNESCO, in Denmark.

Other achievements: She has supervised **3** doctoral candidates and is currently supervising a further **4** doctoral students. She has reviewed **8** doctoral dissertations, was a member of **5** post-doctoral committees, and was a member of the Mid-term Evaluation Committees at the Doctoral School of Poznań University of Economics as well as at the GMU Doctoral School in 2023. Since gaining her postdoctoral degree, she has published more than 60 scientific works.

Bibliometric Data According to Scopus: FWCI=**0.39**, H-index: **6**, Number of citations: **382**, number of documents **11**.

JOANNA KIZIELEWICZ

Dr hab. Joanna Kizielewicz is a graduate of Poznań University of Physical Education (1994). She gained a Doctor of Economic Sciences degree in management at the University of Warmia and Mazury on Olsztyn in 2001. This was followed by a postdoctoral degree in economics at the Faculty of Commodity Science at the University of Szczecin in 2017. In 1994, she graduated from the School of Pedagogical Preparation at the Poznań University of Physical Education. She also completed a postgraduate diploma in – Modern Ship Management at Gdynia Maritime University in 2016.

Joanna Kizielewicz was the director of training consultancy company EDUSTAR, and the CEO of the company Projekt Edukacja. She also held the role of an Accredited Consultant of European Funds at the Institute of European Consultants Education in Kalisz, a member of the State Examination Committee for Tour Guides appointed by the Marshal of the Pomeranian Voivodeship; Head of Tourist Personnel Training at the Gdynia Maritime University Development Foundation; Secretary of the Senate Committee for the Election of the Rector of Gdynia Maritime University; member of the Senate of Gdynia Maritime University; member of the Senate Committee for Education; member of the Faculty Committee for Promotion and Development; member of the Faculty Programme Committee; member of the Scientific Activity Evaluation Team at Gdynia Maritime University (GMU) between 2019 and 2020; Coordinator of the Faculty of Management and Quality Science for the POL-on System; Faculty of Management and Quality Science Coordinator for Management Control; member of

the team for the monitoring of the implementation of the Human Resources Strategy for Researchers for GMU research staff; member of the Senate Committee for Science; Chair of the Faculty of Management and Quality Science Research Committee; manager of the academic discipline of management and quality science; Deputy Dean for Cooperation and Development at the GMU Faculty of Management and Quality Science, and Head of the Department of Management and Economics.

She has served as a member of the programme and organisational committees of several national and international science conferences (ECMLG ACPI Conferences, ICTR ACPI Conferences Dubrovnik International Economic Meeting DIEM, TRANSNAV Gdynia, Tourism in the Social Sciences / Jagiellonian University).

Joanna Kizielewicz has managed research projects in sustainable development and organisational management of organisations in the context of sustainable development concepts funded by GMU. She took part in several international research projects, including the project entitled *Johanna – Joint Staff Qualification in South Baltic Destinations to Increase the Skilled Workforce in the South Baltic Sea and By That Ensure a Sustainable Small Cruise Ships Development in the South Baltic Sea* (2019-2022), as well as in the project *The Impact of Structural Changes in Tourist Demand in the Context of Mass Tourism, conducted out by the University of Dubrovnik in Croatia* (2014-2016). She also worked as an expert in the project *MARRIAGE – Better Marina Management, Harbour Network Consolidation and Water Tourism Marketing in the Southern Baltic Rim*, under the INTERREG South Baltic Programme, the Tourism Development Programme for the Waterways and Waterfront Areas of Szczecin.

She has also participated in projects financed by regional governments, labour market institutions, and the Ministry of Education and Science. She is also the author and coordinator of 28 projects, including projects financed by EU funds as part of the Integrated Operational Programme for Regional Development and the European Social Fund, the Ministry of Education and Science, and other programmes (2004-2024). Joanna Kizielewicz has also authored and led many teaching projects, including: *PROGRESS – GMU's Scientific and Research Development in Management and Quality Sciences*, funded by the Ministry of Science under the Regional Initiative of Excellence Programme, *Rejs do wiedzy (Voyage to Knowledge)* as part of the Social Responsibility of Science / Excellent Science Programme, Module: "Social Responsibility of Science II", and *Rejs do nauki (Voyage to Science)* within the Social Responsibility of Science / Excellent Science Programme, Module: "Social Responsibility of Science – Popularisation of Science and Promotion of Sport". During this time, she enhanced her skills through numerous training sessions in project management, operating scientific activity quality evaluation systems, research methodology, and improving soft skills, including training and a study visit as part of the project entitled *Leaders in Higher Education Management* at Aalborg University and Aalborg Centre For Problem-Based Learning In Engineering Science And Sustainability Under The Auspices Of UNESCO**,** in Denmark.

She has developed her teaching skills through participation in international scholarships and exchanges (Socrates, Erasmus, Erasmus+), teaching as a guest lecturer at Cork Institute of

Technology, Ireland (2007, 2010); Universita degli Studi di Perugia, Italy (2009, 2011); University of Dubrovnik, Croatia (2014, 2016); University of La Coruña, Spain (2018); and Hochschule Bremerhaven – University of Applied Sciences (2024).

She is a member of the Polish Economic Association, the International Association of Maritime Economists, the Polish Nautological Society, and The International Association of Scientific Experts in Tourism, and a reviewer of scientific journals, including JCR-listed journals, monographs, and conference materials.

Other achievements: Professor Kizielewicz is the author of **130** publications, the reviewer of **4** scientific monographs; the supervisor of **3** doctoral candidates; the reviewer of **2** doctoral dissertations and a member of the committee for **2** postdoctoral proceedings. For her scientific activity, she has been awarded the GMU Individual Rector's Award a total of 11 times.

Bibliometric Data According to Scopus: FWCI=**0.35**, H-index: **4**, Number of citations: **41**, number of documents **12**.

ALEKSANDRA GROBELNA

Dr Aleksandra Grobelna is a graduate (2000) of the Gdynia Maritime University. She gained a Doctor in economics in 2008 from the Faculty of Management and Economic Services at the University of Szczecin.

From 2000 to 2008, she was employed as an Assistant, and since 2008, has held the position of Assistant Professor at the GMU Faculty of Management and Quality Science. She furthered her experience in teaching through cooperation in Poland with the Pomeranian Higher School of Tourism and Gastronomy in Bydgoszcz, the Higher School of Tourism and Gastronomy in Gdańsk, the European Higher School in Sopot, and WSB Merito University (Gdansk, Gdynia) and abroad with Università degli Studi di Perugia (The Economics Campus of Assisi); University of Dubrovnik (Economics and Business Economics Department); and University School of Tourism – CENP, an associated centre of the University of A Coruña. She has also honed her teaching skills through her involvement in national and international scientific conferences at renowned Polish (Jagiellonian University) and international universities (UCF Rosen College of Hospitality Management Orlando, Florida, USA and also JAMK University of Applied Sciences Jyvaskyla, Finland) where she delivered 52 papers. She developed experience in the area of her specialisation at the Doctoral School in cooperation with HORECA hotels and associations and is the author of an e-learning course on customer service in various situations (interpersonal communication, communication with a difficult customer). She has also taught training and specialist courses organised by the EDUSTAR Training and Consultancy Centre.

Aleksandra Grobelna also takes part in organising activities at the University as a member of the Education Quality Committee, the Programme Committee, and a student internship mentor. She is a lecturer on the project *Rejs do nauki (Voyage to Science)* financed by the Ministry of Education and Science's programme Social Responsibility for Science, and has been highly

evaluated by subsequent years of doctoral candidates as a lecturer of the GMU Doctoral School for her lectures on "Principles of Communication in Research and Teaching Activities".

Dr Aleksandra Grobelna systematically develops her competencies in science and teaching by participating in many (54) courses (e.g. the use of ProHOTT, ProRESS, ProGASS programmes for hotel management, Business English, E-learning in the practice of educational institutions, Quality Management System Plenipotentiary course), training (AI, mental health crisis, modern methods of negotiation, Japanese practices for our teaching, etc.) and postgraduate education (pedagogy).

She has developed her own academic activity, including tourism, hospitality and communication, as a participant in 11 team projects financed by the Gdynia Maritime University and 3 projects carried out at the University of Dubrovnik, the University School of Tourism – CENP (an associated centre of the University of A Coruña), and the University of Szczecin. Additionally, she has collaborated with the business sector (the Tri-City hospitality industry), including undertaking a research internship at Hotel Orbis Gdynia as part of the *STER for R&D* project, cooperating with the Gdansk Tourism Organisation, the Gdynia City Hall and the City Tourism Information Centre, the Marshal's Office of the Pomeranian Voivodeship, and the Gdansk Pomeranian Development Agency.

Aleksandra Grobelna is the reviewer of 27 research papers for highly ranking international scientific journals, 14 research papers delivered during international scientific conferences, including papers indexed on the Web of Science and 6 in national journals. She has also been a member of scientific committees of Polish (9) and international (16) conferences. She is a member of The Association for Tourism and Leisure Education (ATLAS), the Gdansk branch of the Polish Economic Association, and the Pomeranian Tour Guide and Piloting Centre.

She is the recipient of 9 Rector's awards for her academic achievements, two certificates of recognition from the Taylor & Francis Group, and the International Journal of Contemporary Management award (Wydawnictwo Naukowe Uniwersytetu Jagiellońskiego) for the best research paper.

Other achievements: She is the author/co-author of **74** publications, and the supervisor of **54** master's and bachelor's theses.

Bibliometric Data According to Scopus: FWCI=**1.24**, H-index: **7**, Number of citations: **231**, number of documents **21**.

CEZARY SPECHT

Professor Cezary Specht has been a member of staff at Gdynia Maritime University since 2013. He was previously employed at the Polish Naval Academy (1992-2013), Gdańsk University of Technology (2008-2014), and held the role of Director of the Department of Education at the Polish Space Agency (2015-2019). He is the recipient of 4 Minsters' Awards for his work in science: Minister of Infrastructure (2005, 2007, 2021), and Minister of National Defence (2008). He took part in the First Gulf War (1991-1992) as a navigator onboard the ORP Wodnik.

Cezary Specht gained a professional master's degree in navigation in 1991 at the Navigation and Naval Weapons Faculty of the Polish Naval Academy in Gdynia. After graduating, he took part in Operation Desert Storm on board the ORP *Wodnik* (1991-1992). He completed a doctorate in geodesy and cartography with distinction at the Navigation and Naval Weapons Faculty of the Polish Naval Academy in 1997. In 2003, he was awarded a postdoctoral degree in geodesy and cartography by the Scientific Council of the Faculty of Geodesy and Spatial Economy at the University of Warmia and Mazury in Olsztyn. For his postdoctoral dissertation, he was granted the Polish Minister of Infrastructure Award for "The development of an original mathematical model for the availability, reliability, and continuity of GPS differential transmission." In 2012, he was conferred the title of Professor of Technical Sciences by the President of Poland.

He began his academic career in 1992 at the Polish Naval Academy in the post of Assistant (1992-1998), before being promoted to Assistant Professor (1998-2003), Director of the Navigation and Marine Hydrography Institute (2003-2005), Dean of the Navigation and Naval Weapons Faculty (2005-2007), and Deputy Rector for Teaching (2007-2013). He completed his service in the Polish Navy in the rank of Captain (N) in 2013. At the same time, he worked as an Associate Professor at Gdańsk University of Technology (2008-2014), where, in 2008, he led work leading to the establishment of Geodesy and Cartography as a new field of study at Gdańsk Tech. During the years 2015-2019, he held the role of Director of the Department of Education at the Polish Space Agency. Together with Professors E. Wittbrodt and A. Stepnowski of Gdańsk University of Technology, he formed an inter-university programme of study on space and satellite technology, which is currently run by four Tri-City universities (Gdańsk University of Technology, University of Gdańsk, Gdynia Maritime University, Polish Naval Academy). From 2015 to 2020, he was the head of the Department of Geodesy and Oceanography at Gdynia Maritime University and a member of the University Senate for the term 2016-2020.

His current areas of research include satellite navigation and geodesy, hydrography, and the use of unmanned platforms (flying and floating) in navigation. He is the co-author of the concept of the Polish DGPS navigation system (1992) and the author of its upgrades (2008, 2012). He was involved in the commissioning of the SYLEDIS and AEGIR radio navigation systems in Polish maritime waters. In 2004, his team developed a navigational marking system for the southern entrance (President's Basin) of the Port of Gdynia, and in 2008, he led a team of three universities (Polish Naval Academy, Gdańsk University of Technology, Gdynia Maritime University), which conducted tests to enable the provision the ASG-EUPOS system and services for use in geodesy and navigation. In 2019, his team created the first map of a yacht

port in Poland (National Sailing Centre of the Academy of Physical Education and Sport) to be developed using unmanned surface vehicles (hydrographic marine drones).

Other achievements: He is the author of **285** publications, the author or a co-author of **5** monographs, including on GPS, the head of **18** scientific research projects, a participant in **41** scientific research projects, a member of the Geodesy Committee of the Polish Academy of Sciences (2008-2012, 2012-2016 and 2016-2020), the supervisor of **5** doctoral dissertations, a reviewer of **7** proceedings for the conferral of titular professorship, the supervisor of **9** postdoctoral proceedings, and a reviewer of **14** doctoral dissertations. For his scientific activity in connection with GNSS, he has received **4** Ministers' Awards (1 National Defence Minister award, and 3 Minister of Infrastructure awards).

Bibliometric Data According to Scopus: FWCI=**1,74**, H-index: **22**, Number of citations: **1333**, number of documents **89**.

ZBIGNIEW BURCIU

Professor Captain Zbigniew Burciu is a graduate of the Gdynia Maritime University. He started to work on merchant navy ships in the rank of deck assistant in 1973, before gaining certification as a third mate the same year. In 1976, he qualified as a 2nd mate; in 1979, 1st mate; and in 1982 he became a Master Mariner. During this time, he worked on ships of Polish and foreign shipowners in services of Australian, West African (EUROAFRICA), Chinese-Polish Joint Stock Company, Far East Asian (POL-AZJA), Mediterranean (POL-LEWANT), South American (SOUTH-EAST-COAST of AMERICA) and European shipping routes (including under foreign flags).

Zbigniew Burciu was awarded a Doctor of Technical Sciences degree in geodesy and cartography from the Navigation and Naval Weapons Faculty of the Polish Naval Academy in 1997. In 2003, he gained a postdoctoral degree in transport from the Faculty of Transport of Warsaw University of Technology. He was granted the title of Professor of Technical Sciences in 2013.

As a member of staff of Gdynia Maritime University he has held the following posts: from 1993 to 1999, Deputy Rector for Marine Affairs; from 2005 to 2008, Deputy Dean for Science in the Faculty of Navigation; from 2006 to 2016, Head of the Department of Ship Operations, from 2020 to 2021, Deputy Director of the Maritime Institute of GMU; and from 2021 to date, the Rector's Plenipotentiary for Strategic Projects.

Zbigniew Burciu specialises in maritime safety, transport safety and marine rescue. In relation to these specialisations, he has held the roles of contractor, director, and chair of the steering committee on 14 research projects financed by the State Committee for Scientific Research, the Ministry of Education and Science, the Minister of Science and Higher Education, the National Centre for Research and Development, and the Regional Operational Programme of the Pomeranian Voivodeship. He also holds 4 patents: *A Rescue Platform for Retrieving People and Rafts from the Water, A Rescue Pyrotechnic Launcher, A Measurement Set for Pressure Distribution on the Surface of Hydraulic Structures, and A Control System for Inland Vessels*,

as well as a Patent Application for the *Invention of a Caterpillar Track for an Amphibious Motor Vehicle.*
Zbigniew Burciu has a wealth of experience in cooperating with the Polska Grupa Zbrojeniowa (Polish Armaments Group). He developed a navigational analysis, including ship manoeuvring during departure and docking, departure from marine structures, and entrance and exit from the port basin and port in collaboration with the Port of Gdynia Authority SA. He visualised the Gdańsk Port area on the SimFlex Navigator simulator in collaboration with the maritime services company GDANSK-PILOT. He has developed the *Technical, Economic, and Environmental Study for the Revitalisation and Restoration of Sailing on the Lower Vistula on the Section Warsaw-Gdańsk* in collaboration with the Mazovia Development Agency Plc. He has conducted research services for the Port of Gdynia Authority SA and the shipping company Żegluga Mazurska. He is a co-author of the horizontal project *Innovative Designs and Technologies for the Construction of Vessels for Inland Transport and Coastal Shippin*g. He is also the author of 5 expert appraisals for external entities.

He was involved in the creation of the National Intelligent Specialisation (KIS 17) – Innovative Maritime Technologies: Specialised Floating Units, Marine and Coastal Structures, and Logistics Based on Maritime and Inland Transport. He was the initiator and a co-author of work for the creation of a new field of study, a degree programme in autonomous shipping, and the 1st Autonomous Transport Conference.

Other achievements: He is the author/co-author of more than **180** publications; the author/co-author of **3** monographs; the head of **12** scientific research projects; a participant in **2** other scientific research projects; the supervisor of **4** doctoral dissertations; a reviewer of **4** doctoral dissertations, **4** postdoctoral proceedings, and **4** proceedings for the conferral of the title of Professor of Technical Sciences; and provided an opinion on the conferral of the title of Doctor *honoris causa* of Gdynia Maritime University upon Professor Bradford Parkinson.

Bibliometric Data According to Scopus: FWCI=**0.83**, H-index: **8**, Number of citations: **135**, number of documents **32**.

ADAM PRZYBYŁOWSKI

Dr hab. Adam Przybyłowski is a graduate of the Faculty of Law and Administration of the Adam Mickiewicz University in Poznań. In 2005, he gained a Doctor of Economics degree at the Faculty of Economics of the University of Gdańsk. He also gained a postdoctoral degree in economics at the Faculty of Economics of Poznań University of Economics and Business in 2015.

Adam Przybyłowski has completed research internships and taught as a visiting professor at academic institutions in Lyon, Paris, and Le Havre in France, as well as the Lithuanian Maritime Academy in Klaipeda. He is a member of international and national organisations such as the ERSA – European Regional Science Association, the Climate Council at the UN Global Compact Network Poland, and the Polish Economic Association, where he is the Vice-President of the Scientific Council and a member of the committees for the best diploma theses. He is also involved as an expert in EU projects TRANSFORuM Transport and CIVITAS DYN@,

part of the 7th EU Framework Programme, within which he co-created the Sustainable Urban Mobility Plan (SUMP) for Gdynia. He is also the grant manager within the Innovation Incubator 4.0 project at Gdynia Maritime University, which resulted in the protection of industrial property rights in national and European procedures concerning mobile applications intended to support logistics, modern warehouse economy, and distribution channels as part of the creation of sustainable supply chains.

He specialises in the economics of transport, transport and the spatial economy, transport policy, European integration, regional development, the regional and local economy, transport infrastructure, urban logistics, European Union cohesion policy, sustainable development and urban mobility, and the sustainable development of the transport system. His research interests in cooperation with the GMU Doctoral School are centred on the concept of sustainable development, focusing particularly on transport and mobility, innovation, global economics, European integration, the *smart port* and *smart city* concepts and quality-of-life measures.

He is currently the head of the Department of Transport at the Faculty of Navigation of Gdynia Maritime University, a member of the Civil Engineering, Geodesy and Transport Scientific Council, a member of the GMU Council (2021-2024 and 2025-2028), and the Plenipotentiary of the Rector of Gdynia Maritime University for International Association of Maritime Universities (IAMU) Affairs.

Adam Przybyłowski is a reviewer and member of several postdoctoral committees and doctoral proceedings, and also a reviewer of international journals (TransNav, International Journal of Sustainable Transportation, Urban Planning and Transport Research, Sustainability, Optimum: Economic Studies, WMU Journal of Maritime Affairs, etc.).

Other achievements: He is the author of **40** publications, a reviewer in **2** proceedings for the award of a post-doctoral degree, and the reviewer of **10** doctoral dissertations.

Bibliometric Data According to Scopus: FWCI=**2.25**, H-Index: **6**, Number of citations: **259**, number of documents **9**.

WŁODZIMIERZ FREDA

Dr hab. Włodzimierz Freda is an Associate Professor at Gdynia Maritime University. He graduated from the Faculty of Physics and Mathematics at the University of Gdańsk in 2002 with a master's degree. He has been a member of the academic staff at Gdynia Maritime University since 2003, having also undertaken a research internship at the Rosenstiel School of Marine and Atmospheric Science at the University of Miami in 2008. In 2011, he gained a Doctor of Earth Sciences degree in oceanology at the Institute of Oceanology of the Polish Academy of Sciences in Sopot. He was later awarded a postdoctoral degree in earth and related environmental sciences from the same institution in 2019.

From 2010 to 2011, Włodzimierz Freda took part in a supervisory grant as a doctoral student. The project, entitled *Parameterisation of the phase function of light scattering in seawater,* was funded by the Ministry for Science and Higher Education. The grant was awarded to the Institute of Oceanology of the Polish Academy of Sciences in Sopot. He has also managed two research projects financed by the National Science Centre. The first of these projects, entitled *Developing of the model of polarization state changes of upward light flux over sea surface,* conducted between 2013 and 2018, was awarded funding through the SONATA competition (National Science Centre). The second project, entitled *Albedo of the surface of seas and oceans in the shortwave range of radiation as an indicator of climate change*, was awarded funding through the OPUS competition and has been ongoing since July 2024.

The research conducted by Włodzimierz Freda focuses on marine physics, with particular emphasis on modelling and optical processes in the marine environment. In his teaching, he attributes importance to the development of transversal skills. He supports his doctoral candidates and students in the development of their digital competencies (e.g., in programming and data visualisation), critical thinking, and teamwork. He actively promotes creativity and innovation through the organisation of seminars and workshops, which combine theory with practice. He is currently supporting the academic development of two doctoral students at the GMU Doctoral School. He is also involved in international and multicultural work– this allows him to increase his adaptation skills and support diverse research teams.

Following the appointment of Włodzimierz Freda to the post of Head of the Department of Physics in 2020, the Department's staff have been awarded two National Science Centre grants as part of the MINIATURA competition. The grants were awarded for the research projects *Quantum yield of fluorescence as a tool for distinguishing sea pollution by oil emulsions of petroleum substances from natural fish fats*, led by Dr Emilia Baszanowska, and *Influence of wetting properties coatings on the rate of coating by metals oils caused by temperature gradient*, led by Dr Katarzyna Boniewicz-Szmyt.

In addition to grant-related activities, Włodzimierz Freda is actively involved in the work of various university bodies, including the programme committees of four different degree programmes, the Committee for Scientific Research at the Faculty of Mechanical Engineering, the Faculty Committee for Education Quality, the Admissions Committee, and the Student Disciplinary Committee. He also participates in activities supporting science. He is a member of the Marine Physics Section of the Polish Scientific Committee on Oceanic Research of Polish

Academy of Sciences and publishes and reviews scientific research papers in prestigious journals, such as *Optics Express*, *Journal of the European Optical Society*, *Sensors*, and *Water*.

Włodzimierz Freda undertakes continual efforts to improve his qualifications, both in relation to scientific research and teaching. His development includes training and participation in scientific conferences concerning advanced research methods and data analysis techniques. He makes use of modern teaching aids during his lectures at the GMU Doctoral School on topics such as interactions between the ocean and the entire climate system.

Other achievements: He is the author of **36** publications, the leader of **3** scientific research projects, and a reviewer of **2** doctoral dissertations.

Bibliometric Data According to Scopus: FWCI=**0.41**, H-index: **9**, Number of citations: **178**, number of documents **19**.

MAGDALENA BOGALECKA

Dr hab. Magdalena Bogalecka is an Associate Professor at Gdynia Maritime University. In 1994, she obtained a master's degree in chemistry from the Faculty of Chemistry at the University of Gdańsk. In 2003, she gained a Doctor of Economics degree in commodity science from Gdynia Maritime University, and in 2022, a postdoctoral degree (habilitation) in civil engineering and transport at the Maritime Academy in Szczecin for her dissertation *Consequences of Maritime Critical Infrastructure Accidents. Environmental Impacts: Modeling—Identification—Prediction—Optimization—Mitigation*.

Magdalena Bogalecka has been a member of the academic staff at Gdynia Maritime University since 1995, and has held the posts of Assistant and Assistant Professor, and is currently an Associate Professor. During this time, she has completed internships and training courses and took part in numerous conferences related to the academic field in which she is currently involved in educating GMU doctoral candidates. In 2000, she participated in the conferences *Extraordinary Environmental Threats*, organised by the Military University of Technology, and *Safety of Industrial Processes: Computer Programs for Safety Reports and Operational-Rescue Plans*, organised by the Department of Environmental Engineering Systems at the Lodz University of Technology and the Centre for Security and Risk Analysis Lodz. In 2001, she took part in the conference *Oil, Chemical, and Hazardous Waste*, organised by the Executive Technical Organisation (NOT) and the Polish Association of Sanitary Engineers and Technicians. In 2002, she took part in the *Baltic University Programme / Baltic Sea Environment* and *Baltic University Programme / A Sustainable Baltic Region* conferences organised by the University of Gdańsk and Uppsala University. From 2012 until 2023, she participated regularly in the *Summer Safety and Reliability Seminars*, and in 2024, she attended the conference Fundamentals of Offshore Wind Energy, which took place in Gdynia.

Magdalena Bogalecka has a wealth of experience in project and contract work. Between 2001 and 2005, she was involved in the project *Safety and Reliability of Industrial Products, Systems and Structures – SAFERELNET, FP5 / EU*, as part of which she co-authored 3 reports: "Probabilistic approach to risk analysis of chemical spills at sea", "Description of important for

sea transport physical and chemical properties of hazardous chemicals", "Selected groups of the chemicals cargoes accurate to their danger, behaviour in sea environment and the possibility of the decontamination". From 20125 until 2018, she worked on the project *A pan-European framework for strengthening critical infrastructure resilience to climate change – EU-CIRCLE, Horizon 2020 / EU*, co-authoring 26 reports on the following tasks: WP1: Setting the Operational Environment, WP2. Climate Data Capture and Processing, WP3. Critical Infrastructure Risk Model for Climate Hazards, WP4. Critical Infrastructure Resilience and Adaptation to Climate Change, WP6. Case Studies and EU-CIRCLE Assessment. In 2018, she was involved in the development of a report entitled *Legal Conditionals and Technical Solutions for the Protection of Selected Elements of Critical Infrastructure* on behalf of Naftoport – Liquid Fuel Transshipment Company in Gdańsk.

Magdalena Bogalecka continually improves her competencies in teaching, including through gaining a certificate of teaching training for instructors, in accordance with the requirements of Regulation I/6 of the STCW Convention – IMO Model Program 6.09, issued by the Maritime Office in Gdynia. She has also attended training and workshops organised by the Modern Education Centre at Gdańsk University of Technology: One tool is enough for an engaging lecture! Everything about Mentimeter (working with the tool)", "There's a Method in the Madness! Non-standard ways of working with students", "To teach or to design the learning space? The changing role of the teacher in a changing world", "Errors of educators: Teaching failures as a way of achieving mastery", "Gamification in education". In addition, she has attended training organised by DNV-GL under the title "Basic issues of the quality management system according to ISO 9001:2015", and "Academic Coaching" - organised by Gdynia Maritime Academy. For her outstanding work in teaching, she was distinguished in 2024 with the Konstanty Matyjewicz-Maciejewicz GMU Award for Best Academic Teacher.

Other achievements: During the past 10 years, she has published 63 scientific papers on subjects directly connected with the scope of education of candidates at the GMU Doctoral School.

Bibliometric Data According to Scopus: FWCI=**0.73**, H-index: **6**, Number of citations: **88**, number of documents **16**.

KRZYSZTOF GÓRECKI

Professor Krzysztof Górecki is a graduate of Gdańsk University of Technology (1990). He gained a Doctor of Technical Sciences degree in electronics at the Faculty of Electronics, Telecommunication and Informatics of Gdańsk University of Technology in 1999. He gained a postdoctoral degree (habilitation) in electronics in 2008 from the Faculty of Electrical, Electronic, Computer and Control Engineering at Lodz University of Technology. He was granted the title of Professor of Technical Sciences in 2016. For more than 30 years, he has conducted research on the modelling, analysis and measurement of the properties of electronic and power electronic components and circuits, as a recognised specialist in electronics and power electronics. During his career, Krzysztof Górecki has systematically improved his research, teaching, and organisational competencies.
His greatest success in science is the development of original algorithms for accelerated electrothermal analysis of switch-mode power supply systems, including averaged electrothermal models of a diode-transistor switch for the analysis of DC-DC converters and non-linear focused thermal models of semiconductor devices and power modules and solid state light sources taking into account the mutual thermal interactions between the components of these devices. He is the creator of methods for the measurement of thermal parameters, protected by dozens of patents. He regularly takes part in scientific conferences, both in Poland and abroad.

Krzysztof Górecki has significant achievements in the education of young scientific staff. To date, he has supervised 5 doctoral dissertations, of which 2 candidates went on to receive postdoctoral degrees (habilitations). He currently leads a research team made up of 4 scientists qualified at the postdoctoral level (habilitation), 2 at the doctoral level, and 6 doctoral students. The team has built a unique laboratory infrastructure.

Professor demonstrates significant activity in the organisational work carried out by its home university, as well as national and international scientific and technical organisations. Between 2008 and 2016, he served as the Deputy Dean of the GMU Faculty of Electrical Engineering, and from 2016 until 2024, as the Dean of this Faculty. In 2024, he was appointed Head of the Department of Power Electronics. He is also active in international scientific organisations, and held the roles of Vice-Chair and Chair of the Chapters of Electron Devices and Electronic Packaging of the Poland Section of IEEE, from 2015 until 2022, as well as member of the IMAPS Poland Council, from 2019. He has for many years been a member of scientific and organisational committees at Polish and international conferences. He has chaired the organisational committees of conferences such as the 18th International Conference on Compatibility, Power Electronics and Power Engineering 2024 in Gdynia; the 46th IMAPS Poland Conference 2024 in Gdańsk; and the 39th IMAPS Poland Conference 2015 in Gdańsk. Since 2020, Krzysztof Górecki has been an elected member of the Electronics and Telecommunications Committee of the Polish Academy of Sciences, and since 2024, the Metrology and Scientific Instruments Committee of the Polish Academy of Sciences.

For his achievements, he has three times been granted the award of the minister responsible for the maritime economy, 25 times the Gdynia Maritime University Rector’s Award and Warsaw

University of Technology Rector's Award. Since 2020, he has been ranked every year in the top 2% of influential world scientists, both in the category of career-long achievements and the category of achievements during the past year.

Other achievements: He is the author or co-author of more than **700** publications, including **more than a dozen** books and **17** patents. Three of his inventions were awarded medals at international invention exhibitions. He directed the implementation of **several** completed research projects financed by the Ministry of Science and Higher Education, the National Science Centre, and the National Centre for Research and Development, as well as projects carried out on behalf of economic entities. He also participated in several research and R&D projects carried out both at his home university and at other scientific centres. He has reviewed **6** applications for the title of professor, **3** habilitation applications, **17** doctoral dissertations, and more than **800** scientific papers.

Bibliometric Data According to Scopus: FWCI=**1.00**, H-index: **26**, Number of citations: **2685**, number of documents **320**.

JANUSZ MINDYKOWSKI

Professor Janusz Mindykowski is a graduate of the Faculty of Electrical Engineering at Gdańsk University of Technology (1974). He gained a doctoral degree at the same university in 1981, before earning a postdoctoral degree at the Faculty of Electrical Engineering at the Warsaw University of Technology in 1993. In 2002, he was granted the title of Professor of Technical Sciences.

He has been affiliated with the Department of Marine Electrical Power Engineering at Gdynia Maritime University since 1976. During the years 1977-1978, he worked as an expert in electrotechnics and ship electronics at the Ministry of Fisheries of the People's Republic of Angola in Luanda. From 1981 to 1984, he was a lecturer on the fundamentals of electrotechnics and metrology, and served as the Deputy Director of Teaching at the Namibe Fisheries Centre (Angola) from 1983 to 1984. In 1990, he completed a four-week internship on modern management techniques at the Japan Productivity Center in Tokyo, Japan. He has lectured at universities in Australia, Spain, Portugal, Finland, Norway, Germany, China, Great Britain, Sweden, Italy, and Taiwan. He also held the post of Government of Poland Expert for Cooperation with IMO (London) between 1991 and 1998 and 2008 and 2013.

At Gdynia Maritime University, Janusz Mindykowski has served as Deputy Dean of the Faculty of Electrical Engineering, Dean of the Faculty of Electrical Engineering, Plenipotentiary of the Rector for Scientific Research, Deputy Rector for Science, 1st Deputy Rector, Head of the Department of Marine Electrical Power Engineering (from 1994 until present), Member of the University Senate, and Chair of the University's Disciplinary Board. Within international organisations, he has occupied the positions of Chair of the IEE Polish Chapter; Chair of the Instrumentation & Measurement Section of the IEEE Polish Chapter; and Scientific Secretary, Deputy Chair, and Chair of the IMEKO Technical Committee on Measurement of Electrical Quantities.

Janusz Mindykowski is the creator of a scientific school in research and assessment of the of electrical power quality. The results of his research have been published on numerous occasions in prestigious journals from JCR listed journals, such as IEEE Transactions on Instrumentation and Measurement, IEEE Transactions on Smart Grid, IEEE Transactions on Industry Applications, IEEE Access, Energy Conversion and Management, Maritime Policy and Management, Polish Maritime Research, Energies, Ocean Engineering, Measurement, Sensors, Applied Sciences, and Remote Sensing, as well as in materials of conferences of a recognised prestige indexed in WoS and/or SCOPUS databases, such as IEEE Instrumentation & Measurement Technology Conference, IEEE Electrical Power Conference and Exposition, IEEE Conference on Harmonics and Quality of Power, IEEE International Workshop on Metrology for the Sea: METROSEA, and the IMEKO World Congress/Symposia.

He has directed or participated in 28 projects (including 19 international projects) financed by EU funds, the Nippon Foundation, the NATO Science for Peace and Security Programme, State Committee for Scientific Research in Poland, the Ministry of Science and Higher Education, and the National Centre for Research and Development, as well as in collaboration with economic organisations. He has actively cooperated with the business environment in Pomerania (Navimor International Com., Polish Register of Shipping, Gdańsk Remontowa Shipyard). The unique research and diagnostic station, developed and implemented based on a joint patent, was applied over 30 times on an industrial scale between 2015 and 2022 by Gdańsk Remontowa Shipyard.

He is the winner of 5 ministerial awards: Minister of Transport and Maritime Economy (1989, 1990, 1993), Minister of Infrastructure (2002), Minister of Maritime Economy and Inland Navigation (2019); the Mayor of the City of Sopot award "Sopocka Muza" of Science (2012); the Unesco Silver Badge of Honour for the "Globalisation of Engineering Education" (1997 and 2001); and the Shanghai Maritime University award for "Outstanding Achievements in Cooperation 1984-2004". He has been an Honorary Professor of Shanghai Maritime University since 2006. In 2018, he was awarded the title of Doctor Honoris Causa by the Gheorghe Asachi Technical University of Iasi in Romania, and in 2023, the Commander's Cross of the Order of Polonia Restituta for outstanding service in the development of the maritime industry, his achievements in scientific research and implementation, and the popularisation of Polish scientific thought around the world.

Other achievements: He is the author/co-author of more than **280** academic works, including **100** in SCOPUS (**531** citations, H-index: **13**) and **75** in the WoS database (**392** citations, H-index **12**), of which **46** in JCR journals. He is the author/co-author of **11** academic monographs and textbooks and the inventor or co-inventor of **21** patents and more than a dozen implementations and expert appraisals for the maritime industry and related sectors. He has supervised 5 doctoral dissertations. He has also reviewed: **8** doctoral dissertations, **4** postdoctoral dissertations, 4 applications for the award of the academic title of Professor, **1** application for the award of a doctoral degree, and **7** applications for the appointment of an extraordinary professor, full professor, or visiting professor.

AGATA SKWAREK-ILLÉS

Dr hab. Agata Skwarek-Illés is an Associate Professor at Gdynia Maritime University. She graduated from the Faculty of Chemistry at the Jagiellonian University in 2003. In 2010 she completed a doctoral degree and in 2018 a postdoctoral degree in electronics at the Institute of Electron Technology (currently Łukasiewicz – Institute of Microelectronics and Photonics), where she still works today as the Director of the Centre of Functional Materials. Since 2019, she has been an Associate Professor on the research and teaching staff at Gdynia Maritime University and teaches at the Doctoral School of Gdynia Maritime University. In 2014, she was awarded a Minister of Science Scholarship for Outstanding Young Scientists (2014-2017).

Agata Skwarek-Illés is currently serving as a member of the Metrology and Scientific Apparatus Committee at the Polish Academy of Sciences for a second term (2020-2023 and 2024-2027). She is also a member of the Poland Chapter of the IMAPS Microelectronics Technology Association and served as treasurer during the terms 2013-2015, 2015-2017 and 2017-2019, president-elect during the term 2019-2021, and president during 2021-2023. She also served as the associate editor of the journal Microelectronics Reliability (JCR, Elsevier, 2019-2023) and a member of the Editorial Advisory Board of the following journals: Soldering and Surface Mount Technology, Microelectronics International and Circuit World (JCR, Emerald). Agata Skwarek-Illés is also a member of the board of the Council of Łukasiewicz – Institute of Microelectronics and Photonics (IMIF). She served as a member of the GMU Faculty of Electrical Engineering's Scientific Council during the years 2019 to 2024.

Dr Skwarek-Illés is currently supervising a doctoral candidate at Gdynia Maritime University Doctoral School in research on the effect of surface installation parameters on the thermal properties of MOSFET transistors. In addition, she is the assistant supervisor of a doctoral candidate researching the implementation of super-networked infra-red detector technology (Warsaw University of Technology/Lukasiewicz IMiF) and the assistant supervisor of a doctoral candidate working on an implementation doctorate on the development of a thermostatic flow reactor for the testing of chemical reactions involving in situ reactors (Jagiellonian University/Lukasiewicz - IMiF). Agata Skwarek-Illés has also reviewed the theses of 3 doctoral candidates from Wrocław University of Technology, AGH University, and Budapest University of Technology and Economics.

Other achievements: Agata Skwarek-Illés is a co-author of 45 Journal of Consumer Research papers, 1 academic textbook and a co-creator of 5 Polish patents. She has been involved in 11 Polish B+R projects, 1 EU project and 2 international education projects funded by the Visegrad Fund. She has supervised the implementation of two investment projects connected with the conduction of research activities in hydrogen technology and two projects for the maintenance of research equipment connected with the upkeep of LTCC lines. She currently coordinates the work of the Polish team in a research project carried out on behalf of the European Space Agency (ESA). Her main areas of interest are LTCC (low temperature cofired ceramics) and SMT (surface mount technology), especially, development and research on new electronic materials.

Bibliometric Data According to Scopus: FWCI=**0.73**, H-index: **16,** Number of citations: **688**, number of documents **90**.

ANDRZEJ ŻAK

Capt(N). Dr hab. Eng. Andrzej Żak is an Associate Professor at the Polish Naval Academy and a graduate of the Faculty of Cybernetics of the Military University of Technology, Warsaw (2001). In 2006, at the Faculty of Electrical and Mechanical Engineering of the Polish Naval Academy he gained a Doctor of Technical Sciences degree in machine design and operation. In 2015, he was awarded a postdoctoral degree in automation and robotics from the Faculty of Mechanical Engineering and Robotics AGH University of Krakow.

Andrzej Żak began his work in academia in 2003 at the Polish Naval Academy and has held the posts of Assistant, Senior Lecturer, Assistant Professor, and Associate Professor. He served in various managerial roles, including Deputy Director of the Hydroacoustics Institute, Head of the Department of Information Technology, Deputy Dean for Science at the Navigation and Naval Weapons Faculty, Head of the Department of Computer Science, and Director of the Institute of Electrical Engineering and Ship Automation. Since 2024, he has headed the academic disciplines of Automation, Electronics, Electrical Engineering and Space Technologies, been the Chair of the Automation, Electronics, Electrical Engineering and Space Technologies Scientific Disciplinary Board, as well as a member of the Senate of the Polish Naval Academy, the Academic College, and the Federation Assembly of Military Academies. Since 2005, he has been a member of the Polish Acoustic Association and has held the post of the Vice Chairman of the Polish Acoustic Association of the Gdansk Branch since 2023. He has been an expert in the Polish Accreditation Committee since 2017, and was appointed one of its member by the Minister of Science in 2024. Since 2024, he has also been actively involved in the work of the groups IST-216 Channel Modelling and Application for Secure Underwater Acoustic Communications Waveform Assessment and Standardization within the NATO Science and Technology Organisation.

In his scientific work, he has focused on the identification of dynamics and the control of multi-dimensional objects, passive hydroacoustics and visual systems and the processing of images for the purpose of computer vision. He is currently studying underwater wireless communication in challenging propagation conditions using acoustic waves.

Andrzej Żak has been involved in more than 30 scientific projects, both Polish and European, financed by the European Defence Agency (EDA), Naval Command, the Department of Defence Policy of the Ministry of National Defence, the Ministry of Science and Higher Education, the Scientific Research Committee, the National Science Centre, and the National Centre for Research and Development. Since 2022, he has led a research and development project carried out for the benefit of state defence and security within the framework of Competition No. 4/SZAFIR/2021 entitled “A system of underwater wireless communication for the needs of unmanned and autonomous maritime platforms.”

Andrzej Żak has co-organised scientific conferences: The Hydroacoustics Symposium, Shallow Sea Hydroacoustics, and the European Acoustics Association International Symposium on Hydroacoustics. He has worked with the international organisation The World Scientific and Engineering Academy and Society since 2007, and has been a member of the scientific or programme committee 14 times, a member of the review committee 10 times, as well as the

chair of scientific committees at international conferences and on many occasions a member of such committees.

He is the co-author of study plans and teaching programmes in ocean engineering and computer science and has organised and conducted specialist courses on passive ship defence. He is an active member of several advisory boards.
He was a member of the team that won the Grand Prix at the international Balt-Military-Expo fair and twice the Amber Medallion at the international Balt Military Expo and Safety Fair. He is a multiple-time recipient of the Polish Naval Academy Rector's Award for his work in publications and scientific research.

Other achievements: The outcomes of his research have been published in more than **120** publications, including **50** research papers. He is the author of **1** and co-author of **1** monograph and **5** chapters in collective works. He is also the editor of **3** multi-author monographs. Since 2008, he has been a reviewer of academic papers and monographs, including for publishers such as: Elsevier, MDPI and IEEE. He has reviewed **5** doctoral dissertations.

Bibliometric Data According to Scopus: FWCI=**0.34**, H-index: **6** Number of citations: **81**, number of documents **24**.

PAWEŁ GÓRECKI

Dr hab. Paweł Górecki is an Associate Professor at Gdynia Maritime University. He has been a member of the academic staff since graduating from GMU with a master's degree in 2016. In 2019, he gained a Doctor of Technical Sciences degree in electronics at the Faculty of Electrical Engineering of Gdynia Maritime University. He then went on to complete a postdoctoral degree in automation, electronics, electrical engineering, and space technologies, also at GMU. During this time, he continually improved his research, teaching, and organisational competencies.
Since beginning his career at the University, he has taken part in research internships at the University of Naples Federico II (3 months) and Gdańsk University of Technology (twice, 2 and 3 months), as well as several study visits.

He has led 3 projects externally financed within the frameworks of Diamentowy Grant (Minister of Science and Higher Education), Preludium (National Science Centre), and Bekker (National Agency for Academic Exchange), and was the coordinator of a project at a partner unit as part of the Opus programme (National Science Centre).

For his work, he has been distinguished with numerous awards, including the Prime Minister's Award for outstanding achievements that formed the basis for the award of his postdoctoral degree, the Scientific Award of the IV Department of the Polish Academy of Sciences, the Minister's Team Award (twice), the START Scholarship of the Foundation for Polish Science, and the Minister's Scholarship for Outstanding Young Scientists.

Paweł Górecki is the assistant supervisor of one doctoral candidate (currently in 4th year of studies at the GMU Doctoral School) and the supervisor of another candidate (currently in 1st year of studies at the GMU Doctoral School). He has also performed the role of expert in the mid-term evaluations of doctoral students at Wrocław University of Science and Technology,

and twice the role of reviewer of doctoral dissertations (including one on behalf of an international academic centre).

Pawel Górecki has completed many training courses, including “Workshops on preparing scientific projects and applications to the National Science Centre”, “Motivating Students”, “Application of Ansys Simplorer and solvers from the Magnetic, Electrostatic, and DC Conduction groups for modelling electromagnetic and thermal phenomena in Ansys Maxwell 2D/3D”, “Training in LabView Core 1, 2, and 3”, “Scientific Communication and Public Speaking”, and “Appearances in front of a camera”.

Other achievements: Paweł Górecki is the author or co-author of **51** works published in scientific journals and **45** presentations delivered at national and international conferences. **73** of them are indexed in Scopus. He is the co-author of **4** patents registered in Poland. He has reviewed **2** doctoral dissertations. For three years running (2021, 2022, 2023) he has been included in Stanford University’s World’s Top 2% Scientists list for his scientific work during the previous year.

Bibliometric Data According to Scopus: FWCI=**1.31**, H-index: **14**, Number of citations: **681**, number of documents **73**.

Due to the fact that the doctoral students of the first and second recruitment began their education in the discipline of "Automation, Electronics, and Electrical Engineering," but are continuing their education in the discipline of "Automation, Electronics, Electrical Engineering, and Space Technologies," the profiles of academic teachers for the discipline "Automation, Electronics, and Electrical Engineering" have been included in the section for the discipline "Automation, Electronics, Electrical Engineering, and Space Technologies."

Gdynia, July 16, 2019

Appointment of the Competition Committee
on conducting interviews with applicants for the Doctoral School
of Gdynia Maritime University

Acting pursuant to § 3 of the Recruitment Rules for the Doctoral School of Gdynia Maritime University, I hereby appoint the Faculty Competition Committee for the Doctoral School of GMU, consisting of:

1. Prof. dr hab. Andrzej S. Grzelakowski, Dean of WPiT (the Faculty of Entrepreneurship and Commodity Science)
2. Dr hab. Eng. Ireneusz Czarnowski, Deputy Rector for Science
3. Dr hab. Eng. Aneta Ocieczek, Prof. of GMU, Rector's Plenipotentiary for the Doctoral School
4. Dr hab. Marzenna Popek, Prof. of GMU, Vice-Dean for Student Affairs of the Faculty of Entrepreneurship and Commodity Science)
5. Dr hab. Eng. Aleksandra Wilczyńska, Prof. of GMU, member

Dr hab. Eng. Aneta Ocieczek, Prof. of GMU

Rector's Plenipotentiary for the Doctoral School

Gdynia, September 24, 2020

Appointment of the Competition Committee
on conducting interviews with applicants for the Doctoral School
of Gdynia Maritime University

Acting pursuant to § 3 of the Recruitment Rules for the Doctoral School of Gdynia Maritime University, I hereby appoint the Faculty Competition Committee for the Doctoral School of GMU, consisting of:

1. Prof. dr hab. Eng. Krzysztof Górecki, Dean of WE (the Faculty of Electrical Engineering)
2. Dr hab. Eng. Aneta Ocieczek, Prof. of GMU, Director of the Doctoral School of Gdynia Maritime University
3. Dr hab. Eng. Andrzej Łebkowski, Prof. of GMU, member
4. Dr hab. Eng. Mirosław Tomera, Prof. of GMU, member
5. Dr hab. Eng. Piotr Jankowski, Prof. of GMU, member

Dr hab Eng. Aneta Ocieczek, Prof. of GMU

Director of the Doctoral School
of Gdynia Maritime University

Gdynia, September 24, 2020

Appointment of the Competition Committee
on conducting interviews with applicants for the Doctoral School
of Gdynia Maritime University

Acting pursuant to § 3 of the Recruitment Rules for the Doctoral School of Gdynia Maritime University, I hereby appoint the Faculty Competition Committee for the Doctoral School of GMU, consisting of:

1. Dr hab. Eng. Aleksandra Wilczyńska, Prof. of GMU, Dean of WPiT (the Faculty of Entrepreneurship and Commodity Science)
2. Dr hab. Eng. Aneta Ocieczek, Prof. of GMU, Director of the Doctoral School of Gdynia Maritime University
3. Prof. dr hab. Maria Śmiechowska, member
4. Dr hab. Eng. Przemysław Dmowski, Prof. of GMU, member
5. Dr hab. Joanna Kizielewicz, Prof. of GMU, member

Dr hab eng. Aneta Ocieczek, Prof. of GMU

Director of the Doctoral School
of Gdynia Maritime University

Gdynia, September 7, 2021

Appointment of the Competition Committee
on conducting interviews with applicants for the Doctoral School
of Gdynia Maritime University
in the discipline of automation, electronics and electrical engineering

Acting pursuant to § 3 of the Recruitment Rules for the Doctoral School of Gdynia Maritime University, I hereby appoint the Faculty Competition Committee for the Doctoral School of GMU, consisting of:

1. Dr hab. Eng. Aneta Ocieczek, Prof. of GMU, Director of the Doctoral School of Gdynia Maritime University, the Chair
1. Prof. Dr hab. Eng. Krzysztof Górecki, Dean of WE (the Faculty of Electrical Engineering)
2. Dr hab. Eng. Mirosław Tomera, Prof. of GMU, member

Dr hab Eng. Aneta Ocieczek, Prof. of GMU

Director of the Doctoral School
of Gdynia Maritime University

Gdynia, September 7, 2021

Appointment of the Competition Committee
on conducting interviews with applicants for the Doctoral School
of Gdynia Maritime University
in the discipline of management and quality studies

Acting pursuant to § 3 of the Recruitment Rules for the Doctoral School of Gdynia Maritime University, I hereby appoint the Faculty Competition Committee for the Doctoral School of GMU, consisting of:

1. Dr hab. Dariusz Barbucha, Prof. of GMU, Deputy Rector for Science, the Chair
2. Dr hab. Marzenna Popek, Prof. of GMU, member
3. Dr hab. Eng. Joanna Brzeska, Prof. of GMU, member

Dr hab Eng. Aneta Ocieczek, Prof. of GMU

Director of the Doctoral School
of Gdynia Maritime University

Gdynia, July 26, 2022

Appointment of the Competition Committee
on conducting interviews with applicants for the Doctoral School
of Gdynia Maritime University
in the discipline of automation, electronics and electrical engineering

Acting pursuant to § 3 of the Recruitment Rules for the Doctoral School of Gdynia Maritime University, I hereby appoint the Faculty Competition Committee for the Doctoral School of GMU, consisting of:

1. Dr hab. Eng. Aneta Ocieczek, Prof. of GMU, Director of the Doctoral School of Gdynia Maritime University, the Chair
1. Prof. dr hab. Eng. Krzysztof Górecki, Dean of WE (the Faculty of Electrical Engineering), member
2. Dr hab. Eng. Piotr Jankowski, Prof. of GMU, member

Dr hab. Dariusz Barbucha, prof. of GMU

Deputy Rector for Science

Gdynia, July 26, 2022

Appointment of the Competition Committee
on conducting interviews with applicants for the Doctoral School
of Gdynia Maritime University
in the discipline of management and quality studies

Acting pursuant to § 3 of the Recruitment Rules for the Doctoral School of Gdynia Maritime University, I hereby appoint the Faculty Competition Committee for the Doctoral School of GMU, consisting of:

1. Dr hab. Eng. Aleksandra Wilczyńska, Prof. of GMU, Dean of WZNJ (the Faculty of Management and Quality Science), the Chair
2. Dr hab. Marzenna Popek, Prof. of GMU, member
3. Dr hab. Eng. Joanna Brzeska, Prof. of GMU, member

Dr hab Eng. Aneta Ocieczek, Prof. of GMU

Director of the Doctoral School
of Gdynia Maritime University

Gdynia, September 1, 2023

Appointment of the Competition Committee
on conducting interviews with applicants for the Doctoral School
of Gdynia Maritime University
in the discipline of automation, electronics, electrical engineering and space technologies

Acting pursuant to § 3 of the Recruitment Rules for the Doctoral School of Gdynia Maritime University, I hereby appoint the Faculty Competition Committee for the Doctoral School of GMU, consisting of:

1. Dr hab. Eng. Aneta Ocieczek, Prof. of GMU, Director of the Doctoral School of Gdynia Maritime University, the Chair
1. Dr hab. Eng. Piotr Jankowski, Prof. of GMU, member
2. Dr hab. Eng. Przemysław Ptak, Prof. of GMU, member

Dr hab. Eng. Aneta Ocieczek, Prof. of GMU

Director of the Doctoral School
of Gdynia Maritime University

Gdynia, September 1, 2023

Appointment of the Competition Committee
on conducting interviews with applicants for the Doctoral School
of Gdynia Maritime University
in the discipline of civil engineering, geodesy and transport

Acting pursuant to § 3 of the Recruitment Rules for the Doctoral School of Gdynia Maritime University, I hereby appoint the Faculty Competition Committee for the Doctoral School of GMU, consisting of:

1. Dr hab. Eng. Aneta Ocieczek, Prof. of GMU, Director of the Doctoral School of Gdynia Maritime University, the Chair
2. Dr hab. Sambor Guze, Prof. of GMU, Deputy Rector for Education, member
3. Dr hab. Eng. Tomasz Neumann, Prof. of GMU, Dean of the Faculty of Navigation, member

Dr hab. Eng. Aneta Ocieczek, Prof. of GMU

Director of the Doctoral School
of Gdynia Maritime University

Gdynia, September 1, 2023

Appointment of the Competition Committee
on conducting interviews with applicants for the Doctoral School
of Gdynia Maritime University
in the discipline of earth and related environmental sciences

Acting pursuant to § 3 of the Recruitment Rules for the Doctoral School of Gdynia Maritime University, I hereby appoint the Faculty Competition Committee for the Doctoral School of GMU, consisting of:

1. Dr hab. Eng. Aneta Ocieczek, Prof. of GMU, Director of the Doctoral School of Gdynia Maritime University, the Chair
2. Dr hab. Maciej Matczak, Prof. of GMU, Director of Maritime Institute, member
3. Dr hab. Zbigniew Otremba, Prof. of GMU, member

Dr hab. Eng. Aneta Ocieczek, Prof. of GMU

Director of the Doctoral School
of Gdynia Maritime University

Gdynia, September 1, 2023

Appointment of the Competition Committee
on conducting interviews with applicants for the Doctoral School
of Gdynia Maritime University
in the discipline of management and quality studies

Acting pursuant to § 3 of the Recruitment Rules for the Doctoral School of Gdynia Maritime University, I hereby appoint the Faculty Competition Committee for the Doctoral School of GMU, consisting of:

1. Dr hab. Eng. Aleksandra Wilczyńska, Prof. of GMU, Dean of WZNJ (the Faculty of Management and Quality Science), the Chair
2. Dr hab. Eng. Przemysław Dmowski, Prof. of GMU, member
3. Dr hab. Eng. Agnieszka Rybowska, Prof. of GMU, member

Dr hab. Eng. Aneta Ocieczek, Prof. of GMU

Director of the Doctoral School
of Gdynia Maritime University

Gdynia, August 27, 2024

Appointment of the Competition Committee
on conducting interviews with applicants for the Doctoral School
of Gdynia Maritime University
in the discipline of automation, electronics, electrical engineering and space technologies

Acting pursuant to § 3 of the Recruitment Rules for the Doctoral School of Gdynia Maritime University, I hereby appoint the Faculty Competition Committee for the Doctoral School of GMU, consisting of:

1. Dr hab. Eng. Przemysław Ptak, Prof. of GMU, the Chair,
1. Dr hab. Eng. Piotr Mysiak, Prof. of GMU, member
2. Dr hab. Eng. Agnieszka Lazarowska, Prof. of GMU, member

Dr hab. Eng. Aneta Ocieczek, Prof. of GMU

Director of the Doctoral School
of Gdynia Maritime University

Gdynia, August 28, 2024

Appointment of the Competition Committee
on conducting interviews with applicants for the Doctoral School
of Gdynia Maritime University
in the discipline of civil engineering, geodesy and transport

Acting pursuant to § 3 of the Recruitment Rules for the Doctoral School of Gdynia Maritime University, I hereby appoint the Faculty Competition Committee for the Doctoral School of GMU, consisting of:

1. Dr hab. Eng. Aneta Ocieczek, Prof. of GMU, Director of the Doctoral School of Gdynia Maritime University, the Chair
2. Dr hab. Joanna Soszyńska-Budny, Prof. of GMU, member
3. Dr hab. Eng. Tomasz Neumann, Prof. of GMU, Dean of the Faculty of Navigation, member

Dr hab. Eng. Aneta Ocieczek, Prof. of GMU

Director of the Doctoral School
of Gdynia Maritime University

Gdynia, August 28, 2024

Appointment of the Competition Committee
on conducting interviews with applicants for the Doctoral School
of Gdynia Maritime University
in the discipline of earth and related environmental sciences

Acting pursuant to § 3 of the Recruitment Rules for the Doctoral School of Gdynia Maritime University, I hereby appoint the Faculty Competition Committee for the Doctoral School of GMU, consisting of:

1. Dr hab. Eng. Aneta Ocieczek, Prof. of GMU, Director of the Doctoral School of Gdynia Maritime University, the Chair
2. Prof. dr hab. Adam Krężel, member
3. Dr hab. Zbigniew Otremba, Prof. of GMU, member

Dr hab. Eng. Aneta Ocieczek, Prof. of GMU

Director of the Doctoral School
of Gdynia Maritime University

Gdynia, August 28, 2024

Appointment of the Competition Committee
on conducting interviews with applicants for the Doctoral School
of Gdynia Maritime University
in the discipline of management and quality studies

Acting pursuant to § 3 of the Recruitment Rules for the Doctoral School of Gdynia Maritime University, I hereby appoint the Faculty Competition Committee for the Doctoral School of GMU, consisting of:

1. Dr hab. Eng. Aleksandra Wilczyńska, Prof. of GMU, the Chair
2. Dr hab. Eng. Przemysław Dmowski, Prof. of GMU, member
3. Dr hab. Eng. Agnieszka Rybowska, Prof. of GMU, member

Dr hab. Eng. Aneta Ocieczek, Prof. of GMU

Director of the Doctoral School
of Gdynia Maritime University

RESOLUTION NO. 191/XVI
OF THE SENATE OF GDYNIA MARITIME UNIVERSITY
of May 30, 2019

regarding the determination of the admission limits and the recruitment rules for candidates to the Doctoral School for the academic year 2019/2020

Pursuant to Article 200 section 2 of the Act of July 20, 2018, the Law on Higher Education and Science (Journal of Laws of 2018, item 1668, as amended), in connection with Article 291 of the Act of July 3, 2018, provisions introducing the Act on Higher Education and Science (Journal of Laws of 2018, item 1669, as amended), the Senate hereby resolves as follows:

§ 1

1. The list of disciplines, along with the admission limits for which recruitment to the Doctoral School at Gdynia Maritime University for the academic year 2019/2020 is initiated, is specified in Annex No 1 to this Resolution.
2. The rules for recruiting candidates to the Doctoral School at Gdynia Maritime University for the academic year 2019/2020 are specified in Annex No 2 to this Resolution.

§ 2

This Resolution shall enter into force on the date of its adoption.

Chair of the Senate

Prof. Dr Eng. Janusz Zarębski

Annex No 1
to Resolution No 191/XVI
of the Senate of Gdynia Maritime University

List of disciplines and the admission limits within which the recruitment process to the Doctoral School at Gdynia Maritime University is initiated for the academic year 2019/2020

No.	**Field of Science**	**Scientific Discipline**	**Admission Limit**
1	Social Sciences	Management and Quality Studies	4
2	Engineering and Technical Sciences	Automation, Electronics, Electrical Engineering	4

Annex No 2
to Resolution No 191/2019
of the Senate of Gdynia Maritime University

RECRUITMENT RULES FOR THE DOCTORAL SCHOOL
Gdynia Maritime University

§ 1
General Provisions

1. The Doctoral School at Gdynia Maritime University (GMU) offers education in the following scientific disciplines:
1) Management and quality sciences,
2) Automation, electronics and electrical engineering.

2. Participation in the recruitment process for the Doctoral School that is conducted in the form of a competition is open to individuals holding a degree of master, a degree of master of Science in engineering, or an equivalent qualification, or a diploma granting the right to apply for the conferment of a doctoral degree in whose higher education system the university that issued it operates. In exceptional cases of outstanding academic achievements, individuals who are first-cycle graduates or students who have completed the third year of a unified master's program may be admitted, subject to the approval of the Director of the Doctoral School.

3. An applicant for admission to the Doctoral School is required to submit a statement from an academic teacher holding the title of professor or the degree of habilitated doctor, employed at GMU in the group of research or research-teaching employees, about undertaking scientific supervision related to the preparation of the applicant's doctoral dissertation in one of the scientific disciplines in which GMU runs the doctoral school. An applicant shall also meet the other recruitment conditions of the recruitment process set out in this document.

4. A list of academic teachers with a title of professor or a title of habilitated doctor who are eligible to supervise doctoral dissertations, as mentioned in point 3, is published by the Director of the Doctoral School on the website of the Doctoral School of Gdynia Maritime University.
5. The Director of the Doctoral School appoints the Competition Committee to conduct the recruitment process**.**

§ 2

Required Documents

1. An applicant entering the recruitment process for the Doctoral School is required to submit the following documents to the Doctoral School office located in the GMU building at ul. Morska 83 in Gdynia between July 1, 2019 and July 15, 2019:

1) the application for admission to the doctoral school specifying the chosen discipline referred to in § 1, point 1, in which the candidate will prepare the doctoral dissertation,

2) the personal questionnaire,

3) three photographs,

4) a photocopy of an ID card or another identity document, certified as a true copy by GMU,

5) the diploma or an official copy of the diploma of uniform master's studies, second-cycle studies, or equivalent; and in exceptional cases, referred to in § 1, point 2, the diploma of first-cycle studies or a proof of the completion of the third year of the uniform master's studies,

6) for graduates of foreign higher education institutions: the original diploma of the completion of studies of higher education received abroad. In the case of the diploma which, in accordance with the binding legal regulations, is subject to recognition in the form of nostrification, a certificate issued by the entity nostrifying the diploma, confirming the equivalence of the diploma obtained abroad with the diploma of higher education in Poland, shall also be submitted,

7) the statement by a person holding the academic title of professor or the academic degree of habilitated doctor employed at UMG about undertaking scientific supervision over the applicant during the preparation of the doctoral dissertation in one of the scientific disciplines in which UMG runs the Doctoral School,

8) a proof of payment of the recruitment fee,

9) the statement confirming that the applicant is not seeking admission to other doctoral school than the Doctoral School at Gdynia Maritime University,

10) an applicant shall also submit the following documents if available:

a. a certificate or a diploma of graduation confirming knowledge of a modern foreign language at least on the level of B2,

b. the list of scientific achievements in the form of scientific publications (with their copies) along with the statement about the contribution of any co-authors to the publication,

c. information (with its confirmation) about the participation in scientific conferences and seminars, in which an applicant was as a speaker, about the participation in scientific competitions, or other achievements such as, e.g. pursuit of scientific internships,

d. information about the participation in research projects along with the relevant confirmation,

e. information (with its confirmation) about the work in scientific circles, activity in student organizations, etc.

§ 3
Elements of the evaluation of the applicant in the recruitment process

1. A person meeting the formal criteria specified in § 1, sections 2 and 3 and § 2, section 1, points 1-9 may be admitted to the recruitment process for the Doctoral School.

2. The recruitment process, which is the basis for drawing up the ranking list and making a decision on admission or refusal of admission to the Doctoral School at Gdynia Maritime University, includes the following elements subject to a point evaluation:

1.	Field of the studies completed: - included in one of the disciplines in which GMU runs the Doctoral School, - included in one of the disciplines, to which the disciplines run by the Doctoral School at GMU belong.	10 p. 1p.
2.	Grade obtained upon the completion of studies: - 5.5 - 5.0 - 4.5 - 4.0 - 3.5 - 3.0	 6 p. 5 p. 4.5 p. 4 p. 3.5 p. 3 p.
3.	Scientific achievements	The number of points that the applicant received for publications in accordance with the scoring referred to in the MNiSW (Ministerstwo Nauki i Szkolnictwa Wyższego, English: the Ministry of Science and Higher Education) document on the list of scientific journals and the number of points awarded for scientific publications in these journals, applicable accordingly to the date of creation of the publication. The above number of points should include the percentage share of the applicant in the creation of a given publication.
4.	Research activity	The number of points that is equal to the number of conferences, seminars, internships, trainings, competitions, etc., of a scientific nature, in which an applicant actively participated. The weight of 2 is assigned to an event of an international nature in which an applicant participated; in other cases, the weight of 1.
5.	Participation in research projects:	The number of points that is equal to the number of research projects in which an applicant participated as a manager or a contractor.
6.	An interview during which an applicant presents motivation to study at the Doctoral School,	Maximum number of points – 50. The number of points is determined by the Competition Committee.

§ 4
Recruitment Interview

1. The interview with an applicant to the Doctoral School will take place from July 22 to July 26, 2019, at GMU, Morska Street 83, Gdynia. Applicants shall be informed electronically three days in advance about the exact time and place of the interview.

§ 5
Recruitment Results

1. The sum of points for the evaluation elements in the recruitment process referred to in § 3 constitutes the basis for drawing up the ranking list.
2. The ranking list is drawn up independently for each of the disciplines in which the Doctoral School at Gdynia Maritime University provides education. The ranking list is drawn up by the Competition Committee, which is submitted to the Director of the Doctoral School.
3. The position on the ranking list determines the order of admission.
4. Admission to the Doctoral School is conducted through enrollment on the list of doctoral students, signed by the Director of the Doctoral School.
5. Refusal of admission to the Doctoral School at Gdynia Maritime University is made though an administrative decision of the Director of the Doctoral School. The decision may be appealed for reconsideration within fourteen days of the date of delivery of the decision. The decision on the application for reconsideration shall be made by the Rector. The Rector's decision shall be final.
6. The Competition results are public.
7. The Competition results shall be announced by August 1, 2019.

§ 6
Transitional provisions

1. From October 1, 2019 to September 31, 2020 the function of the Director of the Doctoral School is performed by the Rector's Plenipotentiary for Doctoral Schools. Whenever this document refers to the Director of the Doctoral School, it should be understood as the Rector's Plenipotentiary referred to in the previous sentence.
2. From October 1, 2019 to September 31, 2020 the administrative support of the Doctoral School is provided by the Rector’s Office.

RESOLUTION NO. 259/XVI
OF THE SENATE OF GDYNIA MARITIME UNIVERSITY
of June 4, 2020

regarding the determination of the admission limits and the recruitment rules for candidates to the Doctoral School for the academic year 2020/2021

Pursuant to Article 200 section 2 of the Act of July 20, 2018, the Law on Higher Education and Science (Journal of Laws of 2018, item 1668, as amended), in connection with Article 291 of the Act of July 3, 2018, provisions introducing the Act on Higher Education and Science (Journal of Laws of 2018, item 1669, as amended), the Senate hereby resolves as follows:

§ 1

1. The list of disciplines, along with the admission limits for which recruitment to the Doctoral School at Gdynia Maritime University for the academic year 2020/2021 is initiated, is specified in Annex No 1 to this Resolution.
2. The rules for recruiting candidates to the Doctoral School at Gdynia Maritime University for the academic year 2020/2021 are specified in Annex No 2 to this Resolution.

§ 2

This Resolution shall enter into force on the date of its adoption.

Chair of the Senate

Prof. Dr Eng. Janusz Zarębski

RESOLUTION NO. 280/XVI
OF THE SENATE OF GDYNIA MARITIME UNIVERSITY
of August 28, 2020

amending Resolution No. 258/XVI of the Senate of Gdynia Maritime University of June 4, 2020 regarding the determination of the admission limits and the recruitment rules for candidates to the Doctoral School for the academic year 2020/2021

Pursuant to Article 200 section 2 and 3 of the Act of July 20, 2018, the Law on Higher Education and Science (Journal of Laws of 2020, item 85, as amended), the Senate of Gdynia Maritime University hereby resolves as follows:

§ 1

Appendix no. 2 to Resolution No. 258/XVI of the Senate of Gdynia Maritime University of June 4, 2020 regarding the determination of the admission limits and the recruitment rules for candidates to the Doctoral School for the academic year 2020/2021 is amended in such a way that point 4 of § 2 section 1 is repealed

§ 2

This Resolution shall enter into force on the date of its adoption.

Chair of the Senate

Prof. Dr Hab. Eng. Janusz Zarębski

Gdynia Maritime University

Annex No 1
to Resolution No 258/XVI
of the Senate of Gdynia Maritime University
of June 4, 2020

List of disciplines and the admission limits within which the recruitment process to the Doctoral School at Gdynia Maritime University is initiated for the academic year 2020/2021

No.	**Field of Science**	**Scientific Discipline**	**Admission Limit**
1	Social Sciences	Management and Quality Studies	4
2	Engineering and Technical Sciences	Automation, Electronics, Electrical Engineering	4

Annex No 2 to Resolution No 258/XVI
of the Senate of Gdynia Maritime University
of July 4, 2020

RECRUITMENT RULES FOR THE DOCTORAL SCHOOL
Gdynia Maritime University

§ 1
General Provisions

1. The Doctoral School at Gdynia Maritime University (GMU) offers education in the following scientific disciplines:
1) Management and quality sciences,
2) Automation, electronics and electrical engineering.

2. Participation in the recruitment process for the Doctoral School that is conducted in the form of a competition is open to individuals holding a degree of master, a degree of master of Science in engineering, or an equivalent qualification, or a diploma granting the right to apply for the conferment of a doctoral degree in whose higher education system the university that issued it operates. In exceptional cases of outstanding academic achievements, individuals who are first-cycle graduates or students who have completed the third year of a unified master's program may be admitted, subject to the approval of the Director of the Doctoral School.

3. An applicant for admission to the Doctoral School is required to submit a statement from an academic teacher holding the title of professor or the degree of habilitated doctor, employed at GMU in the group of research or research-teaching employees, about undertaking scientific supervision related to the preparation of the applicant's doctoral dissertation in one of the scientific disciplines in which GMU runs the doctoral school. An applicant shall also meet the other recruitment conditions of the recruitment process set out in this document.

4. A list of academic teachers with a title of professor or a title of habilitated doctor who are eligible to supervise doctoral dissertations, as mentioned in point 3, is published by the Director of the Doctoral School on the website of the Doctoral School of Gdynia Maritime University.

§ 2
Required Documents

1. An applicant entering the recruitment process for the Doctoral School is required to submit the following documents to the Doctoral School office located in the GMU building at 83 Morska Street in Gdynia (Room No. B-109) between September 21, 2020 and September 24, 2020:

1) the application for admission to the doctoral school specifying the chosen discipline referred to in § 1, point 1, in which the candidate will prepare the doctoral dissertation,

2) the personal questionnaire,

3) three photographs,

4) a photocopy of an ID card or another identity document, certified as a true copy by GMU,

5) the diploma or an official copy of the diploma of uniform master's studies, second-cycle studies, or equivalent; and in exceptional cases, referred to in § 1, point 2, the diploma of first-cycle studies or a proof of the completion of the third year of the uniform master's studies,

6) for graduates of foreign higher education institutions: the original diploma of the completion of studies of higher education received abroad. In the case of the diploma which, in accordance with the binding legal regulations, is subject to recognition in the form of nostrification, a certificate issued by the entity nostrifying the diploma, confirming the equivalence of the diploma obtained abroad with the diploma of higher education in Poland, shall also be submitted,

7) the statement by a person holding the academic title of professor or the academic degree of habilitated doctor employed at UMG about undertaking scientific supervision over the applicant during the preparation of the doctoral dissertation in one of the scientific disciplines in which UMG runs the Doctoral School,

8) a proof of payment of the recruitment fee,

9) the statement confirming that the applicant is not seeking admission to other doctoral school than the Doctoral School at Gdynia Maritime University,

10) an applicant shall also submit the following documents if available:

a. a certificate or a diploma of graduation confirming knowledge of a modern foreign language at least on the level of B2,

b. the list of scientific achievements in the form of scientific publications (with their copies) along with the statement about the contribution of any co-authors to the publication,

c. information (with its confirmation) about the participation in scientific conferences and seminars, in which an applicant was as a speaker, about the participation in scientific competitions, or other achievements such as, e.g. pursuit of scientific internships,

d. information about the participation in research projects along with the relevant confirmation,

e. information (with its confirmation) about the work in scientific circles, activity in student organizations, etc.

§ 3

1. The Director of the Doctoral School appoints the Competition Committee to conduct the recruitment process**.**

§ 4
Elements of the evaluation of the applicant in the recruitment process

1. A person meeting the formal criteria specified in § 1, sections 2 and 3 and § 2, section 1, points 1-9 may be admitted to the recruitment process for the Doctoral School.

2. The recruitment process, which is the basis for drawing up the ranking list and making a decision on admission or refusal of admission to the Doctoral School at Gdynia Maritime University, includes the following elements subject to a point evaluation:

1.	Field of the studies completed: - included in one of the disciplines in which GMU runs the Doctoral School, - included in one of the disciplines, to which the disciplines run by the Doctoral School at GMU belong.	10 p. 1p.
2.	Grade obtained upon the completion of studies: - 5.5 - 5.0 - 4.5 - 4.0 - 3.5 - 3.0	 6 p. 5 p. 4.5 p. 4 p. 3.5 p. 3 p.
3.	Scientific achievements	The number of points that the applicant received for publications in accordance with the scoring referred to in the MNiSW (Ministerstwo Nauki i Szkolnictwa Wyższego, English: the Ministry of Science and Higher Education) document on the list of scientific journals and the number of points awarded for scientific publications in these journals, applicable accordingly to the date of creation of the publication. The above number of points should include the percentage share of the applicant in the creation of a given publication.
4.	Research activity	The number of points that is equal to the number of conferences, seminars, internships, trainings, competitions, etc., of a scientific nature, in which an applicant actively participated. The weight of 2 is assigned to an event of an international nature in which an applicant

		participated; in other cases, the weight of 1.
5.	Participation in research projects:	The number of points that is equal to the number of research projects in which an applicant participated as a manager or a contractor.
6.	An interview during which an applicant presents motivation to study at the Doctoral School	Maximum number of points – 50. The number of points obtained by the applicant as a result of the interview is determined by the Competition Committee. If an applicant obtains less than 10 points as a result of the interview, he/she/they will not be taken into account while drawing up the ranking list.

§ 5
Recruitment Interview

1. The interview with an applicant to the Doctoral School will take place on September 28, 2020, at Gdynia Maritime University, Morska Street 83, Gdynia. Applicants shall be informed electronically three days in advance about the exact time and place of the interview.

§ 6
Recruitment Results

1. The sum of points for the evaluation elements in the recruitment process referred to in § 4 constitutes the basis for drawing up the ranking list.
2. The ranking list is drawn up independently for each of the disciplines in which the Doctoral School at Gdynia Maritime University provides education. The ranking list is drawn up by the Competition Committee, which is submitted to the Director of the Doctoral School.
3. The position on the ranking list determines the order of admission.
4. Admission to the Doctoral School is conducted through enrollment on the list of doctoral students, signed by the Director of the Doctoral School.
5. Refusal of admission to the Doctoral School at Gdynia Maritime University is made though an administrative decision of the Director of the Doctoral School. The decision may be appealed for reconsideration within fourteen days of the date of delivery of the decision. The decision on the application for reconsideration shall be made by the Rector. The Rector's decision shall be final.
6. The Competition results are public.
7. The Competition results shall be announced by September 29, 2020.

RESOLUTION NO. 23/XVII
OF THE SENATE OF GDYNIA MARITIME UNIVERSITY
of January 28, 2021

regarding the determination of the admission limits and the recruitment rules for candidates to the Doctoral School for the academic year 2021/2022

Pursuant to Article 200 section 2 of the Act of July 20, 2018, the Law on Higher Education and Science (Journal of Laws of 2018, item 1668, as amended), §16 section 1 point 21 of the Statue of Gdynia Maritime University, the Senate hereby resolves as follows:

§ 1

1. The rules for recruiting candidates to the Doctoral School at Gdynia Maritime University for the academic year 2021/2022 are specified in Annex No 1 to this Resolution.
2. The list of disciplines, along with the admission limits for which recruitment to the Doctoral School at Gdynia Maritime University for the academic year 2021/2022 is initiated, is specified in Annex No 2 to this Resolution.

§ 2

This Resolution shall enter into force on the date of its adoption.

Chair of the Senate

Prof. Dr Hab. Eng. Capt. Adam Weintrit

RESOLUTION NO. 27/XVII
OF THE SENATE OF GDYNIA MARITIME UNIVERSITY
of March 11, 2021

amending Resolution No. 23/XVII of the Senate of Gdynia Maritime University of January 28, 2021 regarding the determination of the admission limits and the recruitment rules for candidates to the Doctoral School for the academic year 2021/2022

Pursuant to Article 200 section 2 of the Act of July 20, 2018, the Law on Higher Education and Science (Journal of Laws of 2018, item 1668, as amended), §16 section 1 point 21 of the Statue of Gdynia Maritime University, the Senate hereby resolves as follows:

§ 1

The appendix no. 1 – Recruitment Rules For The Doctoral School to Resolution No. 23/XVII of the Senate of Gdynia Maritime University of March 11, 2021 regarding the determination of the admission limits and the recruitment rules for candidates to the Doctoral School for the academic year 2021/2022 is amended as follows:

1. In § 2 section 1, the introductory part of the enumeration shall read as follows:
   "A candidate entering the recruitment process for the Doctoral School is required to submit the following documents to the Doctoral School office located in the GMU building at ul. Morska 83 in Gdynia between 1 September 2021 and 7 September 2021:"
2. § 5 section 1 shall read as follows:
   "*The interview with a candidate to the Doctoral School will take place on September 10, 2021, at Gdynia Maritime University, Morska Street 83, Gdynia. Candidates shall be informed electronically three days in advance about the exact date and place of the interview.*"
3. § 6 section 7 shall read as follows:
   "*The Competition results shall be announced by 14.09.2021.*"

§ 2

This Resolution shall enter into force on the date of its adoption.

Chair of the Senate

Prof. Dr Hab. Eng. Capt. Adam Weintrit

Annex No 1 to Resolution No 27/XVII
of the Senate of Gdynia Maritime University
of March 11, 2021

RECRUITMENT RULES FOR THE DOCTORAL SCHOOL
Gdynia Maritime University

§ 1
General Provisions

1. The Doctoral School at Gdynia Maritime University (GMU) offers education in the following scientific disciplines:
1) Management and quality sciences,
2) Automation, electronics and electrical engineering.

2. Participation in the recruitment process for the Doctoral School that is conducted in the form of a competition is open to individuals holding a degree of master, a degree of master of Science in engineering, or an equivalent qualification, or a diploma granting the right to apply for the conferment of a doctoral degree in whose higher education system the university that issued it operates. In exceptional cases of outstanding academic achievements, individuals who are first-cycle graduates or students who have completed the third year of a unified master's program may be admitted, subject to the approval of the Director of the Doctoral School.

3. An applicant for admission to the Doctoral School is required to submit a statement from an academic teacher holding the title of professor or the degree of habilitated doctor, employed at GMU in the group of research or research-teaching employees, about undertaking scientific supervision related to the preparation of the applicant's doctoral dissertation in one of the scientific disciplines in which GMU runs the doctoral school. An applicant shall also meet the other recruitment conditions of the recruitment process set out in this document.

4. A list of academic teachers with a title of professor or a title of habilitated doctor who are eligible to supervise doctoral dissertations, as mentioned in point 3, is published by the Director of the Doctoral School on the website of the Doctoral School of Gdynia Maritime University.

§ 2
Required Documents

1. An applicant entering the recruitment process for the Doctoral School is required to submit the following documents to the Doctoral School office located in the GMU building at 83 Morska Street in Gdynia (room No. B-109) between September 1, 2021 and September 7, 2021:

1) the application for admission to the doctoral school specifying the chosen discipline referred to in § 1, point 1, in which the candidate will prepare the doctoral dissertation,

2) the personal questionnaire,

3) three photographs,

4) the diploma or an official copy of the diploma of uniform master's studies, second-cycle studies, or equivalent; and in exceptional cases, referred to in § 1, point 2, the diploma of first-cycle studies or a proof of the completion of the third year of the uniform master's studies,

5) for graduates of foreign higher education institutions: the original diploma of the completion of studies of higher education received abroad. In the case of the diploma which, in accordance with the binding legal regulations, is subject to recognition in the form of nostrification, a certificate issued by the entity nostrifying the diploma, confirming the equivalence of the diploma obtained abroad with the diploma of higher education in Poland, shall also be submitted,

6) the statement by a person holding the academic title of professor or the academic degree of habilitated doctor employed at UMG about undertaking scientific supervision over the applicant during the preparation of the doctoral dissertation in one of the scientific disciplines in which UMG runs the Doctoral School,

7) a proof of payment of the recruitment fee,

9) the statement confirming that the applicant is not seeking admission to other doctoral school than the Doctoral School at Gdynia Maritime University,

9) an applicant shall also submit the following documents if available:

a. a certificate or a diploma of graduation confirming knowledge of a modern foreign language at least on the level of B2,
b. the list of scientific achievements in the form of scientific publications (with their copies) along with the statement about the contribution of any co-authors to the publication,
c. information (with its confirmation) about the participation in scientific conferences and seminars, in which an applicant was as a speaker, about the participation in scientific competitions, or other achievements such as, e.g. pursuit of scientific internships,
d. information about the participation in research projects along with the relevant confirmation,
e. information (with its confirmation) about the work in scientific circles, activity in student organizations, etc.

§ 3

1. The Director of the Doctoral School appoints the Competition Committee to conduct the recruitment process**.**

§ 4
Elements of the evaluation of the applicant in the recruitment process

1. A person meeting the formal criteria specified in § 1, sections 2 and 3 and § 2, section 1, points 1-9 may be admitted to the recruitment process for the Doctoral School.

2. The recruitment process, which is the basis for drawing up the ranking list and making a decision on admission or refusal of admission to the Doctoral School at Gdynia Maritime University, includes the following elements subject to a point evaluation:

1.	Field of the studies completed: - included in one of the disciplines in which GMU runs the Doctoral School, - included in one of the disciplines, to which the disciplines run by the Doctoral School at GMU belong.	10 p. 1p.
2.	Grade obtained upon the completion of studies: - 5.5 - 5.0 - 4.5 - 4.0 - 3.5 - 3.0	 6 p. 5 p. 4.5 p. 4 p. 3.5 p. 3 p.
3.	Scientific achievements	The number of points that the applicant received for publications in accordance with the scoring referred to in the MNiSW (Ministerstwo Nauki i Szkolnictwa Wyższego, English: the Ministry of Science and Higher Education) document on the list of scientific journals and the number of points awarded for scientific publications in these journals, applicable accordingly to the date of creation of the publication. The above number of points should include the percentage share of the applicant in the creation of a given publication.
4.	Research activity	The number of points that is equal to the number of conferences, seminars, internships, trainings, competitions, etc., of a scientific nature, in which an applicant actively participated. The weight of 2 is assigned to an event of an international nature in which an applicant

		participated; in other cases, the weight of 1.
5.	Participation in research projects:	The number of points that is equal to the number of research projects in which an applicant participated as a manager or a contractor.
6.	An interview during which an applicant presents: 1) motivation to study at the Doctoral School, 2) a preliminary concept of the doctoral dissertation together with the scope of research characteristics of a given discipline, 3) publication plans including the specification of the scope of publications and the publishers or journals.	Maximum number of points – 50. The number of points is determined by the Competition Committee. The number of points obtained by the applicant as a result of the interview is determined by the Competition Committee. If an applicant obtains less than 10 points as a result of the interview, he/she/they will not be taken into account while drawing up the ranking list.

§ 5
Recruitment Interview

1. The interview with an applicant to the Doctoral School will take place on September 10, 2021, at GMU, Morska Street 83, Gdynia. Applicants shall be informed electronically three days in advance about the exact time and place of the interview.

§ 6
Recruitment Results

1. The sum of points for the evaluation elements in the recruitment process referred to in § 4 constitutes the basis for drawing up the ranking list.
2. The ranking list is drawn up independently for each of the disciplines in which the Doctoral School at Gdynia Maritime University provides education. The ranking list is drawn up by the Competition Committee, which is submitted to the Director of the Doctoral School.
3. The position on the ranking list determines the order of admission.
4. Admission to the Doctoral School is conducted through enrollment on the list of doctoral students, signed by the Director of the Doctoral School.
5. Refusal of admission to the Doctoral School at Gdynia Maritime University is made though an administrative decision of the Director of the Doctoral School. The decision may be appealed for reconsideration within fourteen days of the date of delivery of the decision. The decision on the application for reconsideration shall be made by the Rector. The Rector's decision shall be final.
6. The Competition results are public.
7. The Competition results shall be announced by September 14, 2021.

Gdynia Maritime University

Annex No 2
to Resolution No 23/XVII
of the Senate of Gdynia Maritime University
of January 28, 2021

List of disciplines and the admission limits within which the recruitment process to the Doctoral School at Gdynia Maritime University is initiated for the academic year 2021/2022

No.	**Field of Science**	**Scientific Discipline**	**Admission Limit**
1	Social Sciences	Management and Quality Studies	4
2	Engineering and Technical Sciences	Automation, Electronics, Electrical Engineering	4

RESOLUTION NO. 82/XVII
OF THE SENATE OF GDYNIA MAITIME UNIVERSITY
of January 20, 2022

regarding the determination of the admission limits and the recruitment rules for candidates to the Doctoral School for the academic year 2022/2023

Pursuant to Article 200 section 2 of the Act of July 20, 2018, the Law on Higher Education and Science (Journal of Laws of 2021, item 478, as amended), § 14 section 1 point 21 of the Statue of Gdynia Maritime University, the Senate hereby resolves as follows:

§ 1

1. The rules for recruiting candidates to the Doctoral School at Gdynia Maritime University for the academic year 2022/2023 are specified in Annex No 1 to this Resolution.
2. The list of disciplines, along with the admission limits for which recruitment to the Doctoral School at Gdynia Maritime University for the academic year 2022/2023 is initiated, is specified in Annex No 2 to this Resolution.

§ 2

This Resolution shall enter into force on the date of its adoption.

Chair of the Senate

Prof. Dr Hab. Eng. Capt. Adam Weintrit

RECRUITMENT RULES FOR THE DOCTORAL SCHOOL
Gdynia Maritime University

§ 1
General Provisions

1. The Doctoral School at Gdynia Maritime University (GMU) offers education in the following scientific disciplines:
1) Management and quality sciences,
2) Automation, electronics and electrical engineering.

2. Participation in the recruitment process for the Doctoral School that is conducted in the form of a competition is open to individuals holding a degree of master, a degree of master of Science in engineering, or an equivalent qualification, or a diploma granting the right to apply for the conferment of a doctoral degree in whose higher education system the university that issued it operates, under the provisions specified in Article 326 of the Law on Higher Education and Science (Journal of Laws of 2021, item 478, as amended). In exceptional cases of outstanding academic achievements, individuals who are first-cycle graduates or students who have completed the third year of a unified master's program may be admitted, subject to the approval of the Director of the Doctoral School.

3. An applicant for admission to the Doctoral School is required to submit a statement from an academic teacher holding the title of professor or the degree of habilitated doctor, employed at GMU in the group of research or research-teaching employees, about undertaking scientific supervision related to the preparation of the applicant's doctoral dissertation in one of the scientific disciplines in which GMU runs the doctoral school. An applicant shall also meet the other recruitment conditions of the recruitment process set out in this document.

4. A list of academic teachers with a title of professor or a title of habilitated doctor who are eligible to supervise doctoral dissertations, as mentioned in point 3, is published by the Director of the Doctoral School on the website of the Doctoral School of Gdynia Maritime University.

§ 2
Required Documents

1. An applicant entering the recruitment process for the Doctoral School is required to submit the following documents to the Doctoral School office located in the GMU building at 83 Morska Street in Gdynia (room No. B-109) between July 7, 2022 and July 22, 2022:

1) the application for admission to the doctoral school specifying the chosen discipline referred to in § 1, point 1, in which the candidate will prepare the doctoral dissertation,

2) the personal questionnaire,

3) three photographs,

4) the diploma or an official copy of the diploma of uniform master's studies, second-cycle studies, or equivalent; and in exceptional cases, referred to in § 1, point 2, the diploma of first-cycle studies or a proof of the completion of the third year of the uniform master's studies,

5) for graduates of foreign higher education institutions: the original diploma of the completion of studies of higher education received abroad. In the case of the diploma which, in accordance with the binding legal regulations, is subject to recognition in the form of nostrification, a certificate issued by the entity nostrifying the diploma, confirming the equivalence of the diploma obtained abroad with the diploma of higher education in Poland, shall also be submitted,

6) the statement by a person holding the academic title of professor or the academic degree of habilitated doctor employed at UMG about undertaking scientific supervision over the applicant during the preparation of the doctoral dissertation in one of the scientific disciplines in which UMG runs the Doctoral School,

7) a proof of payment of the recruitment fee,

9) the statement confirming that the applicant is not seeking admission to other doctoral school than the Doctoral School at Gdynia Maritime University,

9) an applicant shall also submit the following documents if available:

a. a certificate or a diploma of graduation confirming knowledge of a modern foreign language at least on the level of B2,
b. the list of scientific achievements in the form of scientific publications (with their copies) along with the statement about the contribution of any co-authors to the publication,
c. information (with its confirmation) about the participation in scientific conferences and seminars, in which an applicant was as a speaker, about the participation in scientific competitions, or other achievements such as, e.g. pursuit of scientific internships,
d. information about the participation in research projects along with the relevant confirmation,
e. information (with its confirmation) about the work in scientific circles, activity in student organizations, etc.

§ 3

1. The Director of the Doctoral School appoints the Competition Committee to conduct the recruitment process**.**

§ 4
Elements of the evaluation of the applicant in the recruitment process

1. A person meeting the formal criteria specified in § 1, sections 2 and 3 and § 2, section 1, points 1-9 may be admitted to the recruitment process for the Doctoral School.

2. The recruitment process, which is the basis for drawing up the ranking list and making a decision on admission or refusal of admission to the Doctoral School at Gdynia Maritime University, includes the following elements subject to a point evaluation:

1.	Field of the studies completed: - included in one of the disciplines in which GMU runs the Doctoral School, - included in one of the disciplines, to which the disciplines run by the Doctoral School at GMU belong.	10 p. 1p.
2.	Grade obtained upon the completion of studies: - 5.5 - 5.0 - 4.5 - 4.0 - 3.5 - 3.0	 6 p. 5 p. 4.5 p. 4 p. 3.5 p. 3 p.
3.	Scientific achievements	The number of points that the applicant received for publications in accordance with the scoring referred to in the MNiSW (Ministerstwo Nauki i Szkolnictwa Wyższego, English: the Ministry of Science and Higher Education) document on the list of scientific journals and the number of points awarded for scientific publications in these journals, applicable accordingly to the date of creation of the publication. The above number of points should include the percentage share of the applicant in the creation of a given publication.
4.	Research activity	The number of points that is equal to the number of conferences, seminars, internships, trainings, competitions, etc., of a scientific nature, in which an applicant actively participated. The weight of 2 is assigned to an event of an international nature in which an applicant

		participated; in other cases, the weight of 1.
5.	Participation in research projects:	The number of points that is equal to the number of research projects in which an applicant participated as a manager or a contractor.
6.	An interview during which an applicant presents: 1) motivation to study at the Doctoral School, 2) a preliminary concept of the doctoral dissertation together with the scope of research characteristics of a given discipline, 3) publication plans including the specification of the scope of publications and the publishers or journals.	Maximum number of points – 50. The number of points is determined by the Competition Committee. The number of points obtained by the applicant as a result of the interview is determined by the Competition Committee. If an applicant obtains less than 10 points as a result of the interview, he/she/they will not be taken into account while drawing up the ranking list.

§ 5
Recruitment Interview

1. The interview with an applicant to the Doctoral School will take place on July 28, 2022, at Gdynia Maritime University, Morska Street 83, Gdynia. Applicants shall be informed electronically three days in advance about the exact time and place of the interview.

§ 6
Recruitment Results

1. The sum of points for the evaluation elements in the recruitment process referred to in § 4 constitutes the basis for drawing up the ranking list.
2. The ranking list is drawn up independently for each of the disciplines in which the Doctoral School at Gdynia Maritime University provides education. The ranking list is drawn up by the Competition Committee, which is submitted to the Director of the Doctoral School.
3. The position on the ranking list determines the order of admission.
4. Admission to the Doctoral School is conducted through enrollment on the list of doctoral students, signed by the Director of the Doctoral School.
5. Refusal of admission to the Doctoral School at Gdynia Maritime University is made though an administrative decision of the Director of the Doctoral School. The decision may be appealed for reconsideration within fourteen days of the date of delivery of the decision. The decision on the application for reconsideration shall be made by the Rector. The Rector's decision shall be final.
6. The Competition results are public.
7. The Competition results shall be announced by August 1, 2022.

Annex No 2 to Resolution No 82/XVII of the Senate of Gdynia Maritime University
of January 20, 2022

List of disciplines and the admission limits within which the recruitment process to the Doctoral School at Gdynia Maritime University is initiated for the academic year 2022/2023

No.	**Field of Science**	**Scientific Discipline**	**Admission Limit**
1	Social Sciences	Management and Quality Studies	4
2	Engineering and Technical Sciences	Automation, Electronics, Electrical Engineering	4

RESOLUTION NO. 168/XVII
OF THE SENATE OF GDYNIA MAITIME UNIVERSITY
of March 2, 2023

regarding the determination of the admission limits and the recruitment rules for candidates to the Doctoral School for the academic year 2023/2024

Pursuant to Article 200 section 2 of the Act of July 20, 2018, the Law on Higher Education and Science (Journal of Laws of 2022, item 574, as amended), § 14 section 1 point 21 of the Statue of Gdynia Maritime University, the Senate hereby resolves as follows:

§ 1

1. The rules for recruiting candidates to the Doctoral School at Gdynia Maritime University for the academic year 2023/2024 are specified in Annex No 1 to this Resolution.
2. The list of disciplines, along with the admission limits for which recruitment to the Doctoral School at Gdynia Maritime University for the academic year 2023/2024 is initiated, is specified in Annex No 2 to this Resolution.

§ 2

This Resolution shall enter into force on the date of its adoption.

Chair of the Senate

Prof. Dr Hab. Eng. Capt. Adam Weintrit

RECRUITMENT RULES FOR THE DOCTORAL SCHOOL
Gdynia Maritime University

§ 1
General Provisions

1. The Doctoral School at Gdynia Maritime University (GMU) offers education in the following scientific disciplines:
1) Management and quality sciences,
2) Automation, electronics, electrical engineering and space technologies,
3) Civil engineering, geodesy and transport,
4) Earth and related environmental sciences.

2. Participation in the recruitment process for the Doctoral School that is conducted in the form of a competition is open to individuals holding a degree of master, a degree of master of Science in engineering, or an equivalent qualification, or a diploma granting the right to apply for the conferment of a doctoral degree in whose higher education system the university that issued it operates. In exceptional cases of outstanding academic achievements, individuals who are first-cycle graduates or students who have completed the third year of a unified master's program may be admitted, subject to the approval of the Director of the Doctoral School.

3. An applicant for admission to the Doctoral School is required to submit a statement from an academic teacher holding the title of professor or the degree of habilitated doctor, employed at GMU in the group of research or research-teaching employees, about undertaking scientific supervision related to the preparation of the applicant's doctoral dissertation in one of the scientific disciplines in which GMU runs the doctoral school. An applicant shall also meet the other recruitment conditions of the recruitment process set out in this document.

4. A list of academic teachers with a title of professor or a title of habilitated doctor who are eligible to supervise doctoral dissertations, as mentioned in point 3, is published by the Director of the Doctoral School on the website of the Doctoral School of Gdynia Maritime University.

§ 2
Required Documents

1. An applicant entering the recruitment process for the Doctoral School is required to submit the following documents to the Doctoral School office located in the GMU building at 83 Morska Street in Gdynia (room No. B-109) between August 28, 2023 and September 1, 2023:

1) the application for admission to the doctoral school specifying the chosen discipline referred to in § 1, point 1, in which the candidate will prepare the doctoral dissertation,

2) the personal questionnaire,

3) three photographs,

4) the diploma or an official copy of the diploma of uniform master's studies, second-cycle studies, or equivalent; and in exceptional cases, referred to in § 1, point 2, the diploma of first-cycle studies or a proof of the completion of the third year of the uniform master's studies,

5) for graduates of foreign higher education institutions: the original diploma of the completion of studies of higher education received abroad. In the case of the diploma which, in accordance with the binding legal regulations, is subject to recognition in the form of nostrification, a certificate issued by the entity nostrifying the diploma, confirming the equivalence of the diploma obtained abroad with the diploma of higher education in Poland, shall also be submitted,

6) the statement by a person holding the academic title of professor or the academic degree of habilitated doctor employed at UMG about undertaking scientific supervision over the applicant during the preparation of the doctoral dissertation in one of the scientific disciplines in which UMG runs the Doctoral School,

7) a proof of payment of the recruitment fee,

9) the statement confirming that the applicant is not seeking admission to other doctoral school than the Doctoral School at Gdynia Maritime University,

9) an applicant shall also submit the following documents if available:

a. a certificate or a diploma of graduation confirming knowledge of a modern foreign language at least on the level of B2,
b. the list of scientific achievements in the form of scientific publications (with their copies) along with the statement about the contribution of any co-authors to the publication,
c. information (with its confirmation) about the participation in scientific conferences and seminars, in which an applicant was as a speaker, about the participation in scientific competitions, or other achievements such as, e.g. pursuit of scientific internships,
d. information about the participation in research projects along with the relevant confirmation,
e. information (with its confirmation) about the work in scientific circles, activity in student organizations, etc.

§ 3

The Director of the Doctoral School appoints the Competition Committee to conduct the recruitment process**.**

§ 4
Elements of the evaluation of the applicant in the recruitment process

1. A person meeting the formal criteria specified in § 1, sections 2 and 3 and § 2, section 1, points 1-9 may be admitted to the recruitment process for the Doctoral School.

2. The recruitment process, which is the basis for drawing up the ranking list and making a decision on admission or refusal of admission to the Doctoral School at Gdynia Maritime University, includes the following elements subject to a point evaluation:

1.	Field of the studies completed: - included in one of the disciplines in which GMU runs the Doctoral School, - included in one of the disciplines, to which the disciplines run by the Doctoral School at GMU belong.	10 p. 1p.
2.	Grade obtained upon the completion of studies: - 5.5 - 5.0 - 4.5 - 4.0 - 3.5 - 3.0	 6 p. 5 p. 4.5 p. 4 p. 3.5 p. 3 p.
3.	Scientific achievements	The number of points that the applicant received for publications in accordance with the scoring referred to in the MNiSW (Ministerstwo Nauki i Szkolnictwa Wyższego, English: the Ministry of Science and Higher Education) document on the list of scientific journals and the number of points awarded for scientific publications in these journals, applicable accordingly to the date of creation of the publication. The above number of points should include the percentage share of the applicant in the creation of a given publication.
4.	Research activity	The number of points that is equal to the number of conferences, seminars, internships, trainings, competitions, etc., of a scientific nature, in which an applicant actively participated. The weight of 2 is assigned to an event of an international nature in which an applicant

		participated; in other cases, the weight of 1.
5.	Participation in research projects:	The number of points that is equal to the number of research projects in which an applicant participated as a manager or a contractor.
6.	An interview during which an applicant presents: 1) motivation to study at the Doctoral School, 2) a preliminary concept of the doctoral dissertation together with the scope of research characteristics of a given discipline, 3) publication plans including the specification of the scope of publications and the publishers or journals.	Maximum number of points – 50. The number of points is determined by the Competition Committee. The number of points obtained by the applicant as a result of the interview is determined by the Competition Committee. If an applicant obtains less than 10 points as a result of the interview, he/she/they will not be taken into account while drawing up the ranking list.

§ 5
Recruitment Interview

1. The interview with an applicant to the Doctoral School will take place on September 5, 2023, at Gdynia Maritime University, Morska Street 83, Gdynia. Applicants shall be informed electronically three days in advance about the exact time and place of the interview.

§ 6
Recruitment Results

1. The sum of points for the evaluation elements in the recruitment process referred to in § 4 constitutes the basis for drawing up the ranking list.
2. The ranking list is drawn up independently for each of the disciplines in which the Doctoral School at Gdynia Maritime University provides education. The ranking list is drawn up by the Competition Committee, which is submitted to the Director of the Doctoral School.
3. The position on the ranking list determines the order of admission.
4. Admission to the Doctoral School is conducted through enrollment on the list of doctoral students, signed by the Director of the Doctoral School.
5. Refusal of admission to the Doctoral School at Gdynia Maritime University is made though an administrative decision of the Director of the Doctoral School. The decision may be appealed for reconsideration within fourteen days of the date of delivery of the decision. The decision on the application for reconsideration shall be made by the Rector. The Rector's decision shall be final.
6. The Competition results are public.
7. The Competition results shall be announced by September 8, 2023.

Annex No 2 to Resolution No 168/XVII of the Senate of Gdynia Maritime University
of March 2, 2023

List of disciplines and the admission limits within which the recruitment process to the Doctoral School at Gdynia Maritime University is initiated for the academic year 2023/2024

No.	Field of Science	Scientific Discipline	Admission Limit
1	Social Sciences	Management and Quality Studies	4
2	Engineering and Technical Sciences	Automation, Electronics, Electrical Engineering and Space Technologies	4
3	Engineering and Technical Sciences	Civil Engineering, Geodesy and Transport	4
4	Natural Sciences	Earth and Related Environmental Sciences	2

RESOLUTION NO. 251/XVII
OF THE SENATE OF GDYNIA MAITIME UNIVERSITY
of March 21, 2024

regarding the determination of the admission limits and the recruitment rules for candidates to the Doctoral School for the academic year 2024/2025

Pursuant to Article 200 section 2 of the Act of July 20, 2018, the Law on Higher Education and Science (Journal of Laws of 2023, item 742, as amended), § 14 section 1 point 21 of the Statue of Gdynia Maritime University, the Senate hereby resolves as follows:

§ 1

1. The rules for recruiting candidates to the Doctoral School at Gdynia Maritime University for the academic year 2023/2024 are specified in Annex No 1 to this Resolution.
2. The list of disciplines, along with the admission limits for which recruitment to the Doctoral School at Gdynia Maritime University for the academic year 2024/2025 is initiated, is specified in Annex No 2 to this Resolution.

§ 2

This Resolution shall enter into force on the date of its adoption.

Chair of the Senate

Prof. Dr Hab. Eng. Capt. Adam Weintrit

RECRUITMENT RULES FOR THE DOCTORAL SCHOOL
Gdynia Maritime University

§ 1
General Provisions

1. The Doctoral School at Gdynia Maritime University (GMU) offers education in the following scientific disciplines:
1) Management and quality sciences,
2) Automation, electronics, electrical engineering and space technologies,
3) Civil engineering, geodesy and transport,
4) Earth and related environmental sciences.

2. Participation in the recruitment process for the Doctoral School that is conducted in the form of a competition is open to individuals holding a degree of master, a degree of master of Science in engineering, or an equivalent qualification, or a diploma granting the right to apply for the conferment of a doctoral degree in whose higher education system the university that issued it operates. In exceptional cases of outstanding academic achievements, individuals who are first-cycle graduates or students who have completed the third year of a unified master's program may be admitted, subject to the approval of the Director of the Doctoral School.

3. An applicant for admission to the Doctoral School is required to submit a statement from an academic teacher holding the title of professor or the degree of habilitated doctor, employed at GMU in the group of research or research-teaching employees, about undertaking scientific supervision related to the preparation of the applicant's doctoral dissertation in one of the scientific disciplines in which GMU runs the doctoral school. An applicant shall also meet the other recruitment conditions of the recruitment process set out in this document.

4. A list of academic teachers with a title of professor or a title of habilitated doctor who are eligible to supervise doctoral dissertations, as mentioned in point 3, is published by the Director of the Doctoral School on the website of the Doctoral School of Gdynia Maritime University.

§ 2
Required Documents

1. An applicant entering the recruitment process for the Doctoral School is required to submit the following documents to the Doctoral School office located in the GMU building at 83 Morska Street in Gdynia (room No. B-109) between August 26, 2024 and August 30, 2024:

1) the application for admission to the doctoral school specifying the chosen discipline referred to in § 1, section 1, in which the candidate will prepare the doctoral dissertation,

2) the personal questionnaire,

3) three photographs,

4) the diploma or an official copy of the diploma of uniform master's studies, second-cycle studies, or equivalent; and in exceptional cases, referred to in § 1, section 2, the diploma of first-cycle studies or a proof of the completion of the third year of the uniform master's studies,

5) for graduates of foreign higher education institutions: the original diploma of the completion of studies of higher education received abroad. In the case of the diploma which, in accordance with the binding legal regulations, is subject to recognition in the form of nostrification, a certificate issued by the entity nostrifying the diploma, confirming the equivalence of the diploma obtained abroad with the diploma of higher education in Poland, shall also be submitted,

6) the statement by a person holding the academic title of professor or the academic degree of habilitated doctor employed at UMG about undertaking scientific supervision over the applicant during the preparation of the doctoral dissertation in one of the scientific disciplines in which UMG runs the Doctoral School,

7) a proof of payment of the recruitment fee,

9) the statement confirming that the applicant is not seeking admission to other doctoral school than the Doctoral School at Gdynia Maritime University,

9) an applicant shall also submit the following documents if available:

a. a certificate or a diploma of graduation confirming knowledge of a modern foreign language at least on the level of B2,
b. the list of scientific achievements in the form of scientific publications (with their copies) along with the statement about the contribution of any co-authors to the publication,
c. information (with its confirmation) about the participation in scientific conferences and seminars, in which an applicant was as a speaker, about the participation in scientific competitions, or other achievements such as, e.g. pursuit of scientific internships,
d. information about the participation in research projects along with the relevant confirmation,
e. information (with its confirmation) about the work in scientific circles, activity in student organizations, etc.

§ 3

The Director of the Doctoral School appoints the Competition Committee to conduct the recruitment process**.**

§ 4
Elements of the evaluation of the applicant in the recruitment process

1. A person meeting the formal criteria specified in § 1, sections 2 and 3 and § 2, section 1, points 1-9 may be admitted to the recruitment process for the Doctoral School.

2. The recruitment process, which is the basis for drawing up the ranking list and making a decision on admission or refusal of admission to the Doctoral School at Gdynia Maritime University, includes the following elements subject to a point evaluation:

1.	Field of the studies completed: - included in one of the disciplines in which GMU runs the Doctoral School, - included in one of the disciplines, to which the disciplines run by the Doctoral School at GMU belong.	10 p. 1p.
2.	Grade obtained upon the completion of studies: - 5.5 - 5.0 - 4.5 - 4.0 - 3.5 - 3.0	 6 p. 5 p. 4.5 p. 4 p. 3.5 p. 3 p.
3.	Scientific achievements	The number of points that the applicant received for publications in accordance with the scoring referred to in the MNiSW (Ministerstwo Nauki i Szkolnictwa Wyższego, English: the Ministry of Science and Higher Education) document on the list of scientific journals and the number of points awarded for scientific publications in these journals, applicable accordingly to the date of creation of the publication. The above number of points should include the percentage share of the applicant in the creation of a given publication.
4.	Research activity	The number of points that is equal to the number of conferences, seminars, internships, trainings, competitions, etc., of a scientific nature, in which an applicant actively participated. The weight of 2 is assigned to an event of an

		international nature in which an applicant participated; in other cases, the weight of 1.
5.	Participation in research projects:	The number of points that is equal to the number of research projects in which an applicant participated as a manager or a contractor.
6.	An interview during which an applicant presents: 1) motivation to study at the Doctoral School, 2) a preliminary concept of the doctoral dissertation together with the scope of research characteristics of a given discipline, 3) publication plans including the specification of the scope of publications and the publishers or journals.	Maximum number of points – 50. The number of points is determined by the Competition Committee. The number of points obtained by the applicant as a result of the interview is determined by the Competition Committee. If an applicant obtains less than 10 points as a result of the interview, he/she/they will not be taken into account while drawing up the ranking list.

§ 5
Recruitment Interview

1. The interview with an applicant to the Doctoral School will take place on September 3, 2024, at Gdynia Maritime University, Morska Street 83, Gdynia. Applicants shall be informed electronically three days in advance about the exact time and place of the interview.

§ 6
Recruitment Results

1. The sum of points for the evaluation elements in the recruitment process referred to in § 4 constitutes the basis for drawing up the ranking list.
2. The ranking list is drawn up independently for each of the disciplines in which the Doctoral School at Gdynia Maritime University provides education. The ranking list is drawn up by the Competition Committee, which is submitted to the Director of the Doctoral School.
3. The position on the ranking list determines the order of admission.
4. Admission to the Doctoral School is conducted through enrollment on the list of doctoral students, signed by the Director of the Doctoral School.
5. Refusal of admission to the Doctoral School at Gdynia Maritime University is made though an administrative decision of the Director of the Doctoral School. The decision may be appealed for reconsideration within fourteen days of the date of delivery of the decision. The decision on the application for reconsideration shall be made by the Rector. The Rector's decision shall be final.
6. The Competition results are public.
7. The Competition results shall be announced by September 6, 2024.

Annex No 2 to Resolution No 168/XVII of the Senate of Gdynia Maritime University
of March 21, 2024

List of disciplines and the admission limits within which the recruitment process to the Doctoral School at Gdynia Maritime University is initiated for the academic year 2024/2025

No.	Field of Science	Scientific Discipline	Admission Limit
1	Social Sciences	Management and Quality Studies	4
2	Engineering and Technical Sciences	Automation, Electronics, Electrical Engineering and Space Technologies	4
3	Engineering and Technical Sciences	Civil Engineering, Geodesy and Transport	4
4	Natural Sciences	Earth and Related Environmental Sciences	2

RESOLUTION NO. 199/XVI
OF THE SENATE OF GDYNIA MARITIME UNIVERSITY
of September 26, 2019

on the adoption of the Regulations of the Doctoral School at Gdynia Maritime University

Pursuant to Article 205 section 2 of the Act of July 20, 2018 – the Law on Higher Education and Science (Journal of Laws of 2018, item 1668, as amended), and Article 292 of the Act of July 3, 2018 – on provisions introducing the Act - the Law on Higher Education and Science (Journal of Laws of 2018, item 1669, as amended), the Senate resolves as follows:

§ 1

The Regulations of the Doctoral School at Gdynia Maritime University, which constitute the annex to this resolution, are hereby adopted.

§ 2

This resolution shall enter into force on October 1, 2019.

Chair of the Senate

Prof. Dr Eng. Janusz Zarębski

Annex to Resolution No. 199/XVI

Gdynia Maritime University
REGULATIONS OF THE DOCTORAL SCHOOL

TABLE OF CONTENTS

I GENERAL PROVISIONS

§ 1

1. The Regulations of the Doctoral School of Gdynia Maritime University, hereinafter referred to as the "Regulations," define the procedures and organization of education at the Doctoral school, as well as the related rights and obligations of doctoral students.
2. The Doctoral School conducts education in the following scientific disciplines:
   1) Management and quality sciences,
   2) Automation, electronics, and electrical engineering.
3. In the scientific disciplines mentioned in section 2, Gdynia Maritime University is authorized to confer a doctoral degree.
4. The Regulations shall come into force on the date of adoption, with effect from October 1, 2019.
5. Whenever the Regulations refer to:

1) Senate — this refers to the Senate of Gdynia Maritime University,
2) Statute — this refers to the Statute of Gdynia Maritime University,
3) University — this refers to Gdynia Maritime University,
4) doctoral student — this refers to a person pursuing education at the doctoral School, as a young researcher in the meaning of Article 360, section 2, point 1 of the Act of July 20, 2018 — the Law on Higher Education and Science (Journal of Laws 2018, item 1668),
5) doctoral dissertation — this refers to the work presenting the general theoretical knowledge of the doctoral student in a discipline or disciplines, and the ability to independently conduct scientific work; the doctoral dissertation may be an original solution to a scientific problem or an original solution in the application of the results of the doctoral student's own research in the economic or social sphere; the doctoral dissertation may be a written work, including a scientific monograph, a collection of published and thematically related scientific articles, project work, construction work, technological work, or implementation work, as well as an independent and distinct part of a collective work,
6) supervisor — this refers to a person entrusted with the scientific supervision over the preparation of the doctoral dissertation by the doctoral student,
7) individual research plan — this shall be understood as tasks that are qualitatively and temporally defined and that result from the schedule for the preparation of the doctoral dissertation, approved by the relevant scientific council of the University.

LEGAL BASIS

§ 2

1. The Doctoral School of Gdynia Maritime University operates on the basis of the binding regulations, in particular:
   1) Act of July 3, 2018, on provisions introducing the Act — the Law on Higher Education and Science (Journal of Laws 2018, item 1669, as amended),
   2) Act of July 20, 2018 — the Law on Higher Education and Science (Journal of Laws 2018, item 1668, as amended),
   3) Act of July 15, 2011, on control in government administration (Journal of Laws 2011, No 185, item 1092),
   4) Act of June 14, 1960, the Code of Administrative Procedure (consolidated text: Journal of Laws 2018, item 2096, as amended),
   5) Act of August 30, 2002, the Law on Proceedings before Administrative Courts (consolidated text: Journal of Laws 2018, item 1302, as amended),
   6) Act of December 22, 2015, on the Integrated Qualifications System (consolidated text: Journal of Laws 2018, item 2153, as amended),
   7) Act of September 6, 2001, on the access to public information (consolidated text: Journal of Laws 2019, item 1429),
   8) Act of June 26, 1974, the Labor Code (consolidated text: Journal of Laws 2019, item 1040, as amended),
   9) Act of October 13, 1998, on the social insurance system (consolidated text: Journal of Laws 2019, item 300, as amended),
   10) Act of October 30, 2002, on social insurance for accidents at work and occupational diseases (consolidated text: Journal of Laws 2019, item 1205),
   11) Act of June 25, 1999, on the money benefits from social insurance in case of illness and maternity (consolidated text: Journal of Laws 2019, item 645, as amended),
   12) Act of August 27, 2004, on healthcare benefits financed from public funds (consolidated text: Journal of Laws 2019, item 1373, as amended),
   13) Act of August 27, 1997, on vocational and social rehabilitation and employment of persons with disabilities (consolidated text: Journal of Laws 2019, item 1172, as amended),
   14) Act of June 27, 2003, on social pension (consolidated text: Journal of Laws 2019, item 1455, as amended),
   15) Act of December 12, 2013, on foreigners (consolidated text: Journal of Laws 2018, item 2094, as amended),
   16) Act of October 18, 2006, on the disclosure of information on documents of state security bodies from 1944-1990 and the content of these documents (consolidated text: Journal of Laws 2019, item 430, as amended),
   17) Regulation of the Minister of Culture and National Heritage of December 28, 2018 on the method of allocating financial resources for art schools to maintain and develop teaching potential, research potential and tasks related to cultural activities (Journal of Laws 2019, item 91),

18) Regulation of MNiSW (ENGLISH: Ministry of Science and Higher Education) of September 25, 2018, on the allocation of financial resources for universities for student benefits and tasks related to ensuring conditions for people with disabilities to fully participate in the admission process to universities, doctoral schools, studies, and conducting scientific activities (Journal of Laws 2018, item 1850),
19) Regulation of MNiSW (ENGLISH: Ministry of Science and Higher Education) of January 22, 2019, on cost-intensity coefficients (Journal of Laws 2019, item 202),
20) Regulation of MNiSW (ENGLISH: Ministry of Science and Higher Education) of September 25, 2018, on the minimum basic monthly salary for a professor at a public university (Journal of Laws 2018, item 1838),
21) Regulation of MNiSW (ENGLISH: Ministry of Science and Higher Education)of September 20, 2018, on fields of science, scientific disciplines and artistic disciplines (Journal of Laws 2018, item 1818),
22) Regulation of MNiSW (ENGLISH: Ministry of Science and Higher Education)of November 14, 2018, on the second degree characteristics of learning outcomes for qualifications at levels 6-8 of the Polish Qualifications Framework (Journal of Laws 2018, item 2218),
23) Regulation of MNiSW (ENGLISH: Ministry of Science and Higher Education)of September 21, 2018, on doctoral diplomas, habilitation diplomas and doctoral student ID cards (Journal of Laws 2018, item 1837),
24) Regulation of MNiSW (ENGLISH: Ministry of Science and Higher Education) of September 24, 2018, on the certificate template for an institution offering studies or education in a doctoral school for foreigners (Journal of Laws 2018, item 1835),
25) Regulation of MNiSW (ENGLISH: Ministry of Science and Higher Education) of November 7, 2018, on the preparation of the list of scientific monographs and scientific journals, and peer-reviewed materials from international conferences (Journal of Laws 2018, item 2152),
26) Regulation of MNiSW (ENGLISH: Ministry of Science and Higher Education) of September 20, 2018, on de minimis aid under the program "Support For Scientific Journals" (Journal of Laws 2018, item 1832),
27) Regulation of MNiSW (ENGLISH: Ministry of Science and Higher Education) of November 20, 2018, amending the Regulation on de minimis aid under the program "Support For Scientific Journals" (Journal of Laws 2018, item 2198),
28) Regulation of MNiSW (ENGLISH: Ministry of Science and Higher Education) of October 30, 2018, on methods of providing safe and hygienic conditions of work and education at a university (Journal of Laws 2018, item 2090),
29) Orders of MNiSW (ENGLISH: Ministry of Science and Higher Education) of January 12, 2018, on the appointment of the Advisory Team for preparing the list of scientific journals and publications supporting Polish scientific journals,
30) Announcement of MNiSW (ENGLISH: Ministry of Science and Higher Education) of January 18, 2019, on the list of publishers publishing peer-reviewed scientific monographs,
31) Announcement of MNiSW (ENGLISH: Ministry of Science and Higher Education) of January 25, 2017 on the list of scientific journals along with the number of points awarded for scientific publications in these journals, established on the basis of the lists published in the years 2013-2016,

Part A — containing the number of points for publications in scientific journals with the Impact Factor (IF), included in the Journal Citation Reports (JCR) database,

Part B — containing the number of points for publications in scientific journals without the Impact Factor (IF),

Part C — containing the number of points for publications in scientific journals included in the European Reference Index for the Humanities (ERIH) database,

32) Announcement of MNiSW (ENGLISH: Ministry of Science and Higher Education) of January 18, 2019, on the list of publishers of peer-reviewed scientific monographs,
33) Announcement of MNiSW (ENGLISH: Ministry of Science and Higher Education) of January 25, 2019, regarding the appointment of advisory teams for the lists of scientific journals and peer-reviewed materials from international conferences,
34) Announcement of the MNiSW (ENGLISH: Ministry of Science and Higher Education) of January 16, 2019, on cost-intensity coefficients established for particular fields of full-time first and second cycle studies, as well as uniform master's studies, and for full-time doctoral studies (Annex to the Announcement of MNiSW (ENGLISH: Ministry of Science and Higher Education) of January 16, 2019),
35) Draft Regulation of MNiSW (ENGLISH: Ministry of Science and Higher Education) of July 30, 2018, on the evaluation of the quality of scientific activity,
36) Draft Regulation of MNiSW (ENGLISH: Ministry of Science and Higher Education) of July 31, 2018, on data processed in the Integrated System of Information on Higher Education and Science "POL-on",
37) Draft Regulation of MNiSW (ENGLISH: Ministry of Science and Higher Education) of October 26, 2018, on the scholarships of the minister responsible for higher education and science for students and outstanding young scientists,
38) Website of MNiSW (ENGLISH: Ministry of Science and Higher Education) — Constitution for Science,
39) Integrated System of Information on Science and Higher Education "POL-on",
40) Order No 27 of the Rector of Gdynia Maritime University of May 31, 2019, regarding the establishment of the Doctoral School at Gdynia Maritime University,
41) Announcement of MNiSW (ENGLISH: Ministry of Science and Higher Education) of July 31, 2019, regarding the list of scientific journals and peer-reviewed materials from international conferences with the assigned number of points.

SEPARATE REGULATIONS

§ 3

1. The establishment, organization, and liquidation of the Doctoral School of Gdynia Maritime University are governed by the Statute.
2. The place of the Doctoral School within the structure of the University is regulated by the University's Organizational Regulations.
3. The detailed recruitment rules for the Doctoral School are defined by the Senate through a resolution.
4. The detailed procedure and rules for doctoral students to submit annual reports on the progress and the level of realization of the education program at the Doctoral School, as

well as the scientific activity resulting from the individual research plan, are defined by the Rector through an order.

5. The detailed procedure, rules, and conditions for conducting activities related to the doctoral proceedings and awarding a doctoral degree, as defined in Article 180 of the Act of July 3, 2018 — on provisions introducing the Act – the Law on Higher Education and Science (Journal of Laws 2018, item 1669, as amended), and Article 192, section 2 of the Act of July 20, 2018 — the Law on Higher Education and Science (Journal of Laws 2018, item 1668, as amended), are defined by the Senate through an resolution.
6. The reporting duties of the entity managing the doctoral school regarding the proper, accurate, and timely inputting, updating, archiving, and deletion of data in the Integrated System of Information on Higher Education and Science "POL-on", as defined in Article 219, section 7, point 2 of the Act of July 3, 2018 — on provisions introducing the Act on Higher Education and Science (Journal of Laws 2018, item 1669, as amended), and Articles 343, section 1, points 18-19, Articles 345, 346, section 1, point 11, and Article 348 of the Act of July 20, 2018 — the Law on Higher Education and Science (Journal of Laws 2018, item 1668, as amended) are defined by the Rector through an order.
7. Social and living matters of doctoral students are defined by the regulations of the doctoral students' parliament.

II DIRECTOR OF THE DOCTORAL SCHOOL

§ 4

1. The Doctoral School is managed by the Director.
2. The Director collaborates with the scientific councils of the University, relevant to the disciplines in which the Doctoral School is conducted, on matters concerning the Doctoral School and doctoral students.

§ 5

1. The duties of the Director of the Doctoral School include, in particular:
   1) managing the Doctoral School of the University,
   2) supervising the correctness and the quality of the education process as well as scientific supervision and the mid-term evaluation procedure,
   3) ensuring conditions for pursuing education at the Doctoral school, including professional internships in the form of conducting classes or participating in their conducting, in an amount not exceeding 60 teaching hours per year, provided that professional internships are included in the education program,
   4) ensuring conditions for conducting scientific activities at the Doctoral School of the University, including research and development work,
   5) taking care of social and living matters of doctoral students,
   6) making decisions in all matters concerning the Doctoral School not reserved for the University's governing bodies,

7) submitting applications to the relevant collegial and single-person bodies of the University in all matters concerning the Doctoral School,
8) performing other duties as prescribed by legal regulations, the Statute of the University, and the resolutions and orders of the University's governing bodies,
9) managing, within the scope of the granted authorization, the financial resources allocated in the University's budget plan for the functioning of the Doctoral School,
10) handling the objections raised by doctoral students in all matters concerning the Doctoral School that are not reserved for the University's governing bodies,
11) issuing administrative decisions, including the refusal of admission to the Doctoral School, the removal of students from the list of doctoral students, and the matters regulated by the Doctoral School's regulations or separate regulations,
12) giving consent for doctoral students to undertake internships and conduct research in scientific institutions outside the University, including supporting grant activities and national and international mobility of doctoral students,
13) establishing and making public the detailed rules and the recruitment process at the Doctoral School that is held in the form of a competition, including the schedule of the qualification procedure and the conditions for its adoption as well as the criteria and the number of points that can be obtained for individual elements of the recruitment process,
14) establishing the regulations of the Doctoral School,
15) developing the education program of the Doctoral School, including the professional internship program, if professional internships are included in the education program,
16) collaborating with the scientific councils of the University in appointing the supervisor or supervisors for doctoral students,
17) collaborating with the socio-economic environment in the field of doctoral education,
18) collaborating with the doctoral students' parliament,
19) organizing the staffing within the educational program,
20) appointing the three-person committee conducting the mid-term evaluation of doctoral students,
21) preparing an annual report on the activities of the Doctoral School and submitting it to the Rector by the end of November each year for the previous academic year,
22) preparing a self-assessment report in Polish and English for the Doctoral School's evaluation,
23) coordinating the activities of the Doctoral School so as to obtain the positive evaluation,
24) properly, accurately, and timely inputting, updating, archiving, and deleting data in the Integrated System of Information on Higher Education and Science "POL-on,"
25) supervising the collection of documentation related to the educational process in the Doctoral School,
26) defining the structure, tasks, competencies, and the scope of duties of the Doctoral School staff.

III SCIENTIFIC COUNCILS OF THE DOCTORAL SCHOOL

§ 6

1. The scientific councils of the University, operating within the faculties, are opinion-forming and advisory bodies for the Doctoral School.
2. The tasks of the scientific councils include, among others:

1) reviewing the education program, including the professional internship program of the Doctoral School,
2) reviewing the guidelines and principles for preparing individual research plans for students of the Doctoral School,
3) reviewing the procedure and rules for conducting the mid-term evaluation of students of the Doctoral School,
4) assessing the eligibility of candidates for the committee conducting the mid-term evaluation of students of the Doctoral School,
5) reviewing the self-assessment report for the purposes of evaluating the quality of education in the Doctoral School,
6) reviewing the annual report on the activities of the Doctoral School.

IV RIGHTS AND OBLIGATIONS OF DOCTORAL STUDENTS

§ 7

1. A doctoral student has the right to:

1) hold a doctoral student ID card,
2) a doctoral scholarship, which cannot exceed 4 years, provided that the student does not have the degree of doctor. The amount of the scholarship may depend on the student's achievements,
3) apply for accommodation in the dormitory of the University or meals in the student cafeteria, according to the rules set out in separate regulations,
4) apply for accommodation for a spouse or a child in the dormitory of the University, in accordance with the principles set out in separate regulations,
5) vacation breaks not exceeding 8 weeks per year,
6) suspend studies for a period corresponding to the length of maternity leave, leave under conditions of maternity leave, paternity leave, or parental leave, as defined in the Act of June 26, 1974 - the Labour Code (consolidated text: Journal of Laws of 2019, item 1040, as amended),
7) apply for an extension of the deadline for submitting the doctoral dissertation, but no longer than 2 years,
8) submit applications for reconsideration of the decisions regarding their removal from the list of doctoral students, as set out in the article 203 section 3 of the Act,
9) join organizations or associations of doctoral students within the entity running the doctoral school,

10) receive scientific supervision from the supervisor or supervisors regarding the preparation of the doctoral dissertation,
11) change the supervisor or supervisors in justified cases,
12) use laboratories, equipment, and research facilities, as well as library collections and IT resources necessary to realize the education program and the individual research plan, and to prepare the doctoral dissertation, in accordance with the principles set out in separate regulations,
13) receive support in preparing grant applications,
14) pursue scientific internships.

§ 8

1. A doctoral student is obliged to:
1) comply with the provisions of these Regulations, the regulations for the management of copyright, related rights, industrial property rights and the principles of commercialization and the use of research infrastructure,
2) diligently and responsibly realize the education program and the individual research plan,
3) act in accordance with the doctoral student's oath,
4) adhere to the Code of Ethics for doctoral students,
5) participate in the courses included in the education program,
6) pursue professional internships in the form of conducting classes or participating in their conducting, in an amount not exceeding 60 teaching hours per year, provided that professional internships are included in the education program,
7) submit an annual report, along with the opinion of the supervisor or supervisors, on the progress in the realization of the education program as well as the results and progress of the tasks specified in the individual research plan. The annual report shall be submitted by the end of October each year for the previous academic year, as set out in § 3 section 5,
8) report scientific achievements which result from the studies at the Doctoral school for the purposes of evaluating the quality of scientific activity,
9) submit a statement for the purposes of the evaluation of scientific activity, authorizing the University to report scientific achievements within the discipline in which the doctoral dissertation is prepared, or in one of the disciplines included in the field in which the doctoral dissertation is prepared,
10) have an electronic researcher identifier (ORCID) in line with the international standards,
11) submit data and information for the needs of reporting in the Integrated Information System for Higher Education and Science "POL-on",
12) respect the principles and the regulations of fire safety as well as occupational health and safety,
13) promptly notify the Director of the Doctoral School about any changes of the name and the address as well as the change of other data required by the University.

V PROCEDURE FOR APPOINTING AND CHANGING A SUPERVISOR, SUPERVISORS OR AN ASSISTANT SUPERVISOR

§ 9

1. The scientific supervision of the preparation of the doctoral dissertation shall be carried out by:
   1) a supervisor or supervisors, or
   2) a supervisor and an assistant supervisor.
2. A supervisor may be a person holding:
   1) the degree of habilitated doctor, or
   2) the title of professor, or
   3) a person without the degree of habilitated doctor or the title of professor, who is an employee of a foreign higher education institution or a research institution, and if the Senate deems that the person has significant achievements in the field comprising the issues in which the doctoral dissertation is prepared.
3. An assistant supervisor can be a person holding the degree of doctor.

§ 10

1. A supervisor shall not be a person who within the last 5 years:
   1) was the supervisor for 4 doctoral students who were removed from the list of doctoral students due to a negative mid-term evaluation, or
   2) supervised the preparation of doctoral dissertations of at least 2 persons applying for a doctoral degree who did not receive positive reviews.

§ 11

1. Within 3 months of commencing the studies, a doctoral student shall be assigned a supervisor, or supervisors, or a supervisor and an assistant supervisor.
2. The doctoral student within 30 days of commencing the studies shall submit a written application to the Rector for the appointment of a supervisor or supervisors.
3. The application shall include:
   1) a proposal of candidates to perform the role of a supervisor or supervisors, or a supervisor and an assistant supervisor,
   2) the consent of the proposed candidates to perform the role of supervisor,
   3) the register and the description of the scientific achievements to date,
   4) the concept of research which the doctoral student plans to conduct.
4. The doctoral student shall submit the application mentioned in point 2 through the Director of the Doctoral School.
5. The application for the appointment of a supervisor or supervisors, or a supervisor and an assistant supervisor, requires the opinion of the Director of the Doctoral School.
6. The Rector sends the application for the appointment of a supervisor or supervisors to the relevant scientific council of the University.

7. The scientific council evaluates the application for the appointment of a supervisor or supervisors, or a supervisor and an assistant supervisor and appoints a supervisor or supervisors, or a supervisor and an assistant supervisor.
8. The scientific council may change the supervisor or the assistant supervisor upon a written application from the candidate, the supervisor, or the council's chairperson. The application for the change of the supervisor or the assistant supervisor shall include justification. If the application comes from the candidate, it shall also include the opinion of the Director of the Doctoral School. The application for the change of the supervisor or the assistant supervisor shall be submitted to the Rector by the Director of the Doctoral School.

VI CONDITIONS FOR EXTENDING THE DEADLINE FOR SUBMITTING THE DOCTORAL DISSERTATION

§ 12

1 The Director of the Doctoral School may extend the deadline for submitting the doctoral dissertation in justified cases, including:
1) unforeseen events,
2) temporary inability to pursue education due to illness,
3) the doctoral student's disability that is certified,
4) the necessity of providing personal care for an ill family member,
5) the necessity of providing personal care for a child up to the age of four or a child with the certified disability,
6) the necessity of conducting long-term scientific research; upon the doctoral student's application, the deadline for submitting the doctoral dissertation determined in the individual research plan may be extended, but not for more than 2 years.

§ 13

1. The application for an extension shall include:
1) doctoral student's details: first name, last name and the PESEL number; if the doctoral student does not have it - the number of a document confirming identity, as well as an indication of the semester in which the student is pursuing the studies,
2) justification for the extension, including the new expected submission date.
2. The application shall be accompanied by:
1) the opinion of the supervisor, supervisors, or the assistant supervisor – in the case referred to in §12, section 1, point 6 or
2) documents justifying the application to extend the submission of the dissertation – in the cases referred to in §12, section 1, points 1-5.

§ 14

The Director of the Doctoral School, upon the doctoral student's application, shall suspend education for a period corresponding to the duration of maternity leave, leave under conditions of maternity leave, paternity leave, and parental leave, as set out in the Act of June 26, 1974 — the Labour Code (consolidated text: Journal of Laws of 2019, item 1024, as amended).

§ 15

The applications referred to in § 12 section 1 item 6 and in § 13 shall be considered by the Director of the Doctoral School within 14 days from the date of their submission.

§ 16

Doctoral students' objections to the decisions of the Director of the Doctoral School shall be handled by the Rector/Deputy Rector for Science.

VII PROCEDURE FOR CONDUCTING THE MID-TERM EVALUATION

§ 17

1. The mid-term evaluation shall be performed during the fourth semester of education in the Doctoral school.
2. The evaluation concerns the progress of the individual research plan of the doctoral student, including the timeliness and the quality of the performed tasks resulting from the schedule for the preparation of the dissertation.
3. The mid-term evaluation concludes with either a positive or negative result.
4. The result of the evaluation along with its justification is public.
5. The doctoral student may appeal the result of the mid-term evaluation to the Director of the Doctoral School.
6. The appeal along with its justification shall be submitted within 7 days upon the publication of the results of the evaluation.

§ 18

1. The mid-term evaluation shall be conducted by the committee for the mid-term evaluation of doctoral students, hereinafter referred to as the committee, which consists of three members, including at least one person with the degree of habiltated doctor or the title of professor in the discipline related to the dissertation, not employed by the entity that runs the Doctoral School.

2. The supervisor, the supervisors and the assistant supervisor shall not be the members of the committee.
3. The committee shall conduct the mid-term evaluation on the basis of a self-report prepared and presented by the doctoral student concerning the progress of the preparation of the doctoral dissertation and a discussion during which the doctoral student is asked questions. The committee's meeting on the mid-term evaluation shall be documented in the minutes of this meeting.
4. The committee referred to in section 1 shall be appointed by the Director of the Doctoral School.

VIII. PRINCIPLES OF PURSUING EDUCATION

§ 19

1. Admission to the Doctoral School is conducted by enrollment on the list of doctoral students.
2. A doctoral student commences education and acquires the rights of a doctoral student upon taking the oath.
3. A person shall be a doctoral student only in one doctoral school at a time.
4. No fees are charged for the education of doctoral students at the Doctoral School.
5. The academic year lasts from October 1st to September 30th and is divided into two semesters.

§ 20

1. Doctoral education at the Doctoral School:
   1) is conducted in the form of full-time studies and lasts 8 semesters.
   2) is based on the education program, the realization of which shall be evaluated according to the grading scale adopted at the University and the individual research plan.
   3) prepares students to obtain a doctoral degree.
   4) concludes with the submission of the doctoral dissertation.
2. The doctoral dissertation shall demonstrate the general theoretical knowledge of the doctoral student in the discipline or the disciplines and the ability to conduct independently scientific work.
3. The doctoral dissertation may present an original solution to a scientific problem or an original application of the student's own research results in the economic or social sphere.
4. The doctoral dissertation may be a written work, including a scientific monograph, a collection of published and thematically related scientific articles with the self-report, project work, construction work, technological work, or implementation work, as well as an independent and distinct part of a collective work.
5. The education of the doctoral student concludes with the submission of the doctoral dissertation. The doctoral dissertation along with the application for the initiation of the doctoral degree awarding procedure shall be submitted through the Director of the Doctoral School to the Rector. The detailed procedure for granting the doctoral degree is set out in the University's Regulations on the Awarding of Academic Degrees.

§ 21

1. The education program is determined by the Senate, with the requirement to consult the doctoral students' council. If the consultation deadline specified in the Statute has passed without response, the consultation requirement shall be considered fulfilled.
2. The education program may include the pursuit of professional internships in the form of conducting classes or participating in their conducting, in an amount not exceeding 60 teaching hours per year.

§ 22

1. In consultation with the supervisor or the supervisors, the doctoral student shall develop an individual research plan and shall submit it to the Director of the Doctoral School no later than 12 months after the commencement of education.
2. If an assistant supervisor is appointed, the plan shall be submitted after being reviewed by this supervisor.

§ 23

1. The individual research plan of the doctoral student shall specify, in particular:
   1) the deadline for submitting the doctoral dissertation,
   2) the deadline for submitting at least one scientific article for publication in a scientific journal or peer-reviewed international conference proceedings which in its final form were included in the list prepared in accordance with the regulations based on the Article 267, section 2, point 2a of the Act of July 20, 2018 — the Law on Higher Education and Science (Journal of Laws 2018, item 1668), or 1 scientific monograph published by a publisher in the year in which this publisher was included in the list prepared in accordance with the regulations based on the Article 267, section 2, point 2a of the Act of July 20, 2018 — the Law on Higher Education and Science (Journal of Laws 2018, item 1668) or a chapter in such a monograph,
   3) the obligation to participate in a national or international scientific conference,
   4) the obligation to prepare and submit a grant application to a national or international agency financing scientific activities through a competitive procedure,
   5) the optional participation in organizing a national or international scientific conference,
   6) the optional pursuit of at least a three-month scientific internship at a national or international Higher Education Institution,
   7) the optional preparation of a scientific review,
   8) the optional dissemination of research results R&D on the principles of open access.

§ 24

1. The education program and the individual research plan takes into account the second-degree learning outcomes for qualifications at level 8 of the Polish Qualifications Framework, typical of qualifications gained within the higher education and science system, after obtaining full qualifications at level 4 of the Polish Qualifications Framework, including:
   1) the category of knowledge, in relation to which the characteristics define:
      a) scope and depth - completeness of the cognitive perspective and relationships,
      b) context - conditions, effects;
   2) the category of skills, in relation to which the characteristics define:
      a) in the scope of knowledge use - solved problems and performed tasks,
      b) in the scope of communication - construing and formulating statements, disseminating knowledge in the scientific community and using a foreign language,
      c) in the scope of work organization - planning and teamwork,
      d) in the scope of learning - planning one's own development and the development of other people;
   3) the category of social competences, in relation to which the characteristics define:
      a) in the scope of evaluations - critical approach,
      b) in the scope of responsibility - fulfilling social obligations and acting for the public interest,
      c) in relation to the professional role - independence and development of ethos.

§ 25

1. A doctoral student is removed from the list of doctoral students in the following cases:
   1) a negative result of the mid-term evaluation,
   2) failure to submit the doctoral dissertation by the deadline specified in the individual research plan,
   3) voluntary resignation from the doctoral program.
2. A doctoral student may be removed from the list of doctoral students in the following cases:
   1) unsatisfactory progress in preparing the doctoral dissertation,
   2) failure to meet the obligations arising from the doctoral school regulations, the education program, or the individual research plan.

§ 26

Removal from the list of doctoral students shall be executed through an administrative decision. The decision may be appealed to the Director for reconsideration of the matter.

§ 27

1. If doctoral education is discontinued in at least one discipline in the Doctoral School, the entity running the Doctoral school ensures that the doctoral students preparing dissertations in this discipline can continue their education in another doctoral school in that discipline.
2. In the absence of a doctoral school offering education in a given discipline, the entity running the Doctoral school in which education was discontinued shall cover the costs of the proceedings for awarding a doctoral degree in an external process for students who have lost the opportunity to conclude their education.

IX. PROCEDURE FOR DOCUMENTING THE COURSE OF EDUCATION

§ 28

1. The Doctoral School shall document the course of education.
2. The documentation of the course of education at the Doctoral School shall include:

1) the doctoral students' register book,

2) personal records of the doctoral students,

3) the doctoral student's record of periodic achievements, including annual reports by the doctoral student along with the opinion of the supervisor or the supervisors,

4) the individual research plan along with the schedule for the preparation of the doctoral dissertation,

5) the self-report of the mid-term evaluation along with the mid-term evaluation report.

3. The documentation of the course of education at the Doctoral School is maintained in an electronic form.

Order No. 45
Rector of Gdynia Maritime University
of October 3, 2024
RRP/0132/45/2024

on the announcement of the consolidated text of the Regulations of the Doctoral School of Gdynia Maritime University

Based on Article 23, Sections 1 and 2 of the Act of July 20, 2018 – Law on Higher Education and Science (Journal of Laws of 2023, item 742, as amended) and § 17 of the Statute of Gdynia Maritime University, I hereby order as follows:

§ 1

1. The consolidated text of the Regulations of the Doctoral School of Gdynia Maritime University ("Regulations") is hereby announced, incorporating the changes introduced by the Resolutions of the Senate of Gdynia Maritime University
   1) No. 84/XVII dated January 20, 2022;
   2) No. 249/XVII dated March 21, 2024.
2. The consolidated text of the Regulations constitutes the annex to this order.

§ 2

This regulation enters into force on the day of its signing.

RECTOR

Prof. Dr Hab. Eng. Capt. Adam Weintrit

Annex to Order No. 45 of Rector of Gdynia Maritime University of October 3, 2024

Gdynia Maritime University

REGULATIONS OF THE DOCTORAL SCHOOL

Consolidated text reflecting amendments introduced by:
1. Resolution No. 84/XVII of the Senate of Gdynia Maritime University of January 20, 2022
2. Resolution No. 249/XVII of the Senate of Gdynia Maritime University of March 21, 2024

I. GENERAL PROVISIONS

§ 1

1. The Regulations of the Doctoral School of Gdynia Maritime University hereinafter referred to as the "Regulations," define the procedures and organization of education at the Doctoral School, as well as the related rights and obligations of doctoral students.
2. *repealed*
3. *repealed*
4. The Regulations shall come into force on the date of adoption, with effect from October 1, 2019.
5. Whenever the Regulations refer to:

1) Senate — this refers to the Senate of Gdynia Maritime University,
2) Statute — this refers to the Statute of Gdynia Maritime University,
3) University — this refers to Gdynia Maritime University,
4) doctoral student — this refers to a person pursuing education at the Doctoral School, as a young researcher in the meaning of Article 360, section 2, point 1 of the Act of July 20, 2018 — the Law on Higher Education and Science (Journal of Laws 2018, item 1668, as amended),
5) doctoral dissertation — this refers to the work presenting the general theoretical knowledge of the doctoral student in a discipline or disciplines, and the ability to independently conduct scientific work; the doctoral dissertation may be an original solution to a scientific problem or an original solution in the application of the results of the doctoral student's own research in the economic or social sphere; the doctoral dissertation may be a written work, including a scientific monograph, a collection of published and thematically related scientific articles, project work, construction work, technological work, or implementation work, as well as an independent and distinct part of a collective work,
6) supervisor — this refers to a person entrusted with the scientific supervision over the preparation of the doctoral dissertation by the doctoral student,
7) individual research plan — this shall be understood as tasks that are qualitatively and temporally defined and that result from the schedule for the preparation of the doctoral dissertation, approved by the relevant scientific council of the University.

§ 2

repealed

§ 3

1. The establishment, organization, and liquidation of the Doctoral School of Gdynia Maritime University are regulated by the Statute.
2. The place of the Doctoral School within the structure of the higher education institution is regulated by the University’s Organizational Regulations.

3. The detailed recruitment rules for the Doctoral School are defined by the Senate through a resolution.
4. The detailed procedure and rules for doctoral students to submit annual reports on the progress and the level of realization of the education program at the Doctoral School, as well as the scientific activity resulting from the individual research plan, are defined by the Rector through an order.
5. The detailed procedure, rules, and conditions for conducting activities related to the doctoral proceedings and awarding a doctoral degree, as defined in Article 180 of the Act of July 3, 2018 — on provisions introducing the Act – the Law on Higher Education and Science (Journal of Laws 2018, item 1669, as amended), and Article 192, section 2 of the Act of July 20, 2018 — the Law on Higher Education and Science (Journal of Laws 2018, item 1668, as amended), are defined by the Senate through an order.
6. The reporting duties of the entity managing the Doctoral School regarding the proper, accurate, and timely inputting, updating, archiving, and deletion of data in the Integrated System of Information on Higher Education and Science "POL-on", as defined in Article 219, section 7, point 2 of the Act of July 3, 2018 — on provisions introducing the Act on Higher Education and Science (Journal of Laws 2018, item 1669, as amended), and Articles 343, section 1, points 18-19, Articles 345, 346, section 1, point 11, and Article 348 of the Act of July 20, 2018 — the Law on Higher Education and Science (Journal of Laws 2018, item 1668, as amended) are defined by the Rector through an order.
7. *repealed*

II. DIRECTOR OF THE DOCTORAL SCHOOL

§ 4

1. The Doctoral School is managed by the Director.
2. The Director collaborates with the scientific councils of the University, relevant to the disciplines which the Doctoral School is conducted, on matters concerning the Doctoral School and doctoral students.

§ 5

1. The duties of the Director of the Doctoral School include, in particular:
   1) managing the Doctoral School of the University,
   2) supervising both the correctness and the quality of the education process and scientific supervision as well as the procedure of the mid-term evaluation of doctoral students along with the evaluation of the quality of the supervision,
   3) ensuring conditions for pursuing education at the Doctoral School, including professional internships in the form of conducting classes or participating in their conducting,
   4) ensuring conditions for conducting scientific activities at the Doctoral School of the University, including research and development work,
   5) taking care of social and living matters of doctoral students,

6) making decisions in all matters concerning the Doctoral School not reserved for the University's governing bodies,
7) submitting applications to the relevant collegial and single-person bodies of the University in all matters concerning the Doctoral School,
8) performing other duties as prescribed by legal regulations, the Statute of the University, and the resolutions and orders of the University's governing bodies,
9) *repealed*
10) handling the objections raised by doctoral students in all matters concerning the Doctoral School that are not reserved for the University's governing bodies,
11) issuing administrative decisions, including the refusal of admission to the Doctoral School, the removal of students from the list of doctoral students, and the matters regulated by the Doctoral School's regulations or separate regulations,
12) giving consent for doctoral students to undertake internships and conduct research in scientific institutions outside the University, including supporting grant activities and national and international mobility of doctoral students,
13) establishing and making public the detailed rules and the recruitment process at the Doctoral School that is held in the form of a competition, including the schedule of the qualification procedure and the conditions for its adoption as well as the criteria and the number of points that can be obtained for individual elements of the recruitment process,
14) establishing the regulations of the Doctoral School in cooperation with the scientific councils of the University and the doctoral students' parliament,
15) developing the education program of the Doctoral School in cooperation with the scientific councils of the University and the doctoral students' parliament,
16) collaborating with the scientific councils of the University in appointing the supervisor or supervisors, or the supervisor and the assistant supervisor, including the assessment of their eligibility,
17) collaborating with the socio-economic environment in the field of doctoral education,
18) collaborating with the doctoral students' parliament,
19) organizing the staffing within the educational program,
20) appointing in cooperation with the scientific councils of the higher education institution the three-person committee conducting the mid-term evaluation of doctoral students and the evaluation of the doctoral supervision,
21) preparing an annual report on the activities of the Doctoral School and submitting it to the Rector by the end of December each year for the previous academic year,
22) preparing a self-assessment report in Polish and English for the Doctoral School's evaluation,
23) coordinating the activities of the Doctoral School so as to obtain the positive evaluation,
24) properly, accurately, and timely inputting, updating, archiving, and deleting data in the Integrated System of Information on Higher Education and Science "POL-on,"
25) supervising the collection of documentation related to the educational process in the Doctoral School,
26) defining the structure, tasks, competencies, and scope of duties of the Doctoral School staff.

III. SCIENTIFIC COUNCILS OF THE DOCTORAL SCHOOL

§ 6

1. The scientific councils of University, operating within the faculties and institutions, are opinion-forming and advisory bodies for the Doctoral School.
2. The tasks of the scientific councils include, among others:
   1) reviewing the education program, including the professional internship program of the Doctoral School,
   1a) appointing supervisors taking into consideration their affiliation to the scientific discipline, qualitative and quantitative parameters of the current scientific achievements and the previously or currently performed function of supervisor, taking into account:
      a) increasing the publication record in the last 5 years in the scientific discipline in which the doctoral dissertation is to be prepared by at least 3 publications published in the scientific journals included in the list of scientific journals and peer-reviewed materials from international conferences announced by the relevant minister responsible for science and higher education,
      b) the lack of a negative evaluation of the quality of supervision referred to in § 17 section 2 item 2 in the last 2 years,
      c) ensuring the performance of the supervisor function for no more than 3 doctoral students of the Doctoral School,
   1b) appointing assistant supervisors,
   2) reviewing the guidelines and principles for preparing individual research plans for students of the Doctoral School,
   3) reviewing the procedure and rules for conducting the mid-term evaluation of students of the Doctoral School and the quality of the supervision to ensure high diligence of this process,
   4) assessing the eligibility of candidates for the committee conducting the mid-term evaluation of students of the Doctoral School and the evaluation of the quality of supervision,
   5) reviewing the self-assessment report for the purposes of evaluating the quality of education in the Doctoral School,
   6) reviewing the annual report on the activities of the Doctoral School.

IV. RIGHTS AND OBLIGATIONS OF DOCTORAL STUDENTS

§ 7

1. A doctoral student has the right to:
   1) hold a doctoral candidate ID card,
   2) a doctoral scholarship under the terms set out in Article 209 of the Act on Higher Education and Science (Journal of Laws of 2018, item 1668, as amended),

3) apply for accommodation in the dormitory of the University or meals in the student cafeteria, according to the rules set out in separate regulations,
4) apply for accommodation for a spouse or a child in the dormitory of the University, in accordance with the principles set out in separate regulations,
5) vacation breaks not exceeding 8 weeks per year,
6) suspend studies for a period corresponding to the length of maternity leave, leave under conditions of maternity leave, paternity leave, or parental leave, as defined in the Act of June 26, 1974 - the Labour Code (consolidated text: Journal of Laws of 2019, item 1040, as amended),
7) apply for an extension of the deadline for submitting the doctoral dissertation, but no longer than 2 years,
8) submit applications for reconsideration of the decisions regarding their removal from the list of doctoral students, as set out in the article 203 section 3 of the Act,
9) join organizations or associations of doctoral students within the entity running the Doctoral School,
10) receive scientific supervision from the supervisor or supervisors, or the supervisor and the assistant supervisor regarding the preparation of the doctoral dissertation,
11) change the supervisor or supervisors in justified cases,
12) use laboratories, equipment, and research facilities, as well as library collections and IT resources necessary to realize the education program and the individual research plan, and to prepare the doctoral dissertation, in accordance with the principles set out in separate regulations,
13) receive support in preparing grant applications,
14) pursue scientific internships.

§ 8

1. A doctoral student is obliged to:
   1) comply with the provisions of these Regulations, the Regulations concerning the management of copyright, related rights, industrial property rights and the principles of commercialization in Gdynia Maritime University and the regulations concerning the use of research infrastructure of Gdynia Maritime University,
   2) diligently and responsibly realize the education program and the individual research plan,
   3) act in accordance with the doctoral student's oath,
   4) adhere to the Code of Ethics for doctoral students,
   5) participate in the courses included in the education program,
   6) pursue professional internships in the form of conducting classes or participating in their conducting, with the supervisor or supervisors or the dean being responsible for allocating internship hours in the case when the supervisor’s primary place of employment is another university or research institute,
   7) submit an annual report, along with the opinion of the supervisor or supervisors, on the progress in the realization of the education program as well as the results and progress of the tasks specified in the individual research plan. The annual report shall be submitted by the end of October each year for the previous academic year, with the exception of

fourth-year doctoral students who are obliged to submit this report along with other documents required to complete their education at the Doctoral School, if this occurs before 31 October of the given calendar year,

8) report scientific achievements which result from the studies at the Doctoral School for the purposes of evaluating the quality of scientific activity of the University,
9) submit statements for the purposes of the evaluation of scientific activity of the University, authorizing the higher education institution to report scientific achievements within the discipline in which the doctoral dissertation is prepared, or in one of the disciplines included in the field in which the doctoral dissertation is prepared,
10) have an electronic researcher identifier (ORCID) in line with the international standards,
11) submit data and information for the needs of reporting in the Integrated Information System for Higher Education and Science "POL-on",
12) respect the principles and the regulations of fire safety as well as occupational health and safety,
13) promptly notify the Director of the Doctoral School about any changes of the name and the address as well as the change of other data required by the University.

V. PROCEDURE FOR APPOINTING AND CHANGING A SUPERVISOR, SUPERVISORS OR AN ASSISTANT SUPERVISOR

§ 9

1. The scientific supervision of the preparation of the doctoral dissertation shall be carried out by:
   1) a supervisor or supervisors, or
   2) a supervisor and an assistant supervisor.
2. A supervisor shall be a person holding:
   1) at least the degree of habilitated doctor, or
   2) repealed
   3) a person without the degree of habilitated doctor or the title of professor, who is an employee of a foreign university or a research institution, and if the Senate deems that the person has significant achievements in the field comprising the issues in which the doctoral dissertation is prepared.
3. An assistant supervisor shall be a person holding at least the degree of doctor.

§ 10

A supervisor shall not be a person who within the last 5 years:

1) was the supervisor for 4 doctoral students who were removed from the list of doctoral students due to a negative mid-term evaluation, or
2) within the last 5 years) in the last 5 years, supervised the preparation of doctoral dissertations of at least 2 persons applying for a doctoral degree who did not receive positive reviews.

§ 11

1. Within 3 months of commencing the studies, a doctoral student shall be assigned a supervisor, or supervisors, or a supervisor and an assistant supervisor.
2. The doctoral student within 30 days of commencing the studies shall submit a written application to the Rector for the appointment of a supervisor or supervisors, or a supervisor and an assistant supervisor.
3. The application shall include:
   1) a proposal of candidates to perform the role of a supervisor or supervisors, or a supervisor and an assistant supervisor,
   2) the consent of the proposed candidates to perform the role of supervisor,
   3) the list and the description of the scientific achievements to date,
   4) the concept of research which the doctoral student plans to conduct.
4. The doctoral student shall submit the application mentioned in point 2 through the Director of the Doctoral School.
5. The application for the appointment of a supervisor or supervisors, or a supervisor and an assistant supervisor, requires the opinion of the Director of the Doctoral School.
6. The Rector sends the application for the appointment of a supervisor or supervisors, or a supervisor and an assistant supervisor to the relevant scientific council of the higher education institution.
7. The scientific council evaluates the application for the appointment of a supervisor or supervisors, or a supervisor and an assistant supervisor and appoints a supervisor or supervisors, or a supervisor and an assistant supervisor, taking into account the requirements and the restrictions described in **§** 10**.**
8. The scientific council may change the supervisor or the assistant supervisor upon a written application from the doctoral student, the supervisor, or the council's chairperson. The application for the change of the supervisor or the assistant supervisor shall include justification. If the application comes from the doctoral student, it shall also include the opinion of the Director of the Doctoral School. The application for the change of the supervisor or the assistant supervisor shall be submitted to the Rector by the Director of the Doctoral School.

VA. EVALUATION OF THE QUALITY OF SUPERVISION AND EVALUATION OF ACADEMIC TEACHERS OF THE DOCTORAL SCHOOL

§ 11a

1. The quality of supervision shall be evaluated on the basis of:
   1) anonymous questionnaires completed by doctoral students annually at the end of each academic year,
   2) the evaluation conducted by the Committee referred to in § 18.
2. The principles for conducting the questionnaires and the evaluation referred to in point 1 shall be determined in separate regulations.

3. The evaluation of an academic teacher related to the fulfillment of teaching responsibilities shall conducted on the basis of anonymous questionnaires completed by doctoral students annually at the end of each academic year.

VI. CONDITIONS FOR EXTENDING THE DEADLINE FOR SUBMITTING A DOCTORAL DISSERTATION

§ 12

1 The Director of the Doctoral School may extend the deadline for submitting the doctoral dissertation in justified cases, including:
   1) unforeseen events,
   2) temporary inability to pursue education due to illness,
   3) the doctoral student's disability that is certified,
   4) the necessity of providing personal care for an ill family member,
   5) the necessity of providing personal care for a child up to the age of four or a child with the certified disability,
   6) the necessity of conducting long-term scientific research; upon the doctoral student's application, the deadline for submitting the doctoral dissertation determined in the individual research plan may be extended, but not for more than 2 years.

§ 13

1. The application for an extension shall include:
   1) doctoral student's details: first name, last name and the PESEL number; if the doctoral student does not have it - the number of a document confirming identity, as well as an indication of the semester in which the student is pursuing the studies,
   2) justification for the extension, including the new expected submission date.
2. The application shall be accompanied by:
   1) the opinion of the supervisor, supervisors, or the assistant supervisor – in the case referred to in §12, section 1, point 6 or
   2) documents justifying the application to extend the submission of the dissertation – in the cases referred to in §12, section 1, points 1-5.

§ 14

The Director of the Doctoral School, upon the request of the doctoral student, suspends education for the duration corresponding to the period of maternity leave, leave under the conditions of maternity leave, paternity leave, or parental leave, as specified in the Act of 26 June 1974 — the Labour Code (Journal of Laws of 2022, item 1510, as amended).

§ 15

The Director of the Doctoral School considers the applications referred to in § 12 section 1 point 6 and § 13 within 14 days from their submission.

§ 16

Doctoral students' objections to the decisions of the Director of the Doctoral School shall be handled by the Rector/Deputy Rector for Science.

VII. PROCEDURE FOR CONDUCTING THE MID-TERM EVALUATION

§ 17

1. The mid-term evaluation is performed during the fourth semester of education in the Doctoral School.
2. The mid-term evaluation relates to the evaluation of:
   1) the doctoral student's progress in realizing their individual research plan, particularly the timeliness and the quality of the performed tasks resulting from the schedule for the preparation of the dissertation,
   2) the quality of supervision.
3. The mid-term evaluation concludes with either a positive or negative result.
4. The result of the evaluation referred to in section 2 point 1 along with its justification is public.
5. The doctoral student has the right to appeal the result of the mid-term evaluation referred to in section 2 point 1 to the Director of the Doctoral School.

5a. The supervisor or the supervisors have the right to appeal the result of the evaluation referred to in section 2 point 2 to the Deputy Rector for Science along with its justification.

6. The deadline for submitting the appeal, along with justification, is seven days from the publication of the evaluation results.

§ 18

1. The mid-term evaluation shall be conducted by the committee for the mid-term evaluation of doctoral students and the quality of supervision, hereinafter referred to as the committee, which consists of three members, including at least one person with the scientific degree of habilitated doctor in the discipline within which the doctoral dissertation is prepared, not employed by the entity that runs the Doctoral school; or a person who does not hold the degree of habilitated doctor or the title of professor, who is an employee of a foreign higher education institution or a scientific institution, and if the Senate deems that this person has significant achievements in the field relevant to the doctoral dissertation .

2. The committee referred to in section 1 shall be appointed by the Director of the Doctoral School.
3. The supervisor, the supervisors and the assistant supervisor shall not be the members of the committee.
4. The committee shall conduct the mid-term evaluation on the basis of:
   1) in the case of the evaluation referred to in § 17, section 2 point 1 - a self-report prepared and presented by the doctoral student concerning the progress of the preparation of the doctoral dissertation and a discussion during which the doctoral student is asked questions.
   2) in the case of the evaluation referred to in § 17, section 2 point 2 – the oral interview with the supervisor or the supervisors.
5. The evaluation referred to in § 17, section 2 point 1 shall be documented in a special evaluation form, which constitutes the evidence of the evaluation. The special evaluation form shall be signed by all members of the committee for the mid-term evaluation.

VIII. PRINCIPLES OF EDUCATION

§ 19

1. Admission to the Doctoral School is conducted through enrollment on the list of doctoral students.
2. A doctoral student begins their education and acquires the rights of a doctoral student upon taking the oath.
3. An individual may only be a doctoral student at one doctoral school at a time.
4. No fees are charged for educating doctoral students in the Doctoral School.
5. The academic year runs from October 1 to September 30 and is divided into two semesters.

§ 20

1. Doctoral education at the Doctoral School:
   1) is conducted in the form of full-time studies and lasts 8 semesters.
   2) is based on the education program, the realization of which shall be evaluated according to the grading scale adopted at the higher education institution and the individual research plan.
   3) prepares students to obtain a doctoral degree.
   4) concludes with the submission of the doctoral dissertation.
2. The doctoral dissertation shall demonstrate the general theoretical knowledge of the doctoral student in the discipline or the disciplines and the ability to conduct independently scientific work.
3. The doctoral dissertation may present an original solution to a scientific problem or an original application of the student's own research results in the economic or social sphere.
4. The doctoral dissertation may be a written work, including a scientific monograph, a collection of published and thematically related scientific articles with the self-report,

project work, construction work, technological work, or implementation work, as well as an independent and distinct part of a collective work.

5. The education of the doctoral student concludes with the submission of the doctoral dissertation. The doctoral dissertation along with the application for the initiation of the doctoral degree awarding procedure shall be submitted through the Director of the Doctoral School to the Rector. The detailed procedure for granting the doctoral degree is set out in the Higher Education Institution's Regulations on the Awarding of Academic Degrees.

§ 21

1. The education program is determined by the Senate, with the requirement to consult the doctoral students' council. If the consultation deadline specified in the Statute has passed without response, the consultation requirement shall be considered fulfilled.
2. The education program may include the pursuit of professional internships in the form of conducting classes or participating in their conducting, in an amount not exceeding 60 teaching hours per year.

§ 22

1. In consultation with the supervisor or the supervisors, the doctoral student shall develop an individual research plan and shall submit it to the Director of the Doctoral School no later than 12 months after the commencement of education.
2. If an assistant supervisor is appointed, the plan shall be submitted after being reviewed by this supervisor.

§ 23

1. The individual research plan of the doctoral student shall specify, in particular:
   1) the deadline for submitting the doctoral dissertation,
   2) the deadline for submitting at least one scientific article for publication in a scientific journal or peer-reviewed international conference proceedings which in its final form were included in the list prepared in accordance with the regulations based on the Article 267, section 2, point 2a of the Act of July 20, 2018 — the Law on Higher Education and Science (Journal of Laws 2018, item 1668), or 1scientific monograph published by a publisher in the year in which this publisher was included in the list prepared in accordance with the regulations based on the Article 267, section 2, point 2a of the Act of July 20, 2018 — the Law on Higher Education and Science (Journal of Laws 2018, item 1668) or a chapter in such a monograph,
   3) the obligation to participate in a national or international scientific conference,
   4) the obligation to prepare and submit a grant application to a national or international agency financing scientific activities through a competitive procedure,
   5) the optional participation in organizing a national or international scientific conference,
   6) the optional pursuit of at least a three-month scientific internship at a national or international higher education institution,

7) the optional preparation of a scientific review,
8) the optional dissemination of research results R&D on the principles of open access.

§ 24

1. The education program and the individual research plan takes into account the second-degree learning outcomes for qualifications at level 8 of the Polish Qualifications Framework, typical of qualifications gained within the higher education and science system, after obtaining full qualifications at level 4 of the Polish Qualifications Framework, including:
   1) the category of knowledge, in relation to which the characteristics define:
      a) scope and depth — completeness of the cognitive perspective and relationships,
      b) context — conditions, effects;
   2) the category of skills, in relation to which the characteristics define:
      a) in the scope of knowledge use – solved problems and performed tasks,
      b) in the scope of communication – construing and formulating statements, disseminating knowledge in the scientific community and using a foreign language,
      c) in the scope of work organization – planning and teamwork,
      d) in the scope of learning – planning one's own development and the development of other people;
   3) the category of social competences, in relation to which the characteristics define:
      a) in the scope of evaluations – critical approach,
      b) in the scope of responsibility – fulfilling social obligations and acting for the public interest,
      c) in relation to the professional role – independence and development of ethos.

§ 25

1. A doctoral student is removed from the list of doctoral students in the following cases:
   1) a negative result of the mid-term evaluation,
   2) failure to submit the doctoral dissertation by the deadline specified in the individual research plan,
   3) voluntary resignation from the doctoral program.
   4) failure to undertake education,
   5) violation of the restrictions referred to in art. 200 sec. 7 of the Act of 20 July 2018 – the Law on Higher Education and Science (Journal of Laws of 2018, item 1668, as amended),
   6) imposition of a disciplinary penalty of expulsion from the Doctoral School.
2. A doctoral student may be removed from the list of doctoral students in the following cases:
   1) unsatisfactory progress in preparing the doctoral dissertation,
   2) failure to meet the obligations arising from the Doctoral School Regulations, the education program, or the individual research plan.

3. In the proceedings on removing a doctoral student from the list of doctoral students, in the cases referred to in § 1 point 5, the doctoral student shall be requested to submit, within a period of no less than 30 days from the date of delivery of the request, a resignation from education at another doctoral school.

§ 26

Removal from the list of doctoral students shall be executed through an administrative decision. The decision may be appealed to the Director for reconsideration of the matter.

§ 27

1. If doctoral education is discontinued in at least one discipline in the Doctoral School, the entity running the Doctoral School ensures that the doctoral students preparing dissertations in this discipline can continue their education in another doctoral school in that discipline.
2. In the absence of a doctoral school offering education in a given discipline, the entity running the Doctoral School in which education was discontinued shall cover the costs of the proceedings for awarding a doctoral degree in an external process for students who have lost the opportunity to conclude their education.

IX. PROCEDURE FOR DOCUMENTING THE COURSE OF EDUCATION

§ 28

1. The Doctoral School shall document the course of education.
2. The documentation of the course of education at the Doctoral School shall include:
    1) the doctoral students' register book,
    2) personal records of the doctoral students,
    3) the doctoral student's record of periodic achievements, including annual reports by the doctoral student along with the opinion of the supervisor or the supervisors,
    4) the individual research plan along with the schedule for the preparation of the doctoral dissertation,
    5) the self-report of the mid-term evaluation along with the mid-term evaluation report.
3. The documentation of the course of education at the Doctoral School is maintained in an electronic form.

Gdynia Maritime University
Faculty of Electrical Engineering

Resolution No 14/2022
of the Scientific Council
of the Faculty of Electrical Engineering of GMU
of June 14, 2022

on the approval of the method and rules for conducting the mid-term evaluation of doctoral students of the Doctoral School of GMU

Pursuant to art. 202 section 2 of the Act of July 20, 2018, the Law on Higher Education and Science (Journal of Laws of 2018, item 1668, as amended) and § 6 point 2, sub-point 4 of the Regulations of the Doctoral School at GMU, the Scientific Council of the Faculty of Electrical Engineering approves the rules for conducting the mid-term evaluation of doctoral students of the Doctoral School at GMU, which constitute the annex to this resolution.

Dean of the Faculty
of Electrical Engineering

Prof. dr hab. Eng. Krzysztof Górecki

Annex to the Resolution of the SC relevant to the discipline of automation, electronics, and electrical engineering

METHOD AND RULES FOR CONDUCTING THE MID-TERM EVALUATION OF DOCTORAL STUDENTS OF THE DOCTORAL SCHOOL OF GDYNIA MARITIME UNIVERSITY

Discipline: automation, electronics and electrical engineering

1. The specific dates for conducting the mid-term evaluation is determined by the Director of the Doctoral School of GMU in consultation with the Chairs of the discipline councils. These dates have to be communicated to doctoral students no later than June 30.

2. The mid-term evaluation is conducted by the Committees appointed in the Doctoral School by the Director in consultation with the Chair of the relevant scientific council of the discipline. The discipline council nominates members of the Committee through discussion and voting. Members of the Committee employed at the University shall not be individuals who were part of the Committee evaluating the Individual Research Plans of doctoral students.

3. Committees are appointed for one academic year.

4. The Committee consists of three members, including:
    a. one person holding the degree of habilitated doctor in the discipline or the title of professor in the field including the discipline in which the doctoral dissertation is prepared, employed outside the University;
    b. two individuals holding the degree of habilitated doctor or the title of professor, employed at the University.

5. The supervisor or supervisors and the assistant supervisor of a doctoral student shall not be members of the Committee conducting the mid-term evaluation of the doctoral student they supervise. A representative of the doctoral students' parliament of GMU may participate in the Committee meetings as an observer.

6. The mid-term evaluation shall demonstrate transparency, objectivity, comparability of the results, and a motivational value. The mid-term evaluation includes the evaluations of the following elements in comparison with the Individual Research Plan submitted by the doctoral student:
    a. progress in the preparation of the doctoral dissertation;
    b. scientific activity, including scientific publications, conference presentations, and grant applications.

7. The scientific discipline council for automation, electronics and electrical engineering, specifies that, by the time of the mid-term evaluation, the doctoral student shall have at least one scientific work published or accepted for publication in a journal listed in the MEiN (Ministerstwo Edukacji i Nauki; English: the Ministry of Education and Science) catalog of ranked journals.

8. The Doctoral School shall develop and provide templates for forms to assist doctoral students in preparing materials for the mid-term evaluation.

9. The Committee conducts the mid-term evaluation on the basis of:
    a. a self-report prepared and presented by the doctoral student;
    b. documentation confirming the doctoral student's activity and the supervisor's opinion;
    c. an interview with the doctoral student conducted during the Committee meeting, including verification of the knowledge within the scope of the realized subject matter and the discipline, in which the dissertation is prepared.

10. The Committee prepares a report of the mid-term evaluation process, which has to be signed by all the members of the Committee.

11. The mid-term evaluation concludes with either a positive or negative result. The result of the evaluation for each doctoral student, along with its justification, is public. A Committee member has the right to submit a dissenting opinion in writing, along with its justification.

12. The result of the mid-term evaluation is determined during a closed meeting of the Committee without the participation of the doctoral student. The Committee decisions are made by a simple majority vote.

13. In the case of a positive evaluation, the Committee conducting the mid-term evaluation may also issue recommendations regarding the realization of the scientific research activities by the doctoral student, preparation of the doctoral dissertation, and the supervisor’s further scientific supervision.

May 24, 2021

Dr hab. Dariusz Barbucha, Prof. of GMU
Deputy Rector for Science
Gdynia Maritime University

Dear Professor Barbucha,

I hereby inform you that, at the request of the Director of the Doctoral School at Gdynia Maritime University, the Scientific Council of the Faculty of Management and Quality Science at the meeting of May 20, 2021, approved the method and the rules for conducting the mid-term evaluation of doctoral students of the Doctoral School at Gdynia Maritime University who are preparing the dissertations in the discipline of management and quality studies, which constitute the enclosure to this letter.

Furthermore, I inform you that, at the meeting of May 21, 2021, the Scientific Council of the Faculty of Management and Quality Science also approved the following composition of the Mid-term Evaluation Committee for Doctoral Students of the Doctoral School at GMU:

1. Prof. Dr hab. Marek Lisiński from Krakow University of Economics, College of Management and Quality Sciences, Management Institute, and WSB University, Faculty of Applied Sciences, Department of Management,
2. Dr hab. Dariusz Barbucha, Prof. of GMU from Gdynia Maritime University, Faculty of Management and Quality Science, Department of Information Systems,
3. Dr hab. Eng. Ireneusz Czarnowski, Prof. of GMU from Gdynia Maritime University, Faculty of Management and Quality Science, Department of Information Systems.

Yours sincerely,

Dean of the Faculty of Management and Quality Science

Dr hab. Aleksandra Wilczyńska, Prof. of GMU

METHOD AND RULES FOR CONDUCTING THE MID-TERM EVALUATION OF DOCTORAL STUDENTS OF THE DOCTORAL SCHOOL OF GDYNIA MARITIME UNIVERSITY

Discipline: management and quality studies

1. The specific dates for conducting the mid-term evaluation is determined by the Director of the Doctoral School of GMU in consultation with the Chairs of the discipline councils. These dates have to be communicated to doctoral students no later than May 31.

2. The mid-term evaluation is conducted by the Committees appointed in the Doctoral School by the Director in consultation with the Chair of the relevant scientific council of the discipline. The discipline council nominates members of the Committee through discussion and voting. Members of the Committee employed at the University shall not be individuals who were part of the Committee evaluating the Individual Research Plans of doctoral students.

3. Committees are appointed for one academic year.

4. The Committee consists of three members, including:
    a. one person holding the degree of habilitated doctor in the discipline or the title of professor in the field including the discipline in which the doctoral dissertation is prepared, employed outside the University;
    b. two individuals holding the degree of habilitated doctor or the title of professor, employed at the University.

5. The supervisor or supervisors and the assistant supervisor of a doctoral student shall not be members of the Committee conducting the mid-term evaluation of the doctoral student they supervise. A representative of the doctoral students' parliament of GMU may participate in the Committee meetings as an observer.

6. The mid-term evaluation shall demonstrate transparency, objectivity, comparability of the results, and a motivational value. The mid-term evaluation includes the evaluations of the following elements in comparison with the Individual Research Plan submitted by the doctoral student:
    a. progress in the preparation of the doctoral dissertation;
    b. scientific activity, including scientific publications, conference presentations, and grant applications.

7. The Scientific Council of the Discipline may specify in detail the elements mentioned in point 6 by determining the requirements within the quantitative criteria.

8. The Doctoral School shall develop and provide templates for forms to assist doctoral students in preparing materials for the mid-term evaluation.

9. The Committee conducts the mid-term evaluation on the basis of:
    a. a self-report prepared and presented by the doctoral student;
    b. documentation confirming the doctoral student's activity and the supervisor's opinion;
    c. an interview with the doctoral student conducted during the Committee meeting, including verification of the knowledge within the scope of the realized subject matter and the discipline, in which the dissertation is prepared.

10. The Committee prepares a report of the mid-term evaluation process, which has to be signed by all the members of the Committee.

11. The mid-term evaluation concludes with either a positive or negative result. The result of the evaluation for each doctoral student, along with its justification, is public. A Committee member has the right to submit a dissenting opinion in writing, along with its justification.

12. The result of the mid-term evaluation is determined during a closed meeting of the Committee without the participation of the doctoral student. The Committee decisions are made by a simple majority vote.

13. In the case of a positive evaluation, the Committee conducting the mid-term evaluation may also issue recommendations regarding the realization of the scientific research activities by the doctoral student, preparation of the doctoral dissertation, and the supervisor’s further scientific supervision.

Gdynia, May 20, 2021

Doctoral School of Gdynia Maritime University

Mid-term Evaluation Form

The mid-term evaluation of the realization of the individual research plan (IRP) in the period

from …… to ……. .

First name and last name: ……

- the doctoral student of the Doctoral School at Gdynia Maritime University in the discipline of:

…….

The meeting of the mid-term evaluation committee was held in the …….. …mode on …….

I. Committee composition

No	First name and last name, higher education institution	Function
1.		Committee Chair
2.		Committee member
3.		Committee member from outside Gdynia Maritime University

II. Detailed assessment

1. Assessment of the elements of the realization of the individual research plan

The detailed evaluation of the realization of the elements of the individual research plan. In the case of selecting the answer "NO" or below "5" or below "100%", it is required to write a justification in point II.2.

1)	Has the research objective been defined and is it clear? (YES/NO)	
2)	Have hypotheses or research problems corresponding to the defined objective been formulated? (YES/NO)	
3)	Will the specified research methods enable obtaining results that will constitute the basis for the verification of the formulated hypotheses or the solution to the research problems? (YES/NO)	
4)	Are the specified research methods adequate for the defined objective and do they correspond to the methods specific to the scientific discipline in which the work is realized? (YES/NO)	
5)	To what extent are the results obtained during the period covered by the mid-term evaluation significant for completing the doctoral	

	dissertation? (5 - highest rating, 1 - lowest rating)	
6)	Does the justification for the research highlights its significance for the development of the discipline and the society? (YES/NO)	
7)	Have the doctoral student's scientific articles been published in significant scientific journals assigned to the discipline in which the work is conducted (scored above 100 points or belonging to at least Q2 of the most frequently cited journals)? (YES/NO)	
8)	Can the doctoral student's scientific activity add to the importance of the undertaken research? (YES/NO)	
9)	Does the doctoral student participate in research projects or take part in scientific collaborations, and is this activity significant for the research tasks outlined in IRP? (YES/NO)	
10)	Are the tasks planned in IRP of an international character (e.g., publications of the international scope, leading joint initiatives with institutions from abroad, publications with co-authors from abroad, foreign scientific internships, participation in international research projects)? (YES/NO)	
11)	Do the research results obtained by the time of the mid-term evaluation indicate the feasibility of completing the planned research tasks? (YES/NO)	
12)	The overall level of progress in the realization of IRP during the period covered by the mid-term evaluation (from 0% to 100%)	
13)	Is the submission deadline for the doctoral dissertation that is indicated in IRP, realistic? (YES/NO)	

2. Justification

Justification for the detailed evaluation of the elements of the realization of the individual research plan only for the criteria from point II.1, in which the answer is "NO" or below "5" or below "100%".

III. Result of the mid-term evaluation

POSITIVE / NEGATIVE

IV. Justification of the evaluation

Justification of the result of the final evaluation by the Committee, taking into account the evaluation of the documents provided, the presentation of the doctoral student and the interview with the doctoral student (approx. 0.5 page, font size 11, line spacing 1).

V. Signatures

The evaluation made at the meeting of the Committee conducted using the electronic means of communication (remote mode) is signed by the Chair of the Committee.

Date:

No	First name and last name	Function	Signature
1.		Committee Chair	
2.		Committee member	
3.		Committee member from outside Gdynia Maritime University	

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prof. dr hab. inż. kpt. ż.w. Adam Weintrit
REKTOR
(imię i nazwisko, stanowisko/funkcja osoby upoważniającej)

Gdynia, dnia 11 marca 2025 r.

RRO/0142/U/20/2025

UPOWAŻNIENIE

Na podstawie art. 268a ustawy z dnia 14 czerwca 1960 r. – Kodeks postępowania administracyjnego (Dz. U. z 2024 r. poz. 572 z późn. zm.) oraz § 55 Statutu Uniwersytetu Morskiego w Gdyni [UMG] z dnia 28 czerwca 2021 r.

upoważniam

dr. hab. Dariusza Barbucha, prof. UMG –
Prorektora ds. nauki

1) do podpisania raportu samooceny Szkoły Doktorskiej UMG, o którym mowa w § 4 ust. 1 Rozporządzenia Ministra Edukacji i Nauki z dnia 27 września 2021 r. w sprawie ewaluacji jakości kształcenia w szkole doktorskiej (Dz. U. z 2021 poz. 1847);
2) do złożenia oświadczeń o:
   a) zgodności zawartych w raporcie samooceny informacji ze stanem faktycznym i prawnym,
   b) merytorycznej tożsamości:
   - zawartych w raporcie samooceny informacji w językach polskich i angielskim,
   - dokumentów stanowiących załączniki do raportu samooceny w językach polskim i angielskim, o którym mowa w § 4 ust. 2 pkt 2 Rozporządzenia Ministra Edukacji i Nauki z dnia 27 września 2021 r. w sprawie ewaluacji jakości kształcenia w szkole doktorskiej (Dz. U. z 2021 poz. 1847);
3) do dokonania czynności, o których mowa w § 6 ust. 1 i 2 Rozporządzenia Ministra Edukacji i Nauki z dnia 27 września 2021 r. w sprawie ewaluacji jakości kształcenia w szkole doktorskiej (Dz. U. z 2021 poz. 1847).

Upoważnienie zostaje udzielone od dnia 11 marca 2025 r. do czasu zakończenia procesu ewaluacji Szkoły Doktorskiej UMG lub z chwilą odwołania upoważnienia.

REKTOR

.....
prof. dr hab. inż. kpt. ż.w. Adam Weintrit
(podpis osoby upoważniającej)

KEN

2023-2027

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