



ΕΛΛΗΝΙΚΗ ΔΗΜΟΚΡΑΤΙΑ  
HELLENIC REPUBLIC



Εθνική Αρχή  
Ανώτατης Εκπαίδευσης  
Hellenic Authority  
for Higher Education

Αριστείδου 1 & Ευριπίδου 2 • 10559 Αθήνα | 1 Aristidou str. & 2 Evripidou str. • 10559 Athens, Greece  
Τ. +30 210 9220 944 • Φ. +30 210 9220 143 • Ε. secretariat@ethaee.gr • [www.ethaee.gr](http://www.ethaee.gr)

# Accreditation Report for the New Postgraduate Study Programme of:

Ship Performance Analysis and Management

Department: Naval Architecture and Marine Engineering

Institution: National Technical University of Athens

Date: 24/07/2025



Με τη συγχρηματοδότηση  
της Ευρωπαϊκής Ένωσης



Πρόγραμμα  
Ανθρώπινο Δυναμικό και  
Κοινωνική Συνοχή



Report of the Panel appointed by the HAHE to undertake the review of the New Postgraduate Study Programme of Ship Performance Analysis and Management of the National Technical University of Athens for the purposes of granting accreditation.

## TABLE OF CONTENTS

|                                                                                                                           |           |
|---------------------------------------------------------------------------------------------------------------------------|-----------|
| <b>Part A: Background and Context of the Review .....</b>                                                                 | <b>4</b>  |
| I. The External Evaluation & Accreditation Panel .....                                                                    | 4         |
| II. Review Procedure and Documentation .....                                                                              | 5         |
| III. Postgraduate Study Programme Profile .....                                                                           | 7         |
| <b>Part B: Compliance with the Principles.....</b>                                                                        | <b>10</b> |
| Principle 1: Strategy, Quality Assurance Policy and Quality Goal Setting for the New Postgraduate Study Programmes .....  | 10        |
| Principle 2: Design and Approval of New Postgraduate Study Programmes .....                                               | 13        |
| Principle 3: Regulations for Student Admission, Progression, Recognition of Postgraduate Studies, and certification ..... | 17        |
| Principle 4: Teaching Staff of New Postgraduate Study Programmes.....                                                     | 20        |
| Principle 5: Learning Resources and Student Support .....                                                                 | 23        |
| Principle 6: Initial Internal and External Evaluation and Monitoring of New Postgraduate Study Programmes .....           | 26        |
| <b>Part C: Conclusions .....</b>                                                                                          | <b>29</b> |
| I. Features of Good Practice .....                                                                                        | 29        |
| II. Areas of Weakness.....                                                                                                | 29        |
| III. Recommendations for Follow-up Actions.....                                                                           | 29        |
| IV. Summary & Overall Assessment .....                                                                                    | 31        |

## **PART A: BACKGROUND AND CONTEXT OF THE REVIEW**

### **I. The External Evaluation & Accreditation Panel**

The Panel responsible for the Accreditation Review of the new postgraduate study programme of Ship Performance Analysis and Management of the National Technical University of Athens comprised the following five (5) members, drawn from the HAHE Register, in accordance with Laws 4009/2011 & 4653/2020:

- 1. BOTSIS IOANNIS (Chair)**  
*(Title, Name, Surname)*  
École Polytechnique Fédérale de Lausanne (EPFL)  
*(Institution of origin)*
- 2. ANDRITSOS FIVOS**  
*(Title, Name, Surname)*  
Commission of the European Communities, Joint Research Center  
*(Institution of origin)*
- 3. KONTIS KONSTANTINOS**  
*(Title, Name, Surname)*  
School of Engineering, University of Glasgow  
*(Institution of origin)*
- 4. Minaoglou Prodromos**  
*(Title, Name, Surname)*  
University of Western Macedonia  
*(Institution of origin)*
- 5. XIROS NIKOLAOS**  
*(Title, Name, Surname)*  
University of New Orleans: Bollinger School of Naval Architecture & Marine Engineering; Dept. of Electrical & Computer Engineering  
*(Institution of origin)*

## II. Review Procedure and Documentation

*Brief reference to the Panel preparation for the new postgraduate study programme review, as well as to the documentation provided and considered by the Panel. Dates of the review, review schedule, meetings held and any additional information regarding the procedure.*

This External Evaluation and Accreditation Panel (EEAP), assembled by The Hellenic Authority for Higher Education (HAHE), was tasked with assessing the compliance of the new Postgraduate Study Programme (PSP) entitled 'Ship Performance Analysis and Management' from the National Technical University of Athens. The EEAP has drafted the present accreditation report in accordance with the HAHE Quality Assurance requirements (laws 4009/2011 & 4653/2020). The PSP assessment was conducted through document reviews and online interviews with directors, academic staff and external stakeholders. The method used was an evidence-based process centered on sampling the PSP's activities. It aimed to evaluate the fulfilment of the HAHE requirements of the relevant PSP quality assurance standards and comment on their compliance, effectiveness and applicability. The evaluation was conducted remotely using the Zoom for the private meetings with the EEAP members and Teams with the institution.

The schedule and agenda of the meetings were as follows:

Monday, July 14, 2025: Private meeting of the EEAP members.

Tuesday, July 15, 2025: Consecutive meetings with the following agenda:

1. Meeting with the Vice-Rector/President of MODIP, the Head of the Department, the Director of the PSP, MODIP Supervisor: Welcome and short overview of the postgraduate programme: academic profile, status, strengths and possible areas of concern. Discuss the degree of compliance of the programme to the Standards for Quality Accreditation.
2. Meeting with the teaching staff: Discussion on professional development, mobility, competence and adequacy of the teaching staff to ensure learning outcomes, workload, evaluation by students; link between teaching and research; teaching staff involvement in applied research, projects and research activities directly related to the programme; possible areas of weakness.
3. On-line tour of classrooms, lecture halls, libraries, laboratories, and other facilities related to the PSP. Discussion on the presented material: Evaluate facilities and learning resources to ascertain that the learning materials, equipment and facilities are adequate for the successful provision of the programme.
4. Meeting with employers and social partners: Discuss relations of the programme with external stakeholders from the private and the public sector.
5. Private debriefing (Panel members only): Discuss on the outcomes of the virtual visit and prepare the oral report.
6. Closure meeting with the Vice-Rector, the Director of the PSP, the Head of the Department, MODIP Supervisor: Informal presentation of the EEAP key findings. Discuss potential points that might need further clarification.

On this day, the EEAP received additional information from MODIP and the Department, and evaluated the content to complete the draft of the accreditation report. The

participating faculty and staff were eager and helpful in providing all information requested by the Panel.

### **III. Postgraduate Study Programme Profile**

*Brief overview of the new postgraduate study programme with reference to the following: history, academic remit, duration of studies, qualification awarded, employment opportunities, orientation challenges or any other key background information. Short description of the home Department and Institution, with reference to student population, campus, or any other related facts.*

The National Technical University of Athens (NTUA) organizes and operates Postgraduate Study Programmes (PSP) in various scientific fields. The goals of these programmes are to address current and future needs in research and technology. The PSP in Ship Performance Analysis and Management is coordinated and offered exclusively by the Department of Naval Architecture and Marine Engineering of NTUA.

The PSP introduces and elaborates the issues related to the analysis and management of ship performance, as they are recognized in the modern scientific and technical practice of the shipping industry. In particular, it addresses the following interrelated areas:

1. Resistance, propulsion and hydrodynamic behaviour of a ship.
2. Marine engineering and analysis of marine energy systems.
3. Evaluation and indicators of ship behavior and performance.
4. Techniques for the analysis and management of ship and fleet operation data.
5. Environmental regulations and reduction of the carbon footprint of ships.
6. New fuels and technologies for the decarbonization of shipping.
7. Advanced data analysis methods and software to analyze ship and fleet performance.

The PSP aims to specialize executives of the maritime community, graduates of universities and young engineering graduates of Greek universities with a five-year duration of studies in modern methods and techniques of analysis and management of the operational performance of ships and fleets. Emphasis is placed on the necessary technical and analytical skills for the rational evaluation of the ship's behavior in its actual operating conditions. Current challenges from new environmental regulations, the digital transition of shipping, new fuels and technologies, and available data for decision-making require rational analysis and decision-making when it comes to ship and fleet management. The PSP provides the necessary scientific and technical skills, appropriately combined, for the achievement of the above purpose.

The implementation of the PSP will be carried out through targeted specialization of the students in all subjects related to the analysis and management of ship performance. It will be achieved with the use of new technologies, the deepening of modern scientific concepts and learning of techniques related to the modern challenges faced by the shipping industry.

The MSc aims to cover all aspects of the analysis and management of ship performance from the technical, but also economic, environmental, digital, regulatory aspects, as they

appear during the operation of ships and fleets in practice.

Graduates of the MSc-ADEP will acquire the critical know-how and confidence to become leaders of the shipping industry with thorough knowledge, training and understanding of ship and fleet management in the future. That is, executives who will contribute to the continuous modernization of the industry through the introduction of innovative practices and actions, the application of modern technologies and the continuous training of personnel.

The MSc is structured in 3 semesters of 13 weeks each and begins in the winter semester of each academic year. The programme includes 10 compulsory courses, 5 in each academic semester. Each course accounts for 6 ECTS. There are no elective courses offered by the programme. In the third semester, the Master's Thesis of 30 ECTS is completed. The programme requires 90 ECTS.

The teaching and examination of the courses will be carried out primarily in Greek. The language of the postgraduate thesis report will be in English with an extensive summary in Greek.

The number of admissions per year is set at a minimum of 35 postgraduate students. Attendance at the MSc is compulsory. The minimum duration for the award of the MSc degree is set at 3 academic semesters, i.e., 2 semesters of courses and 1 semester of work on the postgraduate diploma thesis. The maximum length of stay in the programme is 2 calendar years.

The MSc has no specializations and awards a Postgraduate Diploma, equivalent to a Master of Science (MSc) degree, in the subject of Ship Performance Analysis and Management upon successful completion of the relevant study programme.

Funding of the PSP can come from: donations, benefits, bequests, sponsorships, research programmes, programmes of the EU or other international organizations, tuition fees and other sources, as provided for by the current legislation.

The duration of the PSP is 5 academic years, namely from the academic year 2025-2026 to the academic year 2029-2030 subject to its non-accreditation during the periodic evaluation of the Department.

#### Institutional and Departmental Profiles

University: The NTUA was founded in 1837 and is located in the center of Athens with its main campus in Zografou, a suburban area of Athens. It is a State University with 9 schools, 512 faculty members and more than 23000 students. The schools operate 194 laboratories which are very active in research on the nationally and internationally with its mission to provide advanced higher education and outstanding quality of research in science and



technology. It is one of the best technical universities in Greece and the world according to well respected rankings.

Department: The PSP in Ship Performance Analysis and Management is organized and offered by the Department of Naval Architecture and Marine Engineering of NTUA. The Department is very active in research related to Naval engineering.

The Department and institution have adequate laboratory and digital infrastructure, have contributed significantly to teaching, applied and basic research nationally and internationally and provide strong academic bases for collaboration and innovation.

## PART B: COMPLIANCE WITH THE PRINCIPLES

### Principle 1: Strategy, Quality Assurance Policy and Quality Goal Setting for the New Postgraduate Study Programmes

INSTITUTIONS SHOULD INCLUDE IN THEIR STRATEGIC MANAGEMENT THE DEVELOPMENT, ORGANISATION, AND IMPLEMENTATION OF NEW POSTGRADUATE STUDY PROGRAMMES (PSP) IN SPECIFIC SCIENTIFIC FIELDS AFTER INVESTIGATING THEIR FEASIBILITY AND SUSTAINABILITY.

INSTITUTIONS SHOULD APPLY A QUALITY ASSURANCE POLICY FOR THE NEW POSTGRADUATE STUDY PROGRAMMES AS PART OF THEIR STRATEGIC MANAGEMENT.

THIS POLICY SHOULD EXPAND AND BE AIMED (WITH THE COLLABORATION OF EXTERNAL STAKEHOLDERS) AT THE PSP OF THE INSTITUTION AND THE ACADEMIC UNIT. THIS POLICY SHOULD BE PUBLISHED AND IMPLEMENTED BY ALL INTERESTED PARTIES.

*By decision/s of the Institutional Senate, the Institutions should adapt their strategy to allow for the provision of postgraduate study programmes, in addition to attending to the profile, vision, mission and strategic objectives of the Institution. In this strategy, the Institutions should anticipate the potential benefits, difficulties or risks from the implementation of new postgraduate study programmes and plan all the necessary actions to achieve their goals. The Institution's strategic choices should be documented through specific feasibility and sustainability studies, especially for new postgraduate study programmes.*

*In the case of PSP delivered by distance methods, the Institution prepares and applies an e-learning strategy. The Institution's e-learning strategy is integrated into its overall strategy and identifies educational goals while keeping up to the rapid technological changes and to the developments in pedagogical models. The Institution should include in its strategy the justification and feasibility as to why e-learning has been selected as the appropriate learning strategy for the particular programmes of study where it is applied.*

*In the context of e-learning, innovation strategies, the possibility of programme revision, the linking between learning and research (requiring knowledge of the latest innovations in order to select the most appropriate means to achieve the learning outcomes) should be taken into account.*

*The quality assurance policy of the academic unit for postgraduate study programmes should be in line with the Institution's strategy and must be formulated in the form of a public statement, which is implemented by all stakeholders. It focuses on the achievement of special goals related to the quality assurance of the postgraduate study programmes offered by the academic unit. Indicatively, the quality policy statement of the academic unit includes its commitment to implement a quality policy that will promote the academic profile and orientation of the postgraduate study programme (PSP), its purpose and field of study; it will realise the programme's goals and it will determine the means and ways for attaining them; it will implement appropriate quality procedures, aiming at the programme's continuous improvement.*

*In particular, in order to implement this policy, the academic unit commits itself to put into practice quality procedures that will demonstrate:*

- a. the suitability of the structure and organisation of postgraduate study programmes*
- b. the pursuit of learning outcomes and qualifications in accordance with the European and National Qualifications Framework for Higher Education - level 7*
- c. the promotion of the quality and effectiveness of teaching at the PSP*

- d. *the appropriateness of the qualifications and the availability of the teaching staff for the PSP*
- e. *the drafting, implementation, and review of specific annual quality goals for the improvement of the PSP*
- f. *the level of demand for the graduates' qualifications in the labour market*
- g. *the quality of support services, such as administrative services, the libraries, and the student welfare office for the PSP*
- h. *the efficient utilisation of the financial resources of the PSP that may be drawn from tuition fees*
- i. *the conduct of an annual internal review and audit of the quality assurance system for the PSP through the cooperation of the Internal Evaluation Group (IEG) with the Institution's Quality Assurance Unit (QAU)*

### **Documentation**

- *The Institutional strategy for postgraduate studies, which includes a special strategy for e-learning, as long as it is applied to the Institution's PSP*
- *Feasibility and sustainability studies for the new PSP*
- *Quality Policy of the academic unit for the development and improvement of PSP*
- *Quality Targeting of the academic unit for the PSP*

### **Study Programme Compliance**

#### **I. Findings**

Although the proposed PSP was the result of the initiative of the School of Naval Architecture and Marine Engineering (SNAME) it is clearly well aligned with the overall NTUA strategic objectives. The strategic planning documents, such as the Strategic Development Decision, the Senate Approval, and the Feasibility and Sustainability Studies, show evidence of alignment with institutional goals and forward-looking academic planning.

The programme's quality assurance policy is publicly stated and closely aligned with the NTUA's institutional quality assurance framework. Specific, measurable quality objectives are articulated in the documents titled "Πολιτική Ποιότητας" and "Στοχοθεσία Ποιότητας", including goals such as curriculum modernisation, teaching quality improvement, and better industry alignment.

The academic unit has also set target indicators and timelines for continuous improvement, such as percentage increases in updated course content, integration of ICT in teaching, and student satisfaction metrics. There is also clear evidence of external stakeholder involvement (e.g., through industry consultation and events), ensuring relevance and feasibility.

The programme has undergone a detailed feasibility and sustainability assessment, including staff availability, financial planning, and market demand

analysis. The programme is structured to align with level 7 of the European Qualifications Framework.

## II. Analysis

The strategy for the PSP is robust, forward-thinking, and responsive to sectoral needs, particularly in the maritime and shipping industries. It is grounded in thorough market research and stakeholder engagement, ensuring sustainability and academic relevance.

The NTUA has integrated the PSP within its strategic planning structure and demonstrated a clear rationale for the new programme based on current gaps in higher education and workforce needs. The documents show compliance with HAHE requirements, particularly in terms of programme design, quality assurance, and e-learning (though the programme is not primarily distance-based, contingencies for digital tools are considered).

Furthermore, the quality assurance mechanisms meet best practices: they include annual internal reviews, links with the Institution's QAU (ΜΟΔΙΠ), and a commitment to continuous curriculum and teaching improvement. The presence of indicators and tracking mechanisms for each quality goal enhances the transparency and effectiveness of the process.

## III. Conclusions

The MSc in Ship Performance Analysis and Management demonstrates full compliance with Principle 1. The programme is strategically planned, quality-assured, and sustainability-tested. The institution and academic unit have made credible commitments to the continuous development and enhancement of the PSP, backed by rigorous planning, industry collaboration, and transparent implementation strategies.

### Panel Judgement

| Principle 1: Strategy, Quality Assurance Policy and Quality Goal Setting for the New Postgraduate Study Programmes |   |
|--------------------------------------------------------------------------------------------------------------------|---|
| Fully compliant                                                                                                    | X |
| Substantially compliant                                                                                            |   |
| Partially compliant                                                                                                |   |
| Non-compliant                                                                                                      |   |

### Panel Recommendations

R1.1. Ensure that quality goals remain updated with evolving technological and regulatory developments in the maritime sector.

R1.2. Monitor and expand external stakeholder engagement through structured advisory roles to maintain industry relevance.

R1.3. Maintain visibility of quality policies and evaluation results on public platforms to promote transparency and accountability.

## **Principle 2: Design and Approval of New Postgraduate Study Programmes**

**INSTITUTIONS SHOULD DEVELOP THEIR POSTGRADUATE STUDY PROGRAMMES FOLLOWING A DEFINED WRITTEN PROCESS WHICH WILL INVOLVE THE PARTICIPANTS, INFORMATION SOURCES AND THE APPROVAL COMMITTEES FOR THE NEW POSTGRADUATE STUDY PROGRAMMES. THE OBJECTIVES, THE SPECIFIC SCIENTIFIC SUBJECT AND THE STREAMS OR SPECIALISATIONS, THE EXPECTED LEARNING OUTCOMES AND THE EMPLOYMENT PROSPECTS ARE SET OUT IN THE PROGRAMME DESIGN. DURING THE IMPLEMENTATION OF THE NEW POSTGRADUATE STUDY PROGRAMMES, THE DEGREE OF ACHIEVEMENT OF THE LEARNING OUTCOMES SHOULD BE ASSESSED. THE ABOVE DETAILS, AS WELL AS INFORMATION ON THE PROGRAMME'S STRUCTURE ARE PUBLISHED IN THE STUDENT GUIDE.**

*The academic units develop their postgraduate study programmes following a well-defined procedure. The academic profile and orientation of the programme, the research character, the scientific objectives, the specific subject areas, the specialisations, the expected learning outcomes, the structure, the courses, the teaching and assessment modes, the teaching staff and the necessary resources are described at this stage.*

*The structure, content and organisation of courses and teaching methods should be oriented towards deepening knowledge and acquiring the corresponding skills to apply the said knowledge (e.g. course on research methodology, participation in research projects, thesis with a research component).*

*The expected learning outcomes must be determined based on the European and National Qualifications Framework (EQF, NQF), and the Dublin Descriptors for level 7. During the implementation of the programme, the degree of achievement of the expected learning outcomes and the feedback of the learning process must be assessed with the appropriate tools. In particular, for each expected learning outcome that is designed and made public, it is necessary that its evaluation criteria are also designed and made public.*

*In addition, the design of PSP must consider:*

- *the Institutional strategy*
- *the active involvement of students*
- *the experience of external stakeholders from the labour market*
- *the anticipated student workload according to the European Credit Transfer and Accumulation System (ECTS) for level 7*
- *the option of providing work experience to students*
- *the linking of teaching and research*
- *the relevant regulatory framework and the official procedure for the approval of the PSP by the Institution*

*The procedure for the approval or revision of the programmes provides for the verification of compliance with the basic requirements of the Standards by the Institution's Quality Assurance Unit (QAU).*

## **Documentation**

- *Senate decision for the establishment of the PSP*
- *PSP curriculum structure: courses, course categories, ECTS awarded, expected learning outcomes according to the NQF, internship, mobility opportunities*
- *Labour market data regarding the employment of graduates, international experience in a relevant scientific field*
- *PSP Student Guide*
- *Course and thesis outlines*
- *Teaching staff: teaching assignments per subject area and per course*

## **Study Programme Compliance**

### **I. Findings**

The design of the new Postgraduate Study Programme in Ship Performance Analysis and Management, which is going to be offered by the School of Naval Architecture and Marine Engineering of the National Technical University of Athens, has addressed the following items during its development to at least satisfactory degree:

- the Institutional strategy
- the anticipated student workload according to the European Credit Transfer System (ECTS) for level 7
- the linking of teaching and research
- the relevant regulatory framework and the official procedure for the approval of the PSP by the Institution

On the other hand, some more attention to detail was found necessary for the following three items during the next phase of the Programme's development and its initial rounds of offering:

- the active involvement of students
- the experience of external stakeholders from the labour market
- the option of providing work experience to students

### **II. Analysis**

The School of Naval Architecture and Marine Engineering of the National Technical University of Athens developed their new postgraduate study programme in Ship Performance Analysis and Management following a well-defined procedure. The academic profile and orientation of the programme, the research character, the scientific objectives, the specific subject areas, the specialisations, the expected learning outcomes, the structure, the courses, the teaching and assessment modes, the teaching staff and the necessary resources have been sufficiently described at this stage.

The structure, content and organisation of courses and teaching methods should be oriented towards deepening knowledge and acquiring the corresponding skills

to apply the said knowledge. There are courses available on research methodology and many of the courses allow and encourage participation in research projects. These with a research component are encouraged too.

The newly developed postgraduate study programme in Ship Performance Analysis and Management could increase its visibility and relevance if the penetration of the English language increases to the highest possible extent. English is the de facto (if not de jure) lingua franca of shipping and the maritime industry especially in operations which seems to be the area the programme is focused on. On top, offering the programme entirely in English would provide additional benefits of expanding potential enrolment to include international and global communities. In the same direction, converting the programme delivery mode to at least partially online could boost enrolment and at the same time fit well to the busy schedule of maritime industry and shipping technical and engineering professionals, whose schedule involves very commonly prolonged and repeated travel abroad.

### III. Conclusions

The new postgraduate study programme in Ship Performance Analysis and Management developed by the School of Naval Architecture and Marine Engineering of the National Technical University of Athens is found to have no serious deficiencies, weaknesses or concerns related to 'Principle 2: Design and Approval of New Postgraduate Study Programmes' of the accreditation process established by HAHE. Some recommendations, however, to further enhance the impact of the programme are provided as part of the Panel recommendations below based on the analysis of the findings presented above.

### Panel Judgement

| Principle 2: Design and Approval of New Postgraduate Study Programmes |   |
|-----------------------------------------------------------------------|---|
| Fully compliant                                                       |   |
| Substantially compliant                                               | X |
| Partially compliant                                                   |   |
| Non-compliant                                                         |   |

### Panel Recommendations

R2.1. The newly developed postgraduate study programme could increase its visibility and relevance if the penetration of the English language increases to the highest possible extent.

R2.2. In the same direction, converting the programme delivery mode to at least partially

online could attract substantially more students.

R2.3. Regarding the content of the programme, it is recommended that more involvement of faculty from other academic units and disciplines is implemented. Particularly, faculty, researchers and scholars in the areas of data analysis & mining, data science and engineering, artificial intelligence and machine learning.



### **Principle 3: Regulations for Student Admission, Progression, Recognition of Postgraduate Studies, and certification**

**INSTITUTIONS SHOULD DEVELOP AND APPLY PUBLISHED REGULATIONS COVERING ALL ASPECTS AND PHASES OF STUDIES (ADMISSION, PROGRESSION, THESIS DRAFTING, RECOGNITION AND CERTIFICATION).**

*The Institution should develop and publish the internal regulations prescribed by law which, among other things, should regulate all issues of postgraduate studies from the beginning to the end of the studies.*

*Indicatively:*

- *The students' admission procedures and the required supporting documents*
- *Student rights and obligations, and monitoring of student progression*
- *Internship issues, if applicable, and granting of scholarships*
- *The procedures and terms for the drafting of assignments and the thesis*
- *The procedure of award and recognition of degrees, the duration of studies, the conditions for progression and for the assurance of the progress of students in their studies*
- *The terms and conditions for enhancing student mobility*

*In case that the PSP is offered through distance learning methods, the Institution should have in place a regulation for e-learning, including in particular the following issues:*

- *Services of the Institution to support e-learning*
- *Methodology for the development and implementation of courses*
- *Ways of providing teaching and variety of teaching and assessment modes*
- *General standard of course structure*
- *Student support system*
- *Support of faculty/teachers with mandatory e-learning training for new staff members*
- *Technological infrastructures made available by the Institution*
- *Student identity confirmation system (student identity check, assignment and exam writing process, security and certification issues).*
- ❖ *The Institution should establish rules for the provision of appropriate access and for the assurance of the participation of students affected by disability, illness, and other special circumstances.*
- ❖ *Ethical issues, such as those concerning data protection, intellectual property rights and rules for protection against fraud are governed by the e-learning regulation.*

*All the above must be made public within the context of the Student Guide.*

#### **Documentation**

- *Internal regulation for the operation of the postgraduate study programme*
- *Special regulation for the implementation of e-learning if the PSP is delivered through distance methods*
- *Research Ethics Regulation*

- *Regulation of studies, internship, mobility, and student assignments*
- *Degree certificate template and Diploma Supplement template*

## Study Programme Compliance

### I. Findings

The regulations for student admission are clear. The students incoming to the PSP on Ship Performance Analysis and Management are Integrated Master's degree holders, either from NTUA or from other National Engineering (Polytechnic) Schools or equivalent international academic institutions. This implies that the PSP will provide its alumni a second Master's degree.

Although SNAME has all the necessary infrastructure for remote course delivery, it has opted for a 100% physical presence.

Despite the fact that English is the standard operational language in the shipping domain, all courses are scheduled to be given in Greek. On the contrary, the diploma thesis should be written in English with just a summary in Greek.

### II. Analysis

All relevant documentation is very clear, complete and of high quality. The PSP is very well targeted both in its target results and its incoming students, who, formally, must be already an integrated MSc holder. However, essentially, the incoming student target space is even more limited, essentially to SNAME own alumni and the Mechanical Engineers.

The physical presence requirements, apparently due to SNAME's philosophy rather than practical teaching requirements, will hinder established professionals from attending the course, unless sponsored by their companies. Moreover, the Greek, being the standard course language, will hinder any foreign non-Greek speaking professionals from attending the PSP. These choices may have a negative impact on the sustainability of the PSP.

### III. Conclusions

All HAHE requirements are fully met. However, the Panel is of the opinion that the teaching language and the 100% physical presence requirements could, eventually, be revised, depending primarily on the demand for the specific PSP.

## Panel Judgement

| Principle 3: Regulations for Student Admission, Progression, Recognition of Postgraduate Studies, and certification |   |
|---------------------------------------------------------------------------------------------------------------------|---|
| Fully compliant                                                                                                     | X |

|                         |  |
|-------------------------|--|
| Substantially compliant |  |
| Partially compliant     |  |
| Non-compliant           |  |

### **Panel Recommendations**

- R3.1. Depending on the demand for the PSP, consider revising the 100% physical presence-based course delivery method.
- R3.2. Consider switching, at least partially, the PSP standard teaching language to English.

## Principle 4: Teaching Staff of New Postgraduate Study Programmes

**INSTITUTIONS SHOULD ASSURE THEMSELVES OF THE LEVEL OF KNOWLEDGE AND SKILLS OF THEIR TEACHING STAFF, AND APPLY FAIR AND TRANSPARENT PROCESSES FOR THEIR RECRUITMENT, TRAINING, AND FURTHER DEVELOPMENT.**

*The Institution should attend to the adequacy and scientific competence of the teaching staff at the PSP, the appropriate staff-student ratio, the proper staff categories, the appropriate subject areas, the fair and objective recruitment process, the high research performance, the training, the staff development policy (including participation in mobility schemes, conferences, and educational leaves-as mandated by law).*

*More specifically, the academic unit should set up and follow clear, transparent, and fair processes for the recruitment of properly qualified staff for the PSP and offer them conditions of employment that recognise the importance of teaching and research; offer opportunities and promote the professional development of the teaching staff; encourage scholarly activity to strengthen the link between education and research; encourage innovation in teaching methods and the use of new technologies; promote the increase of the volume and quality of the research output within the academic unit; follow quality assurance processes for all staff (with respect to attendance requirements, performance, self-assessment, training, etc.); develop policies to attract highly qualified academic staff.*

### Documentation

- *Procedures and criteria for teaching staff recruitment, policy for attracting highly qualified staff, and PSP Obligation Regulation*
- *List of the intended for recruitment teaching staff including subject areas, employment relationship, Institution of origin, Department of origin and relevant individual achievements*

## Study Programme Compliance

### I. Findings

The PSP host, School Naval Architecture and Marine Engineering (SNAME), follows the standard procedures of the Greek State and NTUA for the selection of the academic and support staff. The PSP teaching staff has been selected according well-defined procedures exclusively among the SNAME's academic staff. All teaching staff appear highly motivated. It is not clear whether they will be receiving any additional remuneration for their PSP related activities or if their PSP teaching workload will be included within their standard teaching obligations.

The PSP is presented exclusively by the SNAME School of NTUA and does not involve faculty from other departments, universities or institutions.

All PSP teaching staff are well-qualified, with strong research backgrounds and significant links to the shipping industry. They adequately cover all aspects of the PSP courses, each of which appears well-designed and well-presented.

## **II. Analysis**

The PSP has assembled a competent and experienced team of highly ranked academics who inspire confidence in their ability to deliver the programme effectively and to cover all course content adequately. According to the most recent SNAME UGP accreditation report (April 2021), the school was advised among other recommendations, to:

- Intensify efforts for the timely hiring of new faculty members,
- Intensify the efforts for the reinvigoration the Alumni Association,
- Establish an external advisory board and
- Prioritize the development of soft and transferable skills.

The Panel shares the recommendations above. In fact, the EEAP wonder why SNAME has not used the new PSP as an opportunity to hire/use new faculty, particularly in what concerns soft and other skills, not at the core of SNAME's competences (i.e., data processing, environment, sustainability etc.).

## **III. Conclusions**

Overall, the NAME School has assembled a well-selected team of established and accredited academics, selected exclusively among its own staff. The Panel formed a very positive impression from its discussions with those staff members who participated in the accreditation's interactive meetings. All formal HAHE requirements are fully met.

However, the Panel is of the opinion, despite the adequacy of the PSP teaching staff, the subject matter of the new PSP would be supported even better by involving also academics from other schools, industry and of institutions. This would also have an important collateral effect of adding to the SNAME's extroversion, particularly important in the reality shipping community reality that often tends to act as a "closed club". In the absence of such inter-departmental collaboration, the PSP should consider organising specialised lectures delivered by invited academics or researchers from Greek or international institutions. Such collaborations would positively impact both the qualifications of the PSP teaching staff as well as the research and academic potential of SNAME and the NTUA.

Furthermore, a suitable external advisory board, together with expanded contacts across academic, research, and industrial sectors, will support the PSP's objectives and further contribute to the academic growth and research development of the teaching staff.

## Panel Judgement

| Principle 4: Teaching Staff of New Postgraduate Study Programmes |          |
|------------------------------------------------------------------|----------|
| Fully compliant                                                  | <b>X</b> |
| Substantially compliant                                          |          |
| Partially compliant                                              |          |
| Non-compliant                                                    |          |

## Panel Recommendations

R4.1. Incorporate academics from other schools and/or universities or, in alternative, organise ad-hoc lectures or seminars delivered by invited external academics, researchers or experienced industry professionals.

R4.2. Set-up a suitable external advisory board, with participation from the shipping world and experts in domains outside the SNAME's core competences.

## Principle 5: Learning Resources and Student Support

INSTITUTIONS SHOULD HAVE ADEQUATE FUNDING TO COVER THE TEACHING AND LEARNING NEEDS OF THE POSTGRADUATE STUDY PROGRAMMES. THEY SHOULD -ON THE ONE HAND- PROVIDE SATISFACTORY INFRASTRUCTURE AND SERVICES FOR LEARNING AND STUDENT SUPPORT, AND- ON THE OTHER HAND- FACILITATE DIRECT ACCESS TO THEM BY ESTABLISHING INTERNAL RULES TO THIS END (E.G. LECTURE ROOMS, LABORATORIES, LIBRARIES, NETWORKS, CAREER AND SOCIAL POLICY SERVICES ETC.).

*Institutions and their academic units must have sufficient resources and means, on a planned and long-term basis, to support learning and academic activity in general, so as to offer PSP students the best possible level of studies. The above means include facilities such as the necessary general and more specialised libraries and possibilities for access to electronic databases, study rooms, educational and scientific equipment, IT and communication services, support, and counselling services.*

*When allocating the available resources, the needs of all students must be taken into consideration (e.g., whether they are full-time or part-time students, employed and foreign students, students with disabilities), in addition to the shift towards student-centered learning and the adoption of flexible modes of learning and teaching. Support activities and facilities may be organised in various ways, depending on the Institutional context. However, the internal quality assurance proves -on the one hand- the quantity and quality of the available facilities and services, and -on the other hand- that students are aware of all available services.*

*In delivering support services, the role of support and administration staff is crucial and therefore this segment of staff needs to be qualified and have opportunities to develop its competences.*

### Documentation

- Detailed description of the infrastructure and services made available by the Institution to the academic unit for the PSP, to support learning and academic activity (human resources, infrastructure, services, etc.) and the corresponding firm commitment of the Institution to financially cover these infrastructure-services from state or other resources
- Administrative support staff of the PSP (job descriptions, qualifications, and responsibilities)
- Informative / promotional material given to students with reference to the available services
- Tuition utilisation plan (if applicable)

### Study Programme Compliance

#### I. Findings

An academic advisor is assigned to each student in the postgraduate study programme (PSP), Ship Performance Analysis and Management. The advisor is responsible for helping each student to solve any problem that may arise during their studies.

Students from the beginning of their studies have the opportunity to connect to the Helios platform "[www.helios.ntua.gr](http://www.helios.ntua.gr)". Helios is a platform on which the material of each course is posted so that students have the opportunity to study. Through the same platform, students are informed of their grades. Also, a

Messaging board, Blog for Q&A and direct messaging from each student to any professor and vice versa is provided. The postgraduate study programme website "www.naval.ntua.gr/en/education/postgraduate-education" is included in the department website "www.naval.ntua.gr" and is updated according to the latest developments. The classrooms and laboratory spaces were presented through an online tour.

## II. Analysis

According to the "Α14 New Κανονισμός Ακ. Συμβ. ΑΔΕΠ", simultaneously or immediately after the selection of candidate students, an academic advisor is assigned to each postgraduate student. The assignment is made according to the area in which the candidate student wishes to specialize. The purpose of the academic advisor is to create a climate of cooperation, support students during their studies, deal with difficult situations and monitor their professional development after graduation. It is important to note that the academic advisor is not necessarily the same as the supervisor of the postgraduate diploma.

The connection to the Helios platform is made through a personal institutional account. In this way, the protection of each student's personal data and information is ensured. The classrooms are modernized with all the necessary equipment and infrastructure that may be needed for the implementation of the courses. At the same time, the postgraduate programme shares the laboratories with the undergraduate programme. More specifically, the laboratories are the following: a) Laboratory of Naval and Marine Hydrodynamics, b) Laboratory of Naval Engineering, c) Laboratory of Naval Architecture Technology, d) Laboratory of Ship Design and Marine Transport.

## III. Conclusions

The academic advisor with the aim to help the students with issues and consequences during their studies is a very positive feature of the postgraduate programme. At the same time, the laboratories can offer great knowledge and experience in the professional career of the students. The electronic services offered to the students complement the friendly package offered by the postgraduate programme.

### Panel Judgement

| Principle 5: Learning Resources and Student Support |   |
|-----------------------------------------------------|---|
| Fully compliant                                     | X |
| Substantially compliant                             |   |
| Partially compliant                                 |   |
| Non-compliant                                       |   |



**Panel Recommendations**

No specific recommendations under Principle 5.

## Principle 6: Initial Internal and External Evaluation and Monitoring of New Postgraduate Study Programmes

INSTITUTIONS AND ACADEMIC UNITS SHOULD HAVE IN PLACE AN INTERNAL QUALITY ASSURANCE SYSTEM, FOR THE AUDIT, INTERNAL AND EXTERNAL EVALUATION OF THE NEW POSTGRADUATE PROGRAMMES, THUS ENSURING COMPLIANCE WITH THE PRINCIPLES OF THE PRESENT STANDARDS. ANY ACTIONS TAKEN IN THE ABOVE CONTEXT SHOULD BE COMMUNICATED TO ALL PARTIES CONCERNED.

*The internal evaluation of the new PSP includes the assessment of the accreditation proposal, as well as the documentation in accordance with the Principles of the present Standards and the quality procedures of the Institution's Internal Quality Assurance System (IQAS). The internal evaluation of new postgraduate study programmes also aims at maintaining the level of educational provision and creating a supportive and effective learning environment for students. The Institution, through its Quality Assurance Unit (QAU) and the corresponding academic units, organise and support the external evaluation procedures of the new PSP, according to the specific guidelines and directions provided by HAHE.*

*The above comprise the assessment of:*

- the objectives, content, and structure of the curriculum, the knowledge offered and the level of science and technology in the given discipline, thus ensuring that the PSP is up to date, according to the relevant documentation listed in the decisions of the pertinent bodies*
- the entailed students' workload for the progression and completion of postgraduate studies*
- the satisfaction of the students' expectations and needs in relation to the programme*
- the learning environment, support services, and their fitness for purpose for the PSP in question*

*Postgraduate study programmes are designed and established in accordance with the provisions of the Institution's internal regulations, involving students and other stakeholders.*

### Documentation

- *The Quality Assurance Unit (QAU) procedure for verifying whether the requirements of the Standards for Quality Accreditation of New PSP are met, as well as the procedure for organising and supporting their external evaluation procedures*
- *Assessment and feedback mechanisms of the PSP strategy and quality targeting, and relevant decision-making processes (students, external stakeholders)*

### Study Programme Compliance

#### I. Findings

The MSc programme is developed and governed by a comprehensive internal regulatory framework, including the Internal Operating Regulation of the PSP and the Study Regulations of the PSP, which detail administrative structures and

evaluation responsibilities.

The internal quality assurance procedures are established through the Quality Assurance Unit (QAU) and are documented in the Justified Report by QAU. The programme was internally reviewed against the national quality standards (HAHE), including curriculum structure, student workload, learning outcomes, and academic staff suitability.

Moreover, the documentation outlines student involvement and external stakeholder engagement mechanisms, and the programme includes processes for collecting student feedback, complaints, and appeals (as defined in the Complaint Regulation and Code of Ethics). These mechanisms ensure responsiveness to students' academic and administrative needs.

The QAU documentation also presents mechanisms for continuous monitoring, such as annual reviews, feedback analysis, and improvement plans. These processes align with the national framework and are formally incorporated into the operational cycle of the programme.

## **II. Analysis**

The institution has established a robust framework for quality assurance that includes both internal and external evaluation mechanisms. The internal evaluation followed HAHE's standards and included a detailed self-assessment that informed the accreditation proposal.

The programme is built to ensure ongoing compliance and development, and the QAU plays an active role in monitoring the curriculum, student performance, faculty effectiveness, and alignment with market needs.

The students' perspective is integrated through formal channels for appeals and feedback, while external input is considered during both planning and monitoring phases. This reflects a mature quality culture and responsiveness to stakeholder expectations.

The clear allocation of responsibilities among governing bodies—Senate, General Assembly, Programme Director, and Coordinating Committee—ensures operational coherence and effective monitoring.

## **III. Conclusions**

The MSc in Ship Performance Analysis and Management demonstrates full compliance with Principle 6. The programme is supported by a well-structured internal evaluation system and effective mechanisms for external review, ensuring that quality assurance is both continuous and responsive.

### **Panel Judgement**

**Principle 6: Initial Internal and External Evaluation and Monitoring of New Postgraduate Study Programmes**

|                         |          |
|-------------------------|----------|
| Fully compliant         | <b>X</b> |
| Substantially compliant |          |
| Partially compliant     |          |
| Non-compliant           |          |

### **Panel Recommendations**

R6.1. Strengthen the systematic analysis of student feedback by publishing annual reports on actions taken in response to concerns and evaluations.

R6.2. Consider implementing external advisory panels with industry representatives to provide regular input on curriculum relevance and performance expectations.

R6.3. Maintain strong communication between the QAU and the academic unit to ensure alignment of strategic goals with operational monitoring.

## **PART C: CONCLUSIONS**

### **I. Features of Good Practice**

- All relevant documentation is very clear, complete and of high quality.
- The PSP has been planned and established with exemplary procedures, according to the needs of the shipping industry.
- The PSP is very well targeted towards both in its incoming students and learning outcomes.
- The teaching staff are well-qualified, with good research backgrounds and significant links to the shipping industry.
- The proposed courses are well-designed, well-presented and adequately cover the PSP subject matter.

### **II. Areas of Weakness**

- The PSP subject matter could be supported even better by involving also academics from other schools and relevant industries.
- No external advisory board is planned.
- Teaching through 100% physical presence could hinder established professionals from attending and thus, impact negatively to the PSP's sustainability.
- Teaching in Greek will prevent foreign students from attending thus, potentially impacting negatively to the PSP's sustainability.

### **III. Recommendations for Follow-up Actions**

- Ensure that quality goals remain updated with evolving technological and regulatory developments in the maritime sector.
- Set-up a suitable external advisory board with industry representatives, academics and public stakeholders to provide regular input on curriculum relevance and performance expectations.
- Offer the programme in English because it is considered the de facto language of the shipping industry. It will also increase visibility and potential enrolment of international students.
- Convert the programme delivery mode to at least partially online can boost enrolment of maritime industry technical and engineering professionals.
- Hire or incorporate academics from other schools, researchers and scholars in the areas of data analysis & mining, data science and engineering, artificial intelligence and machine learning.
- Strengthen the systematic analysis of student feedback by publishing annual reports

on actions taken in response to concerns and evaluations.

- Promote the active participation of students in the curriculum development of the new programme.
- Promote interaction and cooperation with similar university programmes abroad.

#### IV. Summary & Overall Assessment

The Principles where full compliance has been achieved are:

1,3,4,5,6

The Principles where substantial compliance has been achieved are:

2

The Principles where partial compliance has been achieved are:

None

The Principles where failure of compliance was identified are:

None

| Overall Judgement       |          |
|-------------------------|----------|
| Fully compliant         | <b>X</b> |
| Substantially compliant |          |
| Partially compliant     |          |
| Non-compliant           |          |

## The members of the External Evaluation & Accreditation Panel

### Name and Surname

BOTSIS IOANNIS

ANDRITSOS FIVOS

KONTIS KONSTANTINOS

Minaoglou Prodromos

XIROS NIKOLAOS

### Signature

Signed by BOTSIS IOANNIS - 24/07/2025 21:33:31  
+03:00

Signed by ANDRITSOS FIVOS - 24/07/2025  
21:33:31 +03:00

Signed by KONTIS KONSTANTINOS - 24/07/2025  
21:33:31 +03:00

Signed by Minaoglou Prodromos - 24/07/2025  
21:33:31 +03:00

Signed by XIROS NIKOLAOS - 24/07/2025  
21:33:31 +03:00