



**ΕΛΛΗΝΙΚΗ ΔΗΜΟΚΡΑΤΙΑ**  
HELLENIC REPUBLIC



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# Accreditation Report for the New Undergraduate Study Programme in operation of:

**Mathematics**

**Institution: University of Thessaly**

**Date: 22 October 2022**



Επιχειρησιακό Πρόγραμμα  
Ανάπτυξη Ανθρώπινου Δυναμικού,  
Εκπαίδευση και Διά Βίου Μάθηση  
Με τη συγχρηματοδότηση της Ελλάδας και της Ευρωπαϊκής Ένωσης



Report of the Panel appointed by the HAHE to undertake the review of the New Undergraduate Study Programme in operation of **Mathematics** of the **University of Thessaly** for the purposes of granting accreditation

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

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

The Panel responsible for the Accreditation Review of the new undergraduate study programme in operation of **Mathematics** of the **University of Thessaly** comprised the following four (4) members, drawn from the HAHE Register, in accordance with Laws 4009/2011 & 4653/2020:

- 1. Professor Alekos Vidras (Chair)**  
University of Cyprus, Nicosia, Cyprus
  
- 2. Professor (Emeritus) Athanasios Gagatsis**  
University of Cyprus, Nicosia, Cyprus
  
- 3. Professor Nikolaos Stylianopoulos**  
University of Cyprus, Nicosia, Cyprus
  
- 4. Mr. Stylianos Sfondylis, Student of Mathematics**  
Aristotle University of Thessaloniki, Thessaloniki, Greece

## II. Review Procedure and Documentation

The External Evaluation Accreditation Panel (henceforth: EEAP) conducted the accreditation evaluation of the new undergraduate program **Mathematics** of the **University of Thessaly** (henceforth: program) **during** the period 17-18<sup>th</sup> of October 2022. Due to the Covid-19 pandemic and its consequences, EEAP could not visit the site physically but conducted the accreditation evaluation via Zoom teleconferencing. From October 19<sup>th</sup>- 22<sup>nd</sup>, the EEAP prepared the report using Zoom teleconferencing meetings. On Monday, September 12<sup>th</sup>, some of the EEAP attended a Zoom teleconference briefing by HAHE's Director Dr. Christina Besta, during which the procedures and rationale for the accreditation were outlined and explained. Dr. Besta's ppt file was provided to the EEAP members.

The EEAP members received in advance from HAHE the following documentation and supporting material:

- I. Guidelines for accreditation, created by HAHE
- II. The mapping grid, created by HAHE
- III. A tabulation (prepared by HAHE) of the scores of the department regarding the quality indexes. However, since the department is also new there is no reference to past quality indicators.
- IV. The accreditation information prepared by the department
- V. A set of annexes to the accreditation proposal, including the study guide, course descriptions, etc.
- VI. Statistical data regarding the department and the specific program of studies
- VII. The Quality Assurance policy of the specific program of studies
- VIII. A set of documents presenting quality indicators both for the department and the program
- IX. The results of the internal evaluation of the program
- X. During the virtual on-site visit, the Department Head Assoc. Prof. M. Adam provided additional materials (electronic versions of power-point presentations prepared and presented by the department). Moreover, the president of OMEA presented a very detailed description of the undergraduate program.

On Monday, October 17, EEAP met the Vice-Rector for Academic and Students Affairs /President of MODIP Prof. I. Theodorakis and the Head of the Department of Mathematics Assoc. Prof. M. Adam. Subsequently, the Head of the Department introduced the members of OMEA and MODIP and gave a brief presentation, focusing on (a) the short history and the developing structure of the department, (b) teaching, (c) research, and (d) outreach activities and other matters related to the program. Discussion followed with emphasis on the program of studies that the Department is implementing during the first 3 years of its academic life. Next, EEAP had a teleconference meeting with OMEA and MODIP representatives. The day was concluded with EEAP's debriefing.

On Tuesday (morning), October 18, EEAP had a series of teleconference meetings with departmental personnel, including:

- I. Members of the teaching staff

- II. Representatives of students
- III. Employers and social partners
- IV. Online tour of facilities, including lecture halls, classrooms, library, laboratories, and other facilities. EEAP had the opportunity to evaluate the recourses available to the Department and to interact with the Head of the Department, teaching staff and administrative staff members.

After a short pause for debriefing, EEAP had

- V. Teleconference with OMEA and MODIP members. The official program of our visit was continued on Tuesday with a closing teleconference meeting with Prof. Theodorakis Vice Rector/President of MODIP, Head of the Department, OMEA members and MODIP representatives, where EEAP presented informally its findings.

Due to the Covid-19 pandemic, EEAP did not have the opportunity to observe any teaching. The schedule of the two days e-visit was very well organized and gave EEAP a thorough picture of the Department's vision and efforts for the education of the undergraduate students. The quality of the Department's undergraduate program is conforming to international standards. As indicated in the various parts of this report, EEAP was impressed by the dedication and commitment of the teaching staff and the Department's efforts to establish rigorous procedures for checking the assurance quality of their undergraduate program. Despite the Department's short academic life (only 3 years), many steps had been done in the direction of establishing a sound undergraduate program.

As it will also be indicated in the report, while teaching and training of the students can be improved within the Department, many of the weaknesses of the undergraduate program are due to factors beyond the Department.

On Wednesday, October 19, EEAP began the preparation of this report, which was completed with EEAP on October 19-20-21-22/2022. The report was submitted, as required, on October 22, 2022.

### III. New Undergraduate Study Programme in operation Profile

The Department of Mathematics of the University of Thessaly was established by the article 22 of Law 4589/ 29-01-2019 and is based in the city of Lamia. The first group of 126 students entered the Department during the academic year 2019-2020. Another 113 students entered the Department in the academic year 2020-2021. Last year's intake (2021-2022) was 44 students, due to the application of minimal entrance base grade. This year 60 students entered the Department. The overall number of active students in the department is 247 (data for 2022).

The Department of Mathematics has currently 8 faculty members (7 assistant professors and 1 full professor), 10 instruction staff, 3 administrative personnel and 2 support personnel. The EEAP was informed that at present, 2 new faculty members are expected to arrive. The Department's academic staff covers a wide range of mathematical research areas, and it is expected, when the Department reaches its stable state, to become wider and deeper. EEAP points out that besides the developing undergraduate program, the Department already has 6 doctoral students and employs 7 postdocs. EEAP was informed that the development of the graduate program is underway.

The completion of a degree (B.S. Mathematics) in the Mathematics Department at the University of Thessaly requires the successful completion of 240 ECTS units. The program is designed for 8 semesters of 30 ECTS units each or equivalently for 4 years of 60 ECTS units. The first six semesters are focused on 'foundation' courses for all students, though allowing a limited number of elective courses. The last two semesters offer a wide choice of elective courses intending to address a wide circle of students' scientific interests. It is not easy to foresee how many students will graduate in 4 years and how many will stay at the University longer. EEAP was informed by the faculty staff that they expect about 50% of students that entered the Department in 2019 to graduate within 4 years. This is a high percentage for a Mathematics Department in Greece.

The data provided by the Department indicate that the undergraduate program admitted for the last 2 years about 50 students on average. This number seems suitable for the number of teaching staff available. An important aspect is that about 30 % of the new coming students are from nearby areas and that they had the Department as their first choice for placement. Naturally, it is expected that when the Department reaches its developmental steady state (about 20 faculty members) the number of freshmen students to increase.

At present, the Department confers one degree, but the structural flexibility of the undergraduate program allows students to specialize, beyond the traditional degree in Mathematics, in Statistics and Operations Research, Computational Mathematics, Mathematics Education, Mathematics and Physics, Mathematics and Informatics.

At present, the Department does not have a graduate program. However, the groundwork to establish such program is already well underway. EEAP was informed that as far as the Department is concerned everything is in place, what remains is the institutional 'autonomy' of the Department when it reaches its critical mass concerning the number of teaching staff. The current external evaluation is the first one for the department. We hope that its finding will help the Department to address the relevant issues.

## **PART B: COMPLIANCE WITH THE PRINCIPLES**

### **Principle 1: Strategic Planning, Feasibility and Sustainability of the Academic Unit**

**Institutions must have developed an appropriate strategy for the establishment and operation of new academic units and the provision of new undergraduate study programmes. This strategy should be documented by specific feasibility and sustainability studies.**

*By decision of the institutional Senate, the Institutions should address in their strategy issues related to their academic structure in academic units and study programmes, which support the profile, the vision, the mission, and the strategic goal setting of the Institution, within a specific time frame. The strategy of the Institution should articulate the potential benefits, weaknesses, opportunities or risks from the operation of new academic units and study programmes, and plan all the necessary actions towards the achievement of their goals.*

*The strategy of their academic structure should be documented by specific feasibility and sustainability studies, especially for new academic units and new study programmes.*

*More specifically, the feasibility study of the new undergraduate study programmes should be accompanied by a four-year business plan to meet specific needs in infrastructure, services, human resources, procedures, financial resources, and management systems.*

*During the evaluation of the Institutions and their individual academic units in terms of meeting the criteria for the organisation of undergraduate study programmes, particular attention must be placed upon:*

#### **a. The academic profile and the mission of the academic unit**

*The profile and mission of the department should be specified. The scientific field of the department should be included in the internationally established scientific fields of Higher Education, as they are designated by the international categorisation of scientific fields in education, by UNESCO (ISCED 2013).*

#### **b. The strategy of the Institution for its academic development**

*The academic development strategy for the operation of the department and the new study programme should be set out. This strategy should result from the investigation of the factors that influence the studies and the research in the scientific field, the investigation of the institutional, economic, developmental, and social parameters that apply in the external environment of the Institution, as well as the possibilities and capabilities that exist within the internal environment (as reflected in a SWOT Analysis: strengths, weaknesses, opportunities, and threats). This specific analysis should demonstrate the reason for selecting the scientific field of the new department.*

#### **c. The documentation of the feasibility of the operation of the department and the study programme**

*The feasibility of the operation of the new department should be justified based on:*

- *the needs of the national and regional economy (economic sectors, employment, supply-demand, expected academic and professional qualifications)*
- *comparison with other national and international study programmes of the same scientific field*
- *the state-of-the-art developments*



- *the existing academic map; the differentiation of the proposed department from the already existing ones needs to be analysed, in addition to the implications of the current image of the academic map in the specific scientific field.*

**d. The documentation of the sustainability of the new department**

*Mention must be made to the infrastructure, human resources, funding perspective, services, and all other available resources in terms of:*

- *educational and research facilities (buildings, rooms, laboratories, equipment, etc.)*
- *staff (existing and new, by category, specialty, rank and laboratory). A distinct five-year plan is required, documenting the commitment of the School and of the Institution for filling in the necessary faculty positions to cover at least the entire pre-defined core curriculum*
- *funding (funding possibility from public or non-public sources)*
- *services (central, departmental / student support, digital, administrative, etc.)*

**e. The structure of studies**

*The structure of the studies should be briefly presented, namely:*

- **The organisation of studies:** *The courses and the categories to which they belong; the distribution of the courses into semesters; the alignment of the courses with the European Credit Transfer System (ECTS).*
- **Learning process:** *Documentation must be provided as to how the student-centered approach is ensured (modes of teaching and evaluation of students beyond the traditional methods).*
- **Learning outcomes:** *Knowledge, skills and competences acquired by graduates, as well as the professional rights awarded must be mentioned.*

**f. The number of admitted students**

- *The proposed number of admitted students over a five-year period should be specified.*
- *Any similar departments in other HEIs with the possibility of student transfers from / to the proposed department should be mentioned.*

**g. Postgraduate studies and research**

- *It is necessary to indicate research priorities in the scientific field, the opportunities for interdisciplinary research, the challenges towards new knowledge, possible research collaborations, etc.*
- *In addition, the postgraduate and doctoral programmes offered by the academic unit, the research projects performed, and the research performance of the faculty members should be mentioned.*

**Relevant documentation**

- *Introductory Report by the Quality Assurance Unit (QAU) addressing the above points with the necessary documentation*
- *Updated Strategic Plan of the Institution that will include its proposed academic reconstruction, in view of the planned operation of new department(s) (incl. updated SWOT analysis at institutional level)*
- *Feasibility and sustainability studies for the establishment and operation of the new academic unit and the new study programme*
- *Four-year business plan*

## Study Programme Compliance

### I. Findings

The creation of the Department of Mathematics by the University of Thessaly was based on a detailed study of the political and economic environment of the country. A key role in it was placed on STEM and its importance for the innovative aspect of economies of the developed countries in the future. The employment perspectives of the graduates were taken seriously into account through the specializations offered. The field of studies of the Department is internationally classified by UNESCO (ISCED 2013): 054-Mathematics and Statistics and its structure is compatible with international practice. The newly founded Department is one of the 8 Mathematics Departments of Greece, and an effort is made to differentiate its undergraduate program from the existing ones, thus attempting to attract highly motivated students. EEAP observes that while the density of Mathematics Departments in Greece per million inhabitants is comparable to other EU countries, the employment feasibility of their graduates in relevant sectors of economic activities remains rather restricted. There is a 4-year development plan in place for the Department specifying the number of admitted students at 60 and aiming at 20 faculty members. Moreover, the corresponding SWOT analysis details the strengths and weaknesses of the Department. The building facilities are located at the former premises of TEI Lamias and are used, in addition to the other 2 Departments of the School of Sciences of the University, by the undergraduate programs of Computer and Electronics Engineering also. At present, the facilities include 4 teaching rooms and 2 amphitheatres. There are also two teaching and one research lab equipped up-to-date and a Library, which is continuously enriched. In addition, there is an available centre for student advice and psychological support, an office for practical training and an amphitheatre for social events. All facilities are appropriately digitally equipped.

At present there is no functioning graduate program. However, EEAP was informed that its establishment is one of the priorities for the Department. EEAP was pleasantly surprised that there in place a functioning Ph.D. program and Post-Doctoral research activities regulated by the existing legal framework.

### II. Analysis

The realization of the existing development plan of the Department and its SWOT analysis may prove to be realistic provided both pillars, the Government and the local authorities prove to be reliable. There is a healthy attitude among the staff of the Department for cooperating with faculty members from the Physics and Computer Science Departments located nearby. EEAP thinks that this is a very important aspect of future joint research projects. Interdisciplinary research collaboration is an internationally encouraging tendency. EEAP remarks that the Department has already 6 doctoral students, even before establishing a graduate programme.

### III. Conclusions

EEAP believes that the Department is on the correct path for healthy future development.

## Panel Judgement

<b>Principle 1: Strategic planning, feasibility and sustainability of the academic unit</b>	
<b>a. The academic profile and the mission of the academic unit</b>	
Fully compliant	<b>V</b>
Substantially compliant	
Partially compliant	
Non-compliant	
<b>b. The strategy of the Institution for its academic development</b>	
Fully compliant	<b>V</b>
Substantially compliant	
Partially compliant	
Non-compliant	
<b>c. The documentation of the feasibility of the operation of the department and the study programme</b>	
Fully compliant	<b>V</b>
Substantially compliant	
Partially compliant	
Non-compliant	
<b>d. The documentation of the sustainability of the new department</b>	
Fully compliant	<b>V</b>
Substantially compliant	
Partially compliant	
Non-compliant	
<b>e. The structure of studies</b>	
Fully compliant	
Substantially compliant	<b>V</b>
Partially compliant	
Non-compliant	
<b>f. The number of admitted students</b>	
Fully compliant	<b>V</b>
Substantially compliant	
Partially compliant	
Non-compliant	

<b>g. Postgraduate studies</b>	
Fully compliant	<b>V</b>
Substantially compliant	
Partially compliant	
Non-compliant	

<b>Principle 1: Strategic planning, feasibility and sustainability of the academic unit (overall)</b>	
Fully compliant	<b>V</b>
Substantially compliant	
Partially compliant	
Non-compliant	

### **Panel Recommendations**

The University of Thessaly should continue its unwavering support for the expansion of the Department. The Department should forge closer links with the local business community in order to facilitate the access of graduates to the labour market.

## Principle 2: Quality Assurance Policy of the Institution and the Academic Unit

The Institution should have in place an accredited Internal Quality Assurance System, and should formulate and apply a Quality Assurance Policy, which is part of its strategy, specialises in the operation of the new academic units and the new study programmes, and is accompanied by annual quality assurance goals for the continuous development and improvement of the academic units and the study programmes.

*The quality assurance policy of the Institution must be formulated in the form of a published statement, which is implemented by all stakeholders. It focuses on the achievement of special annual quality goals related to the quality assurance of the new study programme offered by the academic unit. In order to implement this policy, the Institution, among others, commits itself to put into practice quality procedures that will demonstrate: the adequacy and quality of the academic unit's resources; the suitability of the structure and organisation of the curriculum; the appropriateness of the qualifications of the teaching staff; the quality of support services of the academic unit and its staffing with appropriate administrative personnel. The Institution also commits itself to conduct an annual internal evaluation of the new undergraduate programme (UGP), realised by the Internal Evaluation Group (IEG) in collaboration with the Quality Assurance Unit (QAU) of the Institution.*

*The quality assurance policy of the academic unit includes its commitment to implement quality procedures that will demonstrate: a) the adequacy of the structure and organisation of the curriculum, b) the pursuit of learning outcomes and qualifications in accordance with the European and National Qualifications Framework for Higher Education, c) the promotion of the quality and effectiveness of the teaching work, d) the adequacy of the qualifications of the teaching staff, e) the promotion of the quality and quantity of the research work of the members of the academic unit, f) the ways of linking teaching with research, g) the level of demand for graduates' qualifications in the labour market, h) the quality of support services, such as administration, libraries and student care, i) the implementation of an annual review and audit of the quality assurance system of the UGP through the cooperation of the Internal Evaluation Group (IEG) with the Quality Assurance Unit (QAU) of the Institution.*

### Relevant documentation

- Revised Quality Assurance Policy of the Institution
- Quality Assurance Policy of the academic unit
- Quality target setting of the Institution and the academic unit (utilising the S.M.A.R.T. methodology)

### Study Programme Compliance

#### I. Findings

The University has established a Quality Assurance Policy which is appropriate and satisfies applicable requirements. The Key Performance Indicators (KPIs) are regularly updated. EEAP found the B7 Appendix provided by the Department appropriate. It details the procedures that the Department applies in its daily practice. Moreover, the Department follows the guiding lines of the institutional

policy as they are described to us in Appendix B6. The MODIP monitors and enforces Quality Assurance. Department's general assembly has the overall responsibility for reviewing its entire study program and ensuring its consistency with the institutional Quality Assurance standards.

The Department has active researchers, and this could affect positively the education of undergraduate students; for example, by motivating bright students or writing scientific articles together. At present, there is an official process for recording the annual activities of the academic staff supervised by MODIP. However, EEAP suggests that at the beginning of every academic year each faculty member submits an updated CV and a 2-3 pages "yearly activities" report to the Head of the Department, who in turn can make its abridged summary available to the public. More suggestions about documentation regarding faculty academic activities are given in the section of Principle 5 of this report.

## II. Analysis

Overall, the undergraduate program meets international standards. EEAP met with several students (there are no graduates yet) who indicated that they are very satisfied with the program and their education. Moreover, the students have expressed high satisfaction with their communication with the academic staff. EEAP will make some suggestions concerning the programme later in Principle 5.

## III. Conclusions

The QA policy is in place both, in the Department and the Institution. The MODIP within the university structure oversees its proper and regular implementation.

### Panel Judgement

<b>Principle 2: Quality assurance policy of the Institution and the academic unit</b>	
Fully compliant	<b>V</b>
Substantially compliant	
Partially compliant	
Non-compliant	

### **Principle 3: Design, Approval and Monitoring of the Quality of the New Undergraduate Programmes**

Institutions should design the new undergraduate programmes following a defined written process, which will involve the participants, information sources and the approval committees for the programme. The objectives, the expected learning outcomes, the intended professional qualifications and the ways to achieve them are set out in the programme design. The above details, as well as information on the programme's structure, are published in the Student Guide.

*The Institutions develop their new undergraduate study programmes, following a well-defined procedure. The academic profile, the identity and orientation of the programme, the objectives, the subject areas, the structure and organisation, the expected learning outcomes and the intended professional qualifications according to the European and National Qualifications Framework for Higher Education are described at this stage. An important new element in the structure of the programmes is the introduction of courses for the acquisition of digital skills. The above components should be taken into consideration and constitute the subject of the programme design, which, among other things, should include: elements of the Institution's strategy, labour market data and employment prospects of graduates, smooth progression of students throughout the stages of the programme, the anticipated student workload according to the European Credit Transfer and Accumulation System (ECTS), the option of providing work experience to the students, the linking of teaching and research, the international experience in study programmes of similar disciplines, the relevant regulatory framework, and the official procedure for the approval of the programme by the Institution.*

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

#### **Relevant documentation**

- *Senate decision for the establishment of the UGP*
- *Curriculum structure: courses, course categories (including courses for the acquisition of digital skills), ECTS awarded, expected learning outcomes according to the EQF, internship, mobility opportunities*
- *Labour market data regarding the employment of graduates, international experience in a related scientific field*
- *Student Guide*
- *Course outlines*
- *Teaching staff (list of areas of specialisation, its relation to the courses taught, employment relationship)*
- *QAU minutes for the internal evaluation of the new study programme and its compliance with the Standards*

## Study Programme Compliance

### I. Findings

The undergraduate program of the Department of Mathematics at the University of Thessaly was established as a four-year program by Article 22 of the Law of the Greek State 4589/29-01-2019. According to the documentation that has been presented to us the primary objectives of the Department are:

- The education of undergraduate students in order to understand fundamental concepts of Mathematics.
- To cultivate and develop mathematical thinking in order to be able to manage issues that require qualitative and quantitative perception.
- To offer a good level of mathematical knowledge to students corresponding to the development and evolution of classical and modern areas of mathematical sciences.
- For Its graduates to be well-trained scientists that meet international standards, necessary for a carrier path in education, economy and research.
- The scientific subject of the Department is internationally classified by 054-Mathematics and Statistics, (0541-Mathematics, 0542-Statistics. Higher Education, UNESCO (ISCED 2013)).

### II. Analysis

As specified in the documentation reviewed by the EEAP, the design of the existing program is based on the following considerations: a) reviewing other established undergraduate programs, especially in European universities that are exemplary and have a significant tradition in Mathematics b) following research developments and future trends in Mathematics, while taking into account the social and economic conditions and challenges within the Greek context; c) the feedback and evaluation from various discussions with students, as well as practicing teachers and advisors on the current challenges of teaching, and; d) the institutional and organizational/structural challenges within the higher education system, as these relate, for instance, to admission requirements, and as reflected in the first year and transfer students.

The curriculum of the undergraduate program offered by the Department:

- provides a strong knowledge base in Theoretical Mathematics which is necessary for the substantial foundation and development of Mathematics
- considers the evolution of Mathematics and its interdisciplinarity.

The depiction of this fact is evident in the Directions of the Curriculum: Analysis, Algebra and Geometry, Statistics, Probability and Operational Research, Computational and Applied Mathematics, Physics, and Didactics. Its graduates will be mathematicians equipped with a wide range of methods and techniques from the Mathematical Sciences. We expect them to be competitive in the labour market. The Curriculum of the Department is comparable to corresponding Programs of Departments of Mathematics abroad. Moreover, the program is



flexible enough to allow students, interested in a teaching career, to obtain a teacher's certificate.

However, EEAP observes that 6 advanced elective courses of 5 ECTS during the last two semesters are an overwhelming amount of work! We think that 24 hours of lectures a week followed by a weekly 36 hours of homework by the students is not sustainable.

### III. Conclusions

Considering that the program is running only for three academic years, EEAP believes that the results are more than satisfactory. The problem that needs to be addressed is the correspondence of the ECTS unit in advanced elective courses. This affects the workload students have during the last two semesters. We also believe that the teaching certificate is a valuable asset for graduates of the Department.

#### Panel Judgement

<b>Principle 3: Design, approval and monitoring of the quality of the new undergraduate programmes</b>	
Fully compliant	
Substantially compliant	<b>V</b>
Partially compliant	
Non-compliant	

#### Panel Recommendations

- *EEAP recommends the Department to continue its sound practice of revisions of the programme, while waiting for the Department's steady state.*
- *EEAP recommends that advanced elective courses become of 6 or 7 ECTS. Thus, reducing the number of courses students take in order to graduate and bringing their workload to acceptable levels.*
- *EEAP suggests the Department introduces the practice of a reading course for especially motivated students. It is known that this leads to linking undergraduate education to research.*
- *EEAP suggest that the Department should initiate awards for best student performance at the various stages of their academic life.*
- *EEAP suggests that Department doubles its efforts to incorporate the use of Internships in the programme of study.*
- *EEAP suggests that the academic staff should initiate and incorporate in the teaching process research projects in Mathematics.*

## Principle 4: Student-centred Approach in Learning, Teaching and Assessment of Students

The academic unit should ensure that the new undergraduate programmes are delivered in a way that encourages students to take an active role in creating the learning process. The assessment methods should reflect this approach.

*In the implementation of student-centered learning and teaching, the academic unit:*

- ✓ *respects and attends to the diversity of students and their needs, enabling flexible learning paths*
- ✓ *considers and uses different modes of delivery where appropriate*
- ✓ *flexibly uses a variety of pedagogical methods*
- ✓ *regularly evaluates and adjusts the modes of delivery and application of pedagogical methods aiming at improvement*
- ✓ *regularly evaluates the quality and effectiveness of teaching, as documented especially through student surveys*
- ✓ *reinforces the student's sense of autonomy, while ensuring adequate guidance and support from the teaching staff*
- ✓ *promotes mutual respect in the student-teacher relationship*
- ✓ *applies appropriate procedures for dealing with students' complaints*

### **Relevant documentation**

- *Questionnaires for assessment by the students*
- *Regulation for dealing with students' complaints and appeals*
- *Regulation for the function of the academic advisor*
- *Reference to the planned teaching modes and assessment methods*

### **Study Programme Compliance**

#### **I. Findings**

The EEAP consulted a group of 8 undergraduate students to properly evaluate the student-centered approach in Learning, Teaching and Assessment. For this purpose, EEAP also discussed this issue with the teaching staff of the Department. The students were in general content, believing that the teacher-student connections are strong, resulting in flexible learning paths and different modes of students' evaluation. From our conversations, there was no evidence to support that students are seen as active partners in the teaching/learning process nor that they are encouraged to develop their individual skills. On the other hand, we concluded that the students are informed from the beginning of the semester about the teaching and testing methods of the courses. In addition, in some cases the testing methods are debatable, giving the students the choice of mid-semester evaluation that provides an additional 2 or 3 points to the final score.

EEAP had the opportunity to consult a sample of midterm and final exams and found them to follow international standards. The student-teacher relationship is an important characteristic of the Department's student-centered approach. Teaching staff and students can, in general, discuss teaching and evaluation techniques, establishing flexible learning paths and adjustable testing methods.

However, EEAP notes that there are no University rules regarding continuous assessment.

Regular satisfaction surveys were also taken in place during the semester, but with a low percentage of participating students (only 12.16% in the second semester of the academic year 2021-2022).

EEAP was informed that there are academic tutors in the Department, consulting students in determining academic and professional goals and monitoring their academic process. In addition, there are several official ways that students could formally address their complaints to the Department. EEAP was informed also about orientation days for new coming students.

## II. Analysis

The teaching staff should evaluate the students' requests and act according to the pedagogical methods they consider more appropriate. Also, there should be more encouragement for the students about developing their individual skills, especially soft skills such as presentation of a paper, writing an essay. Students should be motivated to participate in live presentations, individual research on a specific subject etc. This will not only improve the academic confidence of the students but also teach them how to perform valid mathematical research. Presently, the ratio of number of teaching staff to the number of students is satisfactory.

## III. Conclusions

Even though there are aspects that can be improved, EEAP concluded that the Student-centered Approach in Learning, Teaching and Assessment of Students is sufficiently established.

### Panel Judgement

<b>Principle 4: Student-centred approach in learning, teaching and assessment of students</b>	
Fully compliant	<b>V</b>
Substantially compliant	
Partially compliant	
Non-compliant	

### Panel Recommendations

*EEAP suggests that a general rule regarding the continuous assessment of student progress during the semester be introduced. For example, a final grade of a course cannot depend only on the results of the final exam.*

## **Principle 5: Student Admission, Progression, Recognition of Academic Qualifications and Award of Degrees and Certificates of Competence of the New Study Programmes**

**Academic units should develop and apply published regulations addressing all aspects and phases of studies of the programme (admission, progression, recognition and degree award).**

*All the issues from the beginning to the end of studies should be governed by the internal regulations of the academic units. Indicatively:*

- ✓ *the registration procedure of the admitted students and the necessary documents - according to the law - and the support of the newly admitted students*
- ✓ *student rights and obligations, and monitoring of student progression*
- ✓ *internship issues, granting of scholarships*
- ✓ *the procedures and terms for writing the thesis (diploma or degree)*
- ✓ *the procedure of award and recognition of degrees, the duration of studies, the conditions for progression and assurance of the progress of students in their studies*

*as well as*

- ✓ *the terms and conditions for enhancing student mobility*

*Appropriate recognition procedures rely on relevant academic practice for recognition of credits among various European academic departments and Institutions in line with the principles of the Lisbon Convention on the Recognition of Qualifications concerning Higher Education in the European Region. Graduation represents the culmination of the students' study period. Students need to receive documentation explaining the qualification gained, including achieved learning outcomes, and the context, level, content and status of the studies that were pursued and successfully completed (Diploma Supplement).*

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

### **Relevant documentation**

- *Internal regulation for the operation of the new study programme*
- *Regulation of studies, internship, mobility and student assignments*
- *Printed Diploma Supplement*

*Certificate from the President of the academic unit that the diploma supplement is awarded to all graduates without exception together with the degree or the certificate of completion of studies*

### **Study Programme Compliance**

#### **I. Findings**

Student admission is regulated by the rules of the Ministry of Education of Greece. The recent introduction of a 'minimum entrance grade' by the aforementioned Ministry restrict access to University Education to unqualified high-school graduates.

This measure affects many Departments in different universities in Greece by reducing the number of expected first-year students. However, one might argue, that the students affected by this measure never complete their degree.

The Study Guide of the Department includes instructions on several processes and services and is made available through its home page. An orientation day, when students arrive on campus, exists and it is extremely helpful. Apparently, the Department (and to EEAP's understanding, the entire University) does not have a well-defined student progression monitoring process. Despite this issue, the Department's undergraduate program seems to work sufficiently well during its first 3 years, and we hope that it will produce a body of very good students. EEAP suggests that some type of student progression monitoring should be in place from the beginning. EEAP understands that it will add to the already heavy load of administrative duties performed by academic staff. The Department has a good start: more than 50 % of students that began their studies in 2019 are expected to graduate this year.

Student mobility is encouraged via the ERASMUS project, where the Department is quite successful (6 students went abroad and 2 students from other countries are expected in the Department). The concept of Practical Training is very helpful as well. Some steps are made to establish it as a standard practice.

The ECTS system is applied across the curriculum for the sake of student recognition and certification. The workload of the courses is adjusted to the ECTS. At present, the practice of a Diploma supplement is applied.

## **II. Analysis**

EEAP notes that the Department has encouraging results concerning the Erasmus program and more generally for internationalization judging by the negotiation with 34 Universities for student exchange.

## **III. Conclusions**

Based on the data presented by the chairperson, OMEA, and MODIP we suggest that more effort should be applied to continuous monitoring of the progression of students.

## Panel Judgement

<b>Principle 5: Student admission, progression, recognition of academic qualifications, and award of degrees and certificates of competence of the new study programmes</b>	
Fully compliant	<b>V</b>
Substantially compliant	
Partially compliant	
Non-compliant	

## Panel Recommendations

- The EEAP suggests for the future (when the number of students gets large) a well-designed First Year Student Guide providing practical information such as familiarity with facilities, housing and transportation.
- Student mobility is already in place. The faculty should continue to encourage students to take advantage of the ERASMUS mobility program despite the expenses involved.
- As mentioned above the Department lacks systematic student progression monitoring. EEAP suggests that some type of such mechanism should be in place.

## **Principle 6: Ensuring the Competence and High Quality of the Teaching Staff of the New Undergraduate Study Programmes**

**Institutions should assure themselves of the competence, the level of knowledge and skills of the teaching staff of the academic units, and apply fair and transparent processes for their recruitment, training and further development.**

*The Institution should attend to the adequacy of the teaching staff of the academic unit, the appropriate staff-student ratio, the suitable categories of staff, the appropriate subject areas and specialisations, the fair and objective recruitment process, the high research performance, the training – development, 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 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 members (with respect to attendance requirements, performance, self-assessment, training, etc.); develop policies to attract highly qualified academic staff.*

### **Relevant documentation**

- *Procedures and criteria for teaching staff recruitment*
- *Regulations or employment contracts, and obligations of the teaching staff*
- *Policy for staff recruitment, support and development*
- *Performance of the teaching staff in scientific-research and teaching work, also based on internationally recognised systems of scientific evaluation (e.g., Google Scholar, Scopus, etc.)*

### **Study Programme Compliance**

#### **I. Findings**

The Department has active faculty members and special teaching staff (EDIP) – committed to their duties. In particular, staff members and EDIP participate in international and local conferences, publish in international journals and participate in research projects. The Department is new and there have not been any promotions yet, but EEAP believes that the same ‘stringent’ standards should be applied in the promotion of the faculty. Recent hiring shows that the Department aims high. Both hiring and promotion follow the criteria mandated by Greek law.

The EEAP was informed that a substantial part of the current annual budget of the Department is devoted to the support of scientific activities (participation in conferences) by the staff. Currently, the expenses for participation of individual faculty in conferences/workshops are covered by research grants.

The student/faculty ratio is reasonable. As a consequence, the teaching load of the faculty is normal. EEAP observed a non-uniform rank distribution among the academic staff members. Following international practice, when a new Department begins to operate, more of its members are tenured. This allows them to carry the administrative duties, leaving non-tenured colleagues more time for research.

## **II. Analysis**

Linking teaching with research is an important mechanism to stimulate students. It is imperative that the department should establish mechanisms toward this goal. Such mechanisms could be undergraduate students publishing research papers, regular research seminars, regular summer schools, conferences, and regular annual workshops. EEAP suggests the establishment of a weekly or bi-weekly “undergraduate seminar” where the speakers could be future graduate students, undergraduate students working on some research project with a staff member or EDIP, or faculty members from other Departments.

A current trend in mathematics is the integration of different sub-areas. This is healthy both for research and teaching. EEAP observed healthy collaborative interactions are possible among many faculty members in the Department. It strongly recommends that the cross-fertilization among the sub-areas be initiated and strengthened, and that the Department formulates an overall coherent vision for the future. This approach will facilitate the participation of members of the Department in funded research projects.

## **III. Conclusions**

A minimum requirement for maintaining and strengthening the good quality of the Department’s members is that the University supports the research and visibility of the young faculty. This is already done using the limited resources of the Departmental budget, but it is not sufficient. EEAP suggests that the Department allocates part of its small budget towards supporting the scientific activities of the young faculty members. However, because the departmental budget is so small, EEAP strongly urges the University to provide more support to the Department for such purposes.

Beyond the above, EEAP suggests that the Department in coordination with the University Administration explore creative ways for funding from non-university sources. For example, funds could be secured from the local business community or scientific agencies for the cost of subscription to MathSciNet. We understand that possibly, under the current rules, there could be a difficulty that the Department should overcome.



## Panel Judgement

<b>Principle 6: Ensuring the competence and high quality of the teaching staff of the new undergraduate study programmes</b>	
Fully compliant	
Substantially compliant	<b>V</b>
Partially compliant	
Non-compliant	

## Panel Recommendations

- The Department should organize special seminars for beginners in academic life concerning methods of teaching, different approaches to work in classrooms, evaluation of epistemological obstacles related to the topics of teaching and methods of teacher's evaluation (fidelity and validity of tests and exams). Moreover, it could be useful for assessing students' papers and exams to consider the use of formative assessment.
- As we indicated above, the University and the Department should support young faculty in their research and visibility. Research and Teaching should not be separated. In particular, it should support conference participation, visiting other institutions, research collaborations and preparation of research proposals.
- The Department should provide mentoring to its younger members. More precisely, the Department should assign a "mentor" to each new hire (or young professor) to guide them in teaching, interactions with students, administrative issues, research possibilities with people across campus who have similar or overlapping scientific interests, and in general with the academic culture of the university. This type of mentoring is done in many institutions, and it is effective. It helps integrate young faculty members into their new environment.
- The Department should consolidate a coherent vision of its future academic expansion. It has to consider not only the scientific subject distribution but also a uniform rank distribution.
- EEAP insists that the faculty positions be advertised beyond APELLA.
- EEAP insists that in order to attract a broader pool of candidates for new faculty positions it is important to widen its scientific profile in the advertisement. Inbreeding does not have a positive impact on the development of a Department, as the experience of older schools shows.

## Principle 7: Learning Resources and Student Support of the New Undergraduate Programmes

Institutions should have adequate funding to meet the needs for the operation of the academic unit and the new study programme as well as the means to cover all their teaching and learning needs. 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, boarding, career and social policy services, etc.).

*Institutions and their academic units must have sufficient resources, on a planned and long-term basis, to support learning and academic activity in general, in order to offer students, the best possible level of studies. The above means include facilities such as, the necessary general and specific libraries and possibilities for access to electronic databases, study rooms, educational and scientific equipment, information 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 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 organized in various ways, depending on the institutional context. Students should be informed about 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.*

### Relevant documentation

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

### Study Programme Compliance

#### I. Findings

The Department is located at the premises of the former TEI LAMIAS and shares some of the facilities with other departments of the School of Sciences (Dep. of Physics, Dept. of Computer Sciences (2)). It has 4 teaching rooms of 270 seats, 2 Amphitheatre of 332 seats (sharing) and 3 fully equipped labs with 57 seats. Two of the labs are teaching and one is research. At the moment the available software covers all educational needs; the number for simultaneous use for some software programs (e.g., MATLAB) is adequate.

The class and amphitheatres are equipped with projectors and interactive screens. There is a nice library at the School of Sciences containing mathematics books and journals and other literature. There are six offices for the staff members and one

office for the teaching staff. A wide range of support services is available to students, including counselling services, dining services, sports facilities etc. EEAP's understanding is that the University has a lot of means to support students with disabilities. Students were very satisfied with the maintenance of the sanitary and other facilities, the security on the campus and the bus connection to the city. EEAP was informed that the administrative support is very strong and competent. Moreover, students are very satisfied with the friendly atmosphere in their communication with the administrative staff of the Department.

**II. Analysis**

Based on the findings presented above, EEAP believes that learning resources and student support provided by the Department are at a high-quality level.

**III. Conclusions**

EEAP hopes that the same level of support and services be pertained in the future, when the Department reaches its full state of development.

**Panel Judgement**

<b>Principle 7: Learning resources and student support of the new undergraduate programmes</b>	
Fully compliant	<b>V</b>
Substantially compliant	
Partially compliant	
Non-compliant	

**Panel Recommendations**

- Department and its academic facilities must have sufficient resources, on a planned and long-term basis concerning students with disabilities.
- The academic facilities should be adjusted to people with special needs prior to their arrival and this information should appear on the web page of the Department.

## Principle 8: Collection, Analysis and Use of Information for the Organisation and Operation of New Undergraduate Programmes

The Institutions and their academic units bear full responsibility for collecting, analysing and using information, aimed at the efficient management of undergraduate programmes of study and related activities, in an integrated, effective and easily accessible way.

*Effective procedures for collecting and analysing information on the operation of Institutions, academic units and study programmes feed data into the internal quality assurance system. The following data is of interest: key performance indicators for the student body profile, student progression, success and drop-out rates, student satisfaction with the programme, availability of learning resources and student support. The completion of the fields of National Information System for Quality Assurance in Higher Education (NISQA) should be correct and complete with the exception of the fields that concern graduates in which a null value is registered.*

### Relevant documentation

- *Report from the National Information System for Quality Assurance in Higher Education (NISQA) at the level of the Institution, the department and the new UGP*
- *Operation of an information management system for the collection of administrative data for the implementation of the programme (Students' Record)*
- *Other tools and procedures designed to collect data on the academic and administrative functions of the academic unit and the study programme*

### Study Programme Compliance

#### I. Findings

The Department of Mathematics of the University of Thessaly uses procedures and forms for collecting information proposed by MODIP. This is done through MODIP's unified electronic system used by both faculty and students and aims at collecting and analysing data and information coming from both the Department and the Institution. Core in this process is the role of OMEA, the internal evaluation findings committee made up of faculty members from diverse disciplinary fields within the Department. The OMEA follows the system of quality management established by MODIP. OMEA collects survey data – both qualitative and quantitative – from faculty and lab directors about the content and mode of instruction, research and teaching activities, and community outreach activities.

The Department draws information on a daily basis from the following:

- The information systems developed and operated by MODIP-Un. of Thessaly in collaboration with the University's e- Centre through which the data required by the implementation of the Institution's Internal Quality Assurance System is managed
- A variety of other online resources of academic or institutional interest including the Eudoxus-system for the distribution of textbooks, the academic identities, the online platform APELLA for the election and development of faculty members, the Hellenic Statistical Service, etc.

Moreover, the Department keeps physical and digital records and processes of data documenting internal department procedures and includes accountability reports from different committees and units of the Department concerning:

- Students
- The staff of the Department
- The Department's, Services' and Institution's Report.
- Statistical data, such as the number of students, their Grade Point Average, as well as data along with course statements made by students, key performance indicators and student population profiles, course of study and rates of early completion or dropout rates, student satisfaction with the programs of study they attend, availability of learning resources and student support etc.

Students' feedback to the EEAP indicated that they value and rate very highly the educational experiences provided by the Department. They expressed satisfaction with the diversity of the course offerings. Some of them stated that courses in Didactics: (a) provide them with a good understanding of the connection between practice and research; (b) prepare them well for the job market/workforce.

**II. Analysis**

The system of collecting and analysing the statistical data concerning students seems to be put well to use. Nevertheless, EEAP noticed that only a small percentage of students participate in the last teaching evaluation (12,5%). Hopefully, when the Department will function for sufficiently many years, this will help to draw useful conclusions.

**III. Conclusions**

The EEAP determined that the Department has established an information management process that informs both internal and external evaluation efforts as well the accreditation processes. Overall, the EEAP concludes that the adopted processes, the levels of satisfaction expressed on surveys, and the decisions being made following the analysis of these data are sufficient.

**Panel Judgement**

<b>Principle 8: Collection, analysis and use of information for the organisation and operation of new undergraduate programmes</b>	
Fully compliant	<b>V</b>
Substantially compliant	
Partially compliant	
Non-compliant	

### **Panel Recommendations**

- EEAP recommends that the Department will start collecting data on student employability and the career paths of graduates. This data can not only help the Department gauge its ability to position its graduates in the workforce, but also has the potential to foster future connections and collaborations with the industry.
- Take concrete steps to increase the student response to the teaching evaluation. One possibility is to make the completion of the questionnaire in some way mandatory. For example, the students cannot see their grades online until they participate in the surveys, with the option of abstaining.

## Principle 9: Public Information Concerning the New Undergraduate Programmes

Institutions and academic units should publish information about their teaching and academic activities in a direct and readily accessible way. The relevant information should be up-to-date, clear and objective.

*Information on the Institutions' activities is useful for prospective and current students, graduates, other stakeholders and the public. Therefore, Institutions and their academic units must provide information about their activities, including the new undergraduate programmes they offer, the intended learning outcomes, the degrees awarded, the teaching, learning and assessment procedures used, the pass rates and the learning opportunities available to their students. Information is also provided, to the extent possible, on graduate employment perspectives.*

### **Relevant documentation**

- *Dedicated segment on the website of the department for the promotion of the new study programme*
- *Bilingual version of the website of the academic unit with complete, clear and objective information*
- *Provision for website maintenance and updating*

### **Study Programme Compliance**

#### **I. Findings**

It is obvious that the University of Thessaly and the Department of Mathematics have put in place a comprehensive public information system as we concluded through our interviews with the Head of the Department, members of MODIP, OMEA, faculty, secretarial staff and students. The EEAP examined the webpage of the University and of the Department and materials provided that exhibited evidence of critical information sharing with students, faculty members, external partners and the community at large.

#### **II. Analysis**

The University of Thessaly is a multi-site University and its website, <https://www.uth.gr> contains general information concerning the campus of the University in the five cities of Thessaly (Karditsa, Lamia, Larissa, Trikala, Volos), the 8 Schools of, the 35 Undergraduate Programs and the Postgraduate Programs(90+) offered by the University. The Department's website, <https://math.uth.gr> in Greek and English language contains information about its facilities, staff, undergraduate and graduate programs and guides, announcements, events, policy of quality assurance, and internal assessment reports. News about awards, as well as the activities of members of the academic community (conferences, workshops, announcements, distinctions and trainings) are also posted on the Department's website. Information of interest to the general public such as invited lectures, workshops, conferences and other events that connect the Department with society is posted on its website. On the other hand, the order of preference of freshmen students to enter the Department is available.

It should be mentioned that the EEAP evaluated the Department’s website regarding international standards of website accessibility (for example WCAG) and found no evidence to support any adjustments for people with disabilities. Even though there is a section on the website regarding «disability and access» (which is only available in the Greek language ‘πρόσβαση’), there is no information regarding the accessibility of the department’s facilities (such as maps with indications etc).

### III. Conclusions

Based on the previous comments, the EEAP suggests that it would be useful to improve the e-publishing activity of the Department by creating an e-Newsletter and social media accounts. In this way, potential students and future alumni of the department, the numerous collaborators and school partners, social partners and the community, in general, could have more direct information about important educational, research and other cultural activities of the Department.

### Panel Judgement

<b>Principle 9: Public information concerning the new undergraduate programmes</b>	
Fully compliant	
Substantially compliant	<b>V</b>
Partially compliant	
Non-compliant	

### Panel Recommendations

- The EEAP encourages the Department to redesign its website in a new more attractive and user-friendly format while following international standards regarding adjustments for people with disabilities.
- The EEAP encourages the Department to consider creating an e-Newsletter as a way to maintain contact with students, schools, social partners, members of the Hellenic Mathematical Society and other stakeholders.
- The EEAP encourages the Department to update the English version of its website and to provide additional data for people with disabilities.
- The EEAP encourages the Department to create social media accounts to improve student information about its activities.
- The Department should require that each faculty member and teaching staff maintains an up-to-date uniform basic CV, containing information about education, employment, scientific interests, courses taught, and resources developed, a list of grants, collaborations, conference organization and participation, departmental and professional service, and a complete list of publications.
- The Department’s webpage should have an up to date undergraduate and graduate studies information (in Greek and English) reflecting the most recent changes in the curriculum.
- Every student should be given a condensed (at most 10-pages), up-to-date, outline of the program of study.



## Principle 10: Periodic Internal Review of the New Study Programmes

Institutions and academic units should have in place an internal quality assurance system, for the audit and annual internal review of their new programmes, so as to achieve the objectives set for them, through monitoring and amendments, with a view to continuous improvement. Any actions taken in the above context, should be communicated to all parties concerned.

*Regular monitoring, review and revision of the new study programmes aim at maintaining the level of educational provision and creating a supportive and effective learning environment for students. The above comprise the evaluation of: the content of the programme in the light of the latest research in the given discipline, thus ensuring that the programme is up to date; the changing needs of society; the students' workload, progression and completion; the effectiveness of the procedures for the assessment of students; the students' expectations, needs and satisfaction in relation to the programme; the learning environment, support services, and their fitness for purpose for the programme. Programmes are reviewed and revised regularly involving students and other stakeholders. The information collected is analysed and the programme is adapted to ensure that it is up-to-date.*

### **Relevant documentation**

- Procedure for the re-evaluation, redefinition and updating of the curriculum
- Procedure for mitigating weaknesses and upgrading the structure of the UGP and the learning process
- Feedback processes on strategy implementation and quality targeting of the new UGP and relevant decision-making processes (students, external stakeholders)
- Results of the annual internal evaluation of the study programme by the QAU and the relevant minutes

### **Study Programme Compliance**

#### **I. Findings**

In spite of the fact that the original program was approved in May of 2019, some changes took place on four occasions following well-established University procedures. These procedures involve teaching staff, OMEA, MODIP, the Department's Assembly and University Senate. EEAP was informed that small changes were addressing unforeseen problems of a new program.

#### **II. Analysis**

EEAP observed that while the process of changing the program of studies may seem complicated, in reality, this assures that the changes made have been thoroughly justified and have a permanent effect.

### III. Conclusions

EEAP observes that future changes will involve newly arrived members of the Department contributing to further development and improvement of the existing program.

#### Panel Judgement

<b>Principle 10: Periodic internal review of the new study programmes</b>	
Fully compliant	<b>V</b>
Substantially compliant	
Partially compliant	
Non-compliant	

## **Principle 11: Regular External Evaluation and Accreditation of the New Undergraduate Programmes**

The new undergraduate study programmes should regularly undergo evaluation by panels of external experts set by HAHE, aiming at accreditation. The results of the external evaluation and accreditation are used for the continuous improvement of the Institutions, academic units and study programmes. The term of validity of the accreditation is determined by HAHE.

*HAHE is responsible for administrating the programme accreditation process which is realised as an external evaluation procedure and implemented by a panel of independent experts. HAHE grants accreditation of programmes, based on the Reports submitted by the panels, with a specific term of validity, following to which revision is required. The accreditation of the quality of the programmes acts as a means of verification of the compliance of the programme with the Standards, and as a catalyst for improvement, while opening new perspectives towards the international standing of the awarded degrees. Both academic units and institutions must consistently consider the conclusions and the recommendations submitted by the panels of experts for the continuous improvement of the programme.*

### **Relevant documentation**

- *Progress report on the results from the utilisation of the recommendations of the external evaluation of the Institution and of the IQAS Accreditation Report.*

### **Study Programme Compliance**

#### **I. Findings**

EEAP observed strong commitment by the members of the Department and Administration of the University to the evaluation process. During the teleconferences, EEAP members had substantial interaction with participating members of the Department and stakeholders.

#### **II. Analysis**

That the existing processes end up with a useful summary of actions needed to keep the undergraduate program under continuous assessment for improvement.

#### **III. Conclusions**

EEAP has evidence that the University Authorities and the staff of the Department are conscious of the importance of external evaluation and accreditation.

## Panel Judgement

<b>Principle 11: Regular external evaluation and accreditation of the new undergraduate programmes</b>	
Fully compliant	<b>V</b>
Substantially compliant	
Partially compliant	
Non-compliant	

## **Principle 12: Monitoring the Transition from Previous Undergraduate Study Programmes to the New Ones**

**Institutions and academic units apply procedures for the transition from previously existing undergraduate study programmes to new ones, in order to ensure compliance with the requirements of the Standards.**

*Applies in cases where the department implements, in addition to the new UGPs, any pre-existing UGPs from departments of former Technological Educational Institutions (TEI) or from departments that were merged / renamed / abolished.*

*Institutions should implement procedures for the transition from former UGPs to new ones, in order to ensure their compliance with the requirements of the Standards. More specifically, the institution and the academic unit must have a) the necessary learning resources, b) appropriate teaching staff, c) structured curriculum (courses, ECTS, learning outcomes), d) study regulations, award of diploma and diploma supplement, and e) system of data collection and use, with particular reference to the data of the graduates of the pre-existing UGP. In this context, the Institutions and the academic units prepare a plan for the foreseen transition period of the existing UGP until its completion, the costs caused to the Institution by its operation as well as possible measures and proposals for its smooth delivery and termination. This planning includes data on the transition and subsequent progression of students in the respective new UGP of the academic unit, as well as the specific graduation forecast for students enrolled under the previous status.*

### **Relevant documentation**

- *The planning of the Institution for the foreseen transition period, the operating costs and the specific measures or proposals for the smooth implementation and completion of the programme*
- *The study regulations, template for the degree and the diploma supplement*
- *Name list of teaching staff, status, subject and the course they teach / examine*
- *Report of Quality Assurance Unit (QAU) on the progress of the transition and the degree of completion of the programme. In the case of UGP of a former Technological Educational Institution (TEI), the report must include a specific reference to how the internship was implemented*

### **Study Programme Compliance**

- I. Findings**
- II. Analysis**
- III. Conclusions**

## Panel Judgement

<b>Principle 12: Monitoring the transition from previous undergraduate study programmes to the new ones</b> <b>NOT APPLICABLE.</b>	
Fully compliant	
Substantially compliant	
Partially compliant	
Non-compliant	

## **PART C: CONCLUSIONS**

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

- There is a high degree of satisfaction, support and enthusiasm for the Department among students and external partners and stakeholders, which is good starting point for the Department's future reputation and effectiveness.
- The faculty's work towards establishing Ph.D. programs, despite the already heavy administrative workload.
- The faculty's work toward students obtaining teaching certificates.
- Faculty is actively publishing in international journals, participating in conference proceedings and engaged in international collaborations.
- The Department, despite the fact that it has received students in 2019, encourages and supports student mobility through different programs. It is an extremely positive and valuable development for students.

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

- There is a shortage of student internships.
- The number of required courses to get a degree is large.
- The allocation of ECTS units in some advanced elective courses is not in line with the real amount of required student workload.
- There are no reading courses offered at present.
- There is a little evidence of students engaging in research projects in Mathematical Sciences.
- There is no universal requirement for a final grade on a course to be obtained by means other than a final exam.
- The rank pyramid (hierarchy) of the faculty.
- The English language webpage.

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

- As the faculty need to deliver a very demanding undergraduate program, the Department should approach the curriculum creatively and review the list of required courses in order to establish a clear rationale behind every choice.
- It is not evident to the EEAP, regarding the degree, to which students participate in the decision-making of the school on issues related to their welfare. It would be useful for the Department to consider ways of re-engaging with students and re-enforce the benefits of their active representation in the decision-making bodies of the school – the General Assembly and a range of committees.
- The EEAP encourages the Department to systematize and formalize processes of collecting different types of useful information and data. This includes conducting systematic surveys (e.g., exit, alumni and advising surveys) on student satisfaction,

retention, and successful career paths with the aim of continuous improvement. The Career Centre could potentially be involved in this latter endeavour.

- The Department may want to explore ways to solicit as many faculty members as possible to identify and establish close partnerships with highly selected public-school sites, which espouse excellent theory-to-practice approaches. On these sites, teacher candidates could conduct most fieldwork experiences, especially during their fourth-year student teaching.
- The EEAP encourages the Department to consider explicit ways for building cooperation between Mathematics, Informatics, Physical Sciences, Technology and Environmental Studies. One way to do this would be to examine similar programs under the STEM umbrella and explore their applicability in the Program's context. This would be in line with current approaches internationally in the field.



#### IV. Summary & Overall Assessment

The Principles where full compliance has been achieved are: **1, 2, 4, 5, 7, 8, 10, and 11.**

The Principles where substantial compliance has been achieved are: **3, 6, and 9.**

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>V</b>
Substantially compliant	
Partially compliant	
Non-compliant	

## The members of the External Evaluation & Accreditation Panel

Name and Surname

Signature

**1. Professor Alekos Vidras (Chair)**

University of Cyprus, Nicosia, Cyprus

**2. Professor (Emeritus) Athanasios Gagatsis**

University of Cyprus, Nicosia, Cyprus

**3. Professor Nikolaos Stylianopoulos**

University of Cyprus, Nicosia, Cyprus

**4. Mr. Stylianos Sfondylis, Student of Mathematics**

Aristotle University of Thessaloniki, Thessaloniki, Greece