



ΕΛΛΗΝΙΚΗ ΔΗΜΟΚΡΑΤΙΑ
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Accreditation Report
for the Undergraduate Study Programme of
Mathematics
Institution: University of Patras
Date: 14 November 2020



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 Undergraduate Study Programme of **Mathematics** of the **University of Patras** 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 Undergraduate Study Programme of **Mathematics** of the **University of Patras** comprised the following three (3) members, drawn from the HAHE Register, in accordance with Laws 4009/2011 & 4653/2020:

- 1. Prof. Panagiotis Souganidis (Chair)**
The University of Chicago, Chicago, Illinois, USA

- 2. Prof. George Michailidis**
University of Florida, Gainesville, Florida, USA

- 3. Prof. Nikolaos Stylianopoulos**
University of Cyprus, Nicosia, Cyprus

II. Review Procedure and Documentation

The External Evaluation & Accreditation Panel (henceforth EEAP) conducted, during the period November 9-14, 2020, the accreditation evaluation of the Undergraduate Program (henceforth UP) of the Department of Mathematics (henceforth DM) of the University of Patras.

Due to the Covid-19 pandemic, the EEAP could not visit the site physically and conducted the accreditation evaluation via Zoom teleconferencing.

On Monday, November 9, 2020, members of the EEAP attended a Zoom teleconference briefing by HAHE's General Director Dr. Christina Besta, who outlined and explained the procedures and rationale for the accreditation. Dr. Besta's presentation was sent to the EEAP members in advance. Later the same day, the EEAP met to discuss the review process, allocate tasks, and identify possible issues to be addressed during the visit.

The EEAP received in advance from HAHE the following documentation and supporting material related to the Mathematics Program:

1. The guidelines for accreditation created by HAHE.
2. The mapping grid created by HAHE.
3. A tabulation (prepared by HAHE) of the scores of the program regarding the quality indexes for the years 2015 – 2018.
4. The accreditation information for the program prepared by the department.
5. A set of annexes to the accreditation proposal, including the study guide, course descriptions, etc.
6. Statistical data regarding the department and the specific program of studies.
7. The Quality Assurance policy of the specific program of studies.
8. A set of documents presenting quality indicators both for the department and the program.
9. The report of the 2013 external evaluation conducted by HQA for the Department of Mathematics.
10. The results of the internal evaluations of the specific program of studies.

On Tuesday, November 10, the EEAP met the Vice Rector and President of MODIP, Prof. Dionissios Mantzavinos, who gave a presentation about the University and its history, its Schools and Departments, physical infrastructure and policies and areas of concern. The EEAP then met with the Chair of the Department, Prof. Pavlos Tzermias, who gave a presentation focusing on the (a) recent history, (b) academic profile, (c) current status, and (d) strengths of the Department as well as some areas of concern. In addition, the EEAP had a brief meeting with the Rector, Prof. Christos Bouras, who brought up some of the main concerns of the University stemming from its recent expansion and addition of new Departments and Programs. Subsequently the EEAP met members of OMEA and MODIP as well as MODIP staff. The Chair of OMEA, Prof. George Tsiatas, made a presentation discussing Quality Standards and summarizing the information collected by OMEA. A discussion followed about the degree of compliance of the UP to the Quality Standards for Accreditation. The EEAP also had the opportunity to review student assignments, theses, exam papers and examination material, which were made available by the OMEA. Finally, the EEAP looked at the revisions made in the UP following the

2013 external evaluation of the Department. A discussion about this topic can be found later in the report. The same day, the EEAP had teleconference meetings with members of the teaching staff and representatives of students of the UP. The day concluded with EEAP's debriefing.

On Wednesday, November 11, the EEAP had (via teleconference) (a) a discussion about and an on-line tour of classrooms, lecture halls, libraries, computing laboratories, and other facilities, and (b) separate meetings with a group of graduates of the program, and select employers and social partners. Due to the remote nature of the meeting, the EEAP did not have the opportunity to observe teaching. Following a short debriefing, the EEAP met with OMEA & MODIP representatives to clarify certain points and findings. The day concluded with a meeting with the Vice-Rector and President of MODIP, the Head of the Department, and OMEA and MODIP members to discuss informally the key findings and recommendations.

The report of the EEAP was prepared in the period November 12-14. The final document was submitted to HAHE on Monday, November 16, 2020.

The schedule of the two-day long e-visit was well organized, albeit some glitches due to the way HAHE managed the organization of the zoom calls. The EEAP came away with a thorough picture of the Department's vision and efforts for the education of the undergraduate students.

The quality of the UP is in accordance with international standards.

The EEAP noted the dedication and commitment of the teaching staff, the Department's efforts to develop rigorous procedures for monitoring the assurance quality, and, in general, the effectiveness of the UP. As it is also indicated in the report, while teaching and training of the students can be improved within the program, many of the weaknesses are due to factors beyond the control of the Department or indeed the University. Key such factors include the very large number of incoming first year students, which is regulated by the Ministry of Education and Religious Affairs (thereafter called ME for brevity) and to the recent economic hardships that have led to shrinking the teaching staff.

III. Study Programme Profile

The DM, which was established in 1966, is a unit within the School of Natural Sciences of the University of Patras.

In 2020, the Department has 24 faculty members, 1 Scientific Collaborator, 5 additional teaching staff, 6 administrative personnel, and 1 computer lab professional. During the last 10 years, there were 20+ retirements and only three new hires since 2013.

A new hire is expected to join the Department in the current academic year, thus raising the number of faculty to 25. The DM has also requested 4 new positions in Mathematical Statistics, Geometry, Analysis and Modelling with Differential Equations to replace some of the retired faculty, as well as 1 Scientific Collaborator position to replace a researcher who left in 2018.

There are 3767 registered undergraduate students--540 entered the University before 1983, 1641 between 1984 and 2014, 454 in 2015 and 2016, and 1132 since 2017. This brings the number of students in years 1 to 6 to 1586.

The current ratio between permanent teaching faculty and students is approximately 1:56. This is extremely high and detrimental to the educational goals of the Department.

This past year the Department was forced by the ME to admit over 300 students while it had requested only 150.

It is of paramount importance that the ME addresses this situation which is counterproductive and has a negative impact on the quality of the UP. This problem can be dealt with by either increasing the size of the faculty or reducing the number of incoming students or both.

The DM has a graduate program offering both a Master's and a Ph.D. degree.

The Master's program, with 74 enrolled students, has 2 distinct directions, namely Pure and Applied Mathematics and Computations and Data Analysis. In addition, the DM participates in 2 interdisciplinary Master's programs. These are Computational Data Analysis (joined with the Computer Engineering and Informatics Department) and Environmental Studies (joined with the Biology, Geology, Physics and Chemistry Departments). Both interdisciplinary programs are important and the EEAP commends the Department for participating in them.

Currently, there are 22 students enrolled in the Ph.D. program.

For the completion of the degree the UP requires 36 courses, 19 of which are mandatory for all students and 17 are elective, corresponding to 240 ECTS. The UP, which is designed for 8 semesters or equivalently 4 years, has the following 5 directions, which reflect the organization of the Department in Divisions ("Tomeis"): General, Pure Mathematics, Applied Mathematics, Information and Computational Mathematics, and Probability, Statistics and Operation Research. Out of the 19 elective courses, 6 are required for the specific direction and 11 are truly elective. Students can take courses outside the Department, but are not allowed to take graduate courses which may count towards the degree requirements. All students graduate with a certificate of teaching.

The majority of the students take much longer than 4 years to complete their degree. According to the data provided to the EEAP by the Chair of the DM, the average (over an 8 year period) of the yearly medians of the number of years taken to complete the degree in the period 2005 to 2013 is 6.4 years. The median is essentially unchanged over the past five years. The average of the yearly averages for the same periods (2013-2019) is 5.96. From the 327 students enrolled in 2013, only 7 graduated in 4 years, 29 in 5 and 22 in 6. From the 265 enrolled in 2014, only 4 graduated in 4 and 23 in 5 years. The EEAP feels that this is unsatisfactory and primarily reflects the inadequate preparation at the secondary education level of the majority of the students admitted to the DM and the University at large.

The data provided to the EEAP also shows a steady increase on the number of newly enrolled students from 200 in 2005 to 268 in 2015, 233 in 2016, 253 in 2017, 252 in 2018, 303 in 2019 and 324 in 2020. During the same period the teaching staff decreased due to retirements by approximately 20 members. This trend is not sustainable.

In view of the information above, the EEAP strongly recommends that the number of admitted students is reduced to no more than 150.

On the other hand, the EEAP believes strongly that, given that the students entered the Department, the faculty should do everything possible to educate and train them so that they are able to seek employment after graduation. This means that considerable attention should be given to the first 2 years of studies.

The last external evaluation of the DM took place in 2013. The DM followed many of the recommendations of the review and made changes in the UP. The most important revisions are: (i) the substitution of the 4 semester sequence of Real Analysis by a 3 semester sequence in Calculus, (ii) the splitting of the 5th semester course in Mathematical Analysis in 2 parts, namely Real Analysis in the 4th semester and Mathematical Analysis in the 5th, (iii) the enrichment of the syllabus of the 1st semester course in Analytic Geometry and the improvement in the content of the 2nd semester Linear Algebra I course, (iv) the revision of the course in Differential Equations, (v) the "elimination" of the "Tomea Didaktikhs" and all but 1 of the courses associated with it, and (vi) the decrease of the large number of elective courses. The recommendations of the external evaluation that were not followed to date will be discussed later in the report. It is the opinion of the EEAP that all the changes outlined above have contributed positively to the improvement of the program.

A positive development is the establishment of prizes for the best performing students.

PART B: COMPLIANCE WITH THE PRINCIPLES

Principle 1: Academic Unit Policy for Quality Assurance

INSTITUTIONS SHOULD APPLY A QUALITY ASSURANCE POLICY AS PART OF THEIR STRATEGIC MANAGEMENT. THIS POLICY SHOULD EXPAND AND BE AIMED (WITH THE COLLABORATION OF EXTERNAL STAKEHOLDERS) AT ALL INSTITUTION'S AREAS OF ACTIVITY, AND PARTICULARLY AT THE FULFILMENT OF QUALITY REQUIREMENTS OF UNDERGRADUATE PROGRAMMES. THIS POLICY SHOULD BE PUBLISHED AND IMPLEMENTED BY ALL STAKEHOLDERS.

The quality assurance policy of the academic unit is in line with the Institutional policy on quality, and is included in a published statement that is implemented by all stakeholders. It focuses on the achievement of special objectives related to the quality assurance of study programmes offered by the academic unit.

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 programme, its purpose and field of study; it will realise the programme's strategic goals and it will determine the means and ways for attaining them; it will implement the appropriate quality procedures, aiming at the programme's continuous improvement.

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

- a) the suitability of the structure and organization of the curriculum;*
- b) the pursuit of learning outcomes and qualifications in accordance with the European and the National Qualifications Framework for Higher Education;*
- c) the promotion of the quality and effectiveness of teaching;*
- d) the appropriateness of the qualifications of the teaching staff;*
- e) the enhancement of the quality and quantity of the research output among faculty members of the academic unit;*
- f) ways for linking teaching and research;*
- g) the level of demand for qualifications acquired by graduates, in the labor market;*
- h) the quality of support services such as the administrative services, the Library, and the student welfare office;*
- i) the conduct of an annual review and an internal audit of the quality assurance system of the undergraduate programme(s) offered, as well as the collaboration of the Internal Evaluation Group (IEG) with the Institution's Quality Assurance Unit (QAU).*

Study Programme Compliance

The University has established an appropriate Quality Assurance Policy which fully satisfies the relevant requirements. The Key Performance Indicators (KPIs) are regularly updated. Through the OMEA the DM follows the guidelines of the institutional policy regarding its UP. The Department's general assembly has the overall responsibility for reviewing the UP and ensures its consistency with the Institutional Quality Assurance standards. The MODIP monitors and enforces the Quality Assurance.

The DM is revising the curriculum of the UP on an annual basis in order to accommodate the ever changing and steadily decreasing quality of the students and adjust to international mathematical trends. The revised curriculum provides a very good mathematical background. The use of novel teaching methods often engage students in undergraduate research. Nevertheless, some changes are necessary. Specific recommendations appear below and later in the report. Overall, the program meets international standards. The EEAP had discussion with a number of current and past students, who indicated that they are very satisfied with the program and their education.

However, the DM needs to develop an extended relationship with national and international private employers, which could provide an important link between mathematical education and the present day industrial and societal needs and trends. The EEAP believes that this is an important aspect of the program's mission and urges the Department to make a serious effort in this direction, the success of which may require some further revisions in the UP which are described later in the report.

The Department also needs to work on expanding its connection with the local community and on developing outreach activities related to the mathematical sciences education of students at all levels of lower education (elementary schools, high school, and lyceum). We strongly encourage the Department and the University to seek funds from their industrial partners, local, regional and national governments to develop such a worthwhile activity.

The good research caliber of the faculty of the DM influences positively the students' undergraduate education. This is consistent with the fact that a number of their students succeed in entering international universities for graduate studies, while others are successful in their professional life.

The University has developed a very efficient and excellent method to record all the annual activities of the academic staff which is available online.

The QA policy is in place and the MODIP within the University structure oversees its proper and regular implementation.

It was pointed out by the 2013 external evaluation and it is reaffirmed by the EEAP that the organization of the Department in Divisions leads to fragmentation and artificial barriers to the education of the students. It is strongly recommended that the Department abolishes the current 4 Divisions, namely Applied Analysis (7 members), Pure Mathematics (7 members), Statistics, Probability and Operations Research (5), and Computing and Informatics (5 members), and create only 2, one in Pure and one in Applied Mathematics. Members of the current Divisions of Applied Analysis and Statistics can easily join either the Pure or the Applied Mathematics Divisions, while the current Computing and Statistics Divisions can create an excellent Data Science program within the Applied Mathematics Division. The 2 new Divisions should not be mutually exclusive but allow for joined membership. For example, some of the Applied Analysts and Probabilists may choose to belong to both. When implemented, these changes will enhance greatly the quality of the program and allow the students to receive more well-rounded education. Accordingly, the UP should have only 2 directions. Students specializing in either of the 2 should be required to take a minimum of 5 course from the other. An extra bonus of such reorganization is that some of the current overlap in courses will be avoided.

The current structure also creates a confusing system for teaching assignments. The EEAP was unable to reach a firm conclusion about how this is done and left with the impression that the current process is held hostage to the decisions of the Divisions.

Another issue that the Department needs to address is the lack of effective educational supervision of the students who, typically, receive no feedback about their progress before the final exam and most of them stop attending classes. The EEAP strongly recommends that the Department implements regular midterm exams and mandatory graded homework and, in addition, offers a lab-type multi-hour session for each of the required courses. This is even more important for courses in the first 2 years of the UP, which tend to be run in large sections with many students having inadequate preparation in the subject.

The instructors of each class should let the students know the syllabus and expectations in terms of work and grades the first day of classes. This information should be available on the website of the course that each instructor should maintain.

Another observation is that the courses that run in 2 sections often lack uniformity in terms of the material covered. The UP Committee must make sure that such issues do not arise and guarantee the uniformity of the curriculum.

More advanced students should be allowed and, in some cases, encouraged to attend graduate courses which should count towards the credit requirements for the completion of the degree.

Another suggestion is the establishment, if possible, of an Honors' sequence for the courses of the first 2 years which will cover more advanced material. Participation in such classes should be allowed either by invitation or successful completion of an examination.

To the extent allowed by Greek Law, this last option should become available to all Departments of Mathematics in Greece. In view of the wholesale admissions process mandated by the ME, all Mathematics Departments are saddled with a diverse student population ranging from good and well-prepared students with genuine interest in Mathematics to students whose only interest is to enter a University and, thus, happen to land in the Mathematics Departments. As a result, Departments and Universities need to cater to the needs of students with extremely uneven level of education. In view of this unfortunate reality, they (Departments and Universities) should be given the ability to develop more flexible programs.

Finally, to satisfy the research curiosity and needs of selected undergraduates, the DM should consider the possibility of offering "reading courses", which expose the students to more advanced and often research related material. Such courses should count towards the degree requirements.

The practices of the "Diplomatiki" and Practical Training (Internships programs should be continued.

Given the reality of the diversity in knowledge and preparation as well as quality and interests of the undergraduate students, the EEAP strongly believes that the DM should make a serious effort to educate the vast majority of the students by providing them with the training needed to have viable career opportunities after graduation. This means that some of the courses must address the needs of "modern society and employers", who seek more applications-oriented

employees. This effort can be greatly helped by further enhancing the current Internship program of the Department.

The teaching staff is qualified to support the educational mission of the Department and the research productivity of the faculty is deemed to be satisfactory. The other resources of the University like computing labs, library facilities, etc., are good.

The University of Patras has put in place an excellent online system to maintain annual activity reports, including research, publications, participation in conferences, and teaching. The information is kept centrally and is easily available to the MODIP and OMEA. This system should serve as a model for all the Universities in Greece.

Panel Judgement

Principle 1: Institution Policy for Quality Assurance	
Fully compliant	
Substantially compliant	X
Partially compliant	
Non-compliant	

Panel Recommendations

- Continue the revision of the curriculum.
- Abolish the existing 4 Divisions and create 2 new ones allowing for joint membership.
- Establish only 2 directions in the UP to match the new Divisions. Students specializing in either one should be required to take at least 5 courses in the other.
- Develop a more transparent and efficient mechanism for teaching assignments.
- Avoid nontrivial overlap among different required courses.
- Improve the academic supervision of the students.
- All required classes should have mandatory midterm exams and graded mandatory homework.
- Establish weekly multi-hour labs for each of the required courses of the first 2 years.
- Provide the first day classes and maintain on the web a syllabus and expectations for each course.
- Make sure that there is uniformity in the covered material between sections of the same course.
- Allow undergraduates to take graduate courses for credit.
- Offer “reading courses” to advanced undergraduates.
- Develop an Honors’ sequence for the required courses.
- Improve the “applied” training of the undergraduates so that their degree is more marketable for the private sector.
- Continue the practices of the “Diplomatiki” and “Internships”.
- Develop extended relationships with national and international private employers.

The EEAP realizes that some of the above recommendations would be difficult to implement due to the small number of faculty, the large number of students and, above all, the lack of funding and the legal restrictions that are beyond the control of the Department. Nevertheless, the EEAP believes that, in spite of these difficulties, a conscious effort should be made in this

direction. The above principles are internationally accepted practices and have a definite positive impact on the educational process.

Principle 2: Design and Approval of Programmes

INSTITUTIONS SHOULD DEVELOP THEIR 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.

Academic units develop their programmes following a well-defined procedure. The academic profile 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 National Qualifications Framework for Higher Education are described at this stage. The approval or revision process for programmes includes a check of compliance with the basic requirements described in the Standards, on behalf of the Institution's Quality Assurance Unit (QAU).

Furthermore, the programme design should take into consideration the following:

- *the Institutional strategy*
- *the active participation of students*
- *the experience of external stakeholders from the labour market*
- *the smooth progression of students throughout the stages of the programme*
- *the anticipated student workload according to the European Credit Transfer and Accumulation System*
- *the option to provide work experience to the students*
- *the linking of teaching and research*
- *the relevant regulatory framework and the official procedure for the approval of the programme by the Institution*

Study Programme Compliance

The UP is designed and supervised by a departmental committee (EPPS) consisting of faculty and a representative of the students. The EPPS operates under the auspices of the general assembly of the Department which makes all final decisions. The entire process, including program revisions, is overseen by the MODIP.

The EEAP is of the opinion that the overall structure aligns well with similar programs in Greece and abroad.

The online Greek version of the Student and UP guides are complete, concise, and appropriate. The English versions send readers to the Greek documentation when seeking detailed information. This is a problem which needs to be dealt with.

Some of the information about the program, although listed on the web, is difficult to find. It is. Therefore, necessary to find a way to prioritize information on the website of the DM.

As mentioned earlier in this report, the ECTS required for the degree are (minimum) 240 corresponding to 36 courses. According to the European Credit Transfer and Accumulation

System this is relatively high. The EEAP finds that this number (36) is too high and recommends that is reduced to 32, corresponding to 4 courses per semester (equivalently, 8 courses per year).

Specific recommendations about the needed restructuring of UP were already made in the previous section of the report and thus are not repeated here.

The Department should continue its efforts to improve the program to address both the diversity in the level of preparation of the student body and the skill sets required by future employers.

The Department offers a 2-hour orientation to new students in order to introduce them to the UP and the University. The EEAP believes that, although this is a step in the right direction, it requires enhancement and more involvement from the faculty. The orientation should become a multi-day event attended by many faculty members, in particular, the ones assigned to the 1st year courses. Such participation will give the students the signal that the faculty really cares and may instill and create (some) enthusiasm and interest.

The Department has established the system of Academic Advisor for each student. Although this is a good idea, it appears that, in practice, it does not work well and students do not take advantage of it. The EEAP recommends that each student should be required to meet with her/his academic advisor at least once per semester. Faculty Advisors should also play a more active role by, at minimum, establishing and maintaining email communication with their advisees.

Questions about practical training (Internships) and the Erasmus program are addressed later in the report.

One way to follow the advances of the graduates of the program and to improve the employment opportunities of the students is to create and actively maintain an Alumni Association. A strong Alumni Association could be very important in providing suggestions for the design of the UP and assisting the graduates in their future endeavors. Each year the Department should organize a “Home Coming” event where Alumni come back (possibly through a virtual platform) and make presentations about their work experience.

It is the EEAP’s understanding that there is no active communication between the Department and outside stakeholders. The Department should make a real effort to establish such relationships using its connections with former graduates and the career services of the University.

The EEAP realizes that some of the above recommendations would be difficult to implement due to the small number of faculty, the large number of students and above all, the lack of funding and legal restrictions that are beyond the control of the department. Nevertheless, the EEAP believes that despite these difficulties, a conscious effort should be made in this direction. The above principles are internationally accepted practices and have a definite positive impact on the educational process.

Panel Judgement

Principle 2: Design and Approval of Programmes	
Fully compliant	
Substantially compliant	X
Partially compliant	
Non-compliant	

Panel Recommendations

- Establish an Alumni Association.
- Organize an annual “Home Coming” event.
- Develop a systematic mechanism for getting input from stakeholders and former graduates.
- Improve the English version of the website of the Department and, in particular, the Student Guide.
- Develop a more efficient system to prioritize and propagate important information without relying completely on the web.
- Reduce the number of required courses to 32.
- Follow the recommendations of the previous sections about the restructuring of the Department’s Divisions and directions of the UP.
- Expand the scope and duration of the orientation of the entering students as per the suggestions above.
- Improve the system of Academic Advisor as per the suggestions above.

Principle 3: Student- centered Learning, Teaching and Assessment

INSTITUTIONS SHOULD ENSURE THAT THE 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.

Student-centered learning and teaching play an important role in stimulating students' motivation, self-reflection and engagement in the learning process. The above entail continuous consideration of the programme's delivery and the assessment of the related outcomes.

The student-centered learning and teaching process

- *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 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.*

In addition :

- *the academic staff are familiar with the existing examination system and methods and are supported in developing their own skills in this field;*
- *the assessment criteria and methods are published in advance;*
- *the assessment allows students to demonstrate the extent to which the intended learning outcomes have been achieved. Students are given feedback, which, if necessary is linked to advice on the learning process;*
- *student assessment is conducted by more than one examiner, where possible;*
- *the regulations for assessment take into account mitigating circumstances;*
- *assessment is consistent, fairly applied to all students and carried out in accordance with the stated procedures;*
- *a formal procedure for student appeals is in place.*

Study Programme Compliance

The UP has clear assessment criteria which are communicated to the students at the beginning of each course using the UP Guide. Concerns about the English version of the Guide were mentioned in the previous section of the report.

The Guide contains an extensive syllabus and detailed description of each course. The EEAP suggests that the course description be sent to the student at the beginning of the semester. In addition, the instructors should provide the students at the beginning of the semester detailed information about exams, homework, projects, presentations, office hours and factors that

determine the final grade of the course. It is the understanding of the EEAP that, at present, this is done only on a volunteer basis.

The EEAP recommends that the Department establishes a committee which receives and addresses both academic and non-academic complaints and concerns of the students. Every effort should be made to deal in a fair way with such issues at the level of the Department. If this turns out not to be possible, the complaints/concerns should be referred to the University Committee for Conflict Resolution, the existence of which was mentioned to the EEAP.

Based on the feedback from the currently enrolled students the EEAP had the opportunity to interview, it appears that there is a delay in the posting of the grades in few courses.

The EEAP appreciates the immense difficulties an instructor faces in correcting a large number of exams and posting grades within a reasonable period of time. Nevertheless, it is strongly recommended that the Department creates coherent and explicit rules with specific time limits concerning the grading of the exams and the posting of the grades.

The University and the Department have made serious efforts to address the reality of distant learning during the current pandemic. Although some glitches may have occurred, the EEAP believes that the whole process worked in a satisfactory manner.

The opportunity for students to take graduate and reading courses was already discussed in the previous section of the report.

The need for midterm exams and required graded homework was discussed earlier in this report.

Graduate students are used as Teaching Assistants. This is a very good practice that should be continued.

Traditional teaching methods (chalk and blackboard) are utilized in the required courses with large audiences. In more advanced, specialized and elective courses, some professors use, in addition to the traditional approach to teaching, modern methods such as computers, videos, and other information transfer technology means. They also employ (especially in elective courses) teaching procedures based on student participation via, for example, student lecturing.

The EEAP believes that the student's education will be greatly enhanced if the Department offers a 4-hour lab for reach of the required courses during the first 2 years of study to assist with homework and other course-related matters.

Student evaluations are an important part of good education. Currently, the number of students participating in the evaluation process is very small. The EEAP strongly suggests that the Department explores ways to make the evaluation process more effective. A basic effort would be to encourage the students to participate in this process. A more rigorous way to ensure participation could be that a student is required to participate in the evaluation before she/he sees her/his grade. In this case the student should have the option to abstain from actually filling up the evaluation form.

Panel Judgement

Principle 3: Student- centered Learning, Teaching and Assessment	
Fully compliant	X
Substantially compliant	
Partially compliant	
Non-compliant	

Panel Recommendations

- Continue using graduate students as Teaching Assistants.
- The course description must be sent to the students at the beginning of the semester. In addition, all instructors should provide the students (at the beginning of the semester) with information about exams, homework, projects, presentation, office hours, etc.
- Create coherent and explicit rules with specific time limits concerning the grading of the exams and the posting of the grades.
- Establish a committee of faculty members to receive and address academic and non-academic concerns of students.
- Establish 4-hour long weekly labs for all the required courses during the first 2 years of the UP.

The EEAP realizes that some of the above recommendations would be difficult to implement due to the small number of faculty, the large number of students and above all, the lack of funding and legal restrictions that are beyond the control of the department. Nevertheless, the EEAP believes that despite these difficulties, a conscious effort should be made in this direction. The above principles are internationally accepted practices and have a definite positive impact on the educational process.

Principle 4: Student Admission, Progression, Recognition and Certification

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

Institutions and academic units need to put in place both processes and tools to collect, manage and act on information regarding student progression.

Procedures concerning the award and recognition of higher education degrees, the duration of studies, rules ensuring students progression, terms and conditions for student mobility should be based on the institutional study regulations. Appropriate recognition procedures rely on institutional practice for recognition of credits among various European academic departments and Institutions, in line with the principles of the Lisbon Recognition Convention.

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).

Study Programme Compliance

The Study Guide includes information about several processes and services and is made available through the department's home page. Presently the Department offers a 2-hour long orientation meeting when students arrive in the campus. The EEAP believes that the orientation needs to be changed. Suggestions were made in earlier parts of the report.

Student mobility is encouraged via the ERASMUS program as well as the concept of Practical Training. The students usually take advantage of these opportunities in their 6th through their 8th semester of studies. The ERASMUS option has been underutilized. It is recommended that an effort should be made at the departmental level to encourage students to apply or at least to be aware of the program. For example, instructors should advise and encourage students to have a closer look at the merits of the ERASMUS program. The Practical Training has been quite popular and successful according to information provided to the EEAP by employers participating in the training.

Some of the graduates of the Department have been accepted in quality graduate programs abroad and some have found employment in the private sector in Greece.

The Department should come up with a mechanism to develop a working and fruitful relationship with employers. A suggestion is to organize an annual two-day "Employment Fair" where both domestic and, if possible, international employers participate, provide an overview of how Mathematics is used by them and discuss hiring opportunities.

The ECTS is applied across the curriculum for the sake of student's recognition and certification. The department has made serious efforts to take into account student and faculty feedback as well as the recommendations of the last external evaluation 2013. The workload of the courses is adjusted to the ECTS. The students graduate with a Certificate of Teaching (Πιστοποιητικό Παιδαγωγικής και Διδακτικής Επάρκειας).

Panel Judgement

Principle 4: Student Admission, Progression, Recognition and Certification	
Fully compliant	X
Substantially compliant	
Partially compliant	
Non-compliant	

Panel Recommendations

- Improve the orientation of incoming students as indicated in previous sections.
- Actively encourage students to take advantage of the ERASMUS mobility program despite the underlying economic expenses.
- Develop an extensive relationship with private employers as discussed above.
- Organize an annual “Employment Fare”.

Principle 5: Teaching Staff

INSTITUTIONS SHOULD ASSURE THEMSELVES OF THE QUALIFICATIONS AND COMPETENCE OF THE TEACHING STAFF. THEY SHOULD APPLY FAIR AND TRANSPARENT PROCESSES FOR THE RECRUITMENT AND DEVELOPMENT OF THE TEACHING STAFF.

The Institutions and their academic units have a major responsibility as to the standard of their teaching staff providing them with a supportive environment that promotes the advancement of their scientific work. In particular, 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 recognize 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.*

Study Programme Compliance

The teaching staff of the DM consists of quality researchers and special teaching staff all of whom are committed to their duties. The Department aims to attract and hire qualified researchers, and applies similar high standards in the promotion of the faculty.

As it was pointed out in the 2013 external evaluation of the Department, more than half of the faculty at that time had received their Ph.D. degree from the Department, a practice that is not healthy and should be avoided.

In view of the many retirements since then (approximately 20), the number of faculty with Ph.D. from Patras has decreased. But more importantly, the Department began looking outwards for hiring. Indeed the last 3 appointments and the upcoming one are quality mathematicians with no prior connection to the DM.

The EEAP congratulates the Department for moving in the “right direction” and urges that this practice continues. The DM must move away from the old practice of “in breeding” in order to develop a more outward looking policy (exostreifeia) instead of the inward one of the past. This will bring new ideas and a rejuvenation of the faculty.

Commitment to research and teaching should weigh in all hires, which appear to follow the criteria mandated by Greek law.

The Department should provide mentoring to its junior members. More precisely, the department should assign a “mentor” to each new hire or young professor to provide help and guidance with 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.

The student/faculty ratio is very high when compared to European and US standards. To alleviate this problem, the Department has requested 4 new faculty positions to replace the 4 members that retired recently as well as 1 member ETAP to replace the one who left in 2018. The EEAP strongly endorses this request and hopes that the University and the ME will approve these positions.

The EEAP notes that there are 6 upcoming retirements in the next 4 years. Without additional hires, it will become exceedingly difficult for the DM to continue its teaching mission effectively without sacrificing research activities.

A few courses (primarily during the 1st year) have a very large number of students. The Department tries to alleviate the problem by forming two sections. The ideal scenario, of course, is to offer more and smaller classes. The EEAP understands, however, that this is not practical due to the size of the faculty and the fact that many students stop attending classes after a few weeks. In previous parts of this report, the EEAP made a number of concrete suggestions which should help the students with the difficulties they face due to the size of the classes and their bad preparation and will, hopefully, increase attendance. Indeed, mandatory graded homework, midterm exams and labs will go a long way towards giving students valuable feedback about their understanding of the material taught. As things stand now and with few exceptions, the majority of the students need to wait for the final exam to get an idea about how they did.

Linking teaching with research is an important mechanism for student stimulation. The EEAP suggests the establishment of a weekly or bi-weekly “undergraduate seminar”, where the speakers could be graduate and undergraduate students working on some research project with faculty members from the DM. This could also be an excellent forum for graduating students to present their undergraduate thesis (“Diplomatiki”).

A current trend in mathematics is the integration of different sub-areas. This is healthy both for research and teaching. The EEAP strongly recommends that the current different areas develop strong interactions, and that the Department formulates an overall coherent vision for the future. Specific recommendations about the organization of the Department appear in a previous section of this report.

The suggested reorganization of the Department has also the potential to facilitate the participation of faculty in funded research projects which are now essentially nonexistent. The Department should also explore the possibility of obtaining funds based on research projects from Greek and International companies in the private sector as well as other sources like the Onassis and Niarchos Foundations.

A minimum requirement for strengthening research is that the University offers support for the research activities of its faculty and, especially, the more junior ones. Currently, the University covers part of the expenses of an individual faculty member to participate, once per year, in a conference or workshop. The EEAP suggests that the University allocates a larger part of its budget towards increasing this support, especially for the scientific activities of the junior faculty members.

As mentioned earlier the University of Patras has developed a very effective mechanism to keep track of all the annual activities of the faculty.

Panel Judgement

Principle 5: Teaching Staff	
Fully compliant	
Substantially compliant	X
Partially compliant	
Non-compliant	

Panel Recommendations

- Continue the trend of hiring new faculty who have not received their Ph.D. degree from the University of Patras.
- Introduce midterm exams, mandatory homework and organize labs for the courses of the first 2 years as indicated above.
- The University should enhance the support it provides junior faculty as discussed above.
- Provide mentoring to its junior members as discussed above.
- Faculty should seek actively outside funding as indicated above.
- Establish weekly or bi-weekly undergraduate research seminars.
- Follow the recommendations about the restructuring (merging of Divisions) of the Department.

Principle 6: Learning Resources and Student Support

INSTITUTIONS SHOULD HAVE ADEQUATE FUNDING TO COVER 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 funding and means to support learning and academic activity in general, so that they can offer to students the best possible level of studies. The above means could include facilities such as libraries, study rooms, educational and scientific equipment, information and communications services, support or 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 or international students, students with disabilities) and the shift towards student-centred 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 ensures that all resources are appropriate, adequate, and accessible, and that students are informed about the services available to them.

In delivering support services the role of support and administrative staff is crucial and therefore they need to be qualified and have opportunities to develop their competences.

Study Programme Compliance

The Department is sharing a three-floor building with the Department of Biology. Throughout the building there are offices for faculty, graduate students and the administrative staff. Less space is available for the undergraduates who may want to stay around to study. The DM provides additional Wi-Fi coverage for the part of the building it occupies. The building has 2 100-seats and one 210-seats classrooms. In addition, the Department uses 3 classrooms in the ATE building, 2 with 100-seats capacity and 1 seating 110 students. The Department has also access to a 400-seat auditorium located at the Central Administration Offices of the University. The graduate program uses other classrooms in the Mathematics/Biology building (2x25, 2x10 and 1x145 seats). The real time availability of rooms is available on the University's website. There are 2 seminar rooms and 6 computing rooms with 105 terminals for the use of the UP.

The EEAP was informed that the administrative staff of the DM is helpful and competent.

Students can use the Central Library of the University which has all the Mathematics related books.

The undergraduate students of the University of Patras live either in the student dorms or outside in apartments. To assist the students the University maintains a website with the needed information. There is also a cafeteria-dining hall available for undergraduate and graduate students.

The University is located relatively far from the center of Patras. However, there is an excellent transportation system with buses running frequently.

The University also has career and student welfare offices which are available to all students. In addition, it provides specialized services for students needing financial aid, transportation, medical care and special needs.

The EEAP believes that some of the rules and guidelines provided by the ME about how to deal with students with disabilities on issues related to examinations and other aspects of courses do not conform with International practices. The DM should try to follow the latter. For example, students with dyslexia should be given twice the normal exam time and in a separate room. It is suggested that the department should try to address such issues above and beyond the State rules.

Panel Judgement

Principle 6: Learning Resources and Student Support	
Fully compliant	X
Substantially compliant	
Partially compliant	
Non-compliant	

Panel Recommendations

- Improve the services provided to students with disabilities.
- Improve the advising and monitoring of progress for first year students following the discussion and recommendations in previous sections of the report.

Principle 7: Information Management

INSTITUTIONS 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.

Institutions are expected to establish and operate an information system for the management and monitoring of data concerning students, teaching staff, course structure and organisation, teaching and provision of services to students as well as to the academic community.

Reliable data is essential for accurate information and for decision making, as well as for identifying areas of smooth operation and areas for improvement. Effective procedures for collecting and analysing information on study programmes and other activities feed data into the internal system of quality assurance.

The information gathered depends, to some extent, on the type and mission of the Institution. The following are of interest:

- *key performance indicators*
- *student population profile*
- *student progression, success and drop-out rates*
- *student satisfaction with their programme(s)*
- *availability of learning resources and student support*
- *career paths of graduates*

A number of methods may be used for collecting information. It is important that students and staff are involved in providing and analyzing information and planning follow-up activities.

Study Programme Compliance

The Department collects periodically data regarding the student's population profile, progression, success, and satisfaction with the program via student evaluations. The completion rate of the surveys is very low, a fact which is taken seriously by the Department. As discussed earlier, the Department should explore ways to encourage students to participate in the course/instructor evaluation process in larger numbers.

The EEAP suggests that the Department establishes and utilizes an Alumni Association in order to develop efficient mechanisms for the collection of data regarding the employment and carrier paths of its former students.

Panel Judgement

Principle 7: Information Management	
Fully compliant	X
Substantially compliant	
Partially compliant	
Non-compliant	

Panel Recommendations

- Explore ways to increase student response rates for teaching evaluations.
- Establish an Alumni Association and utilize it to collect information about the employment and carrier paths of former students.

Principle 8: Public Information

INSTITUTIONS SHOULD PUBLISH INFORMATION ABOUT THEIR TEACHING AND ACADEMIC ACTIVITIES WHICH IS CLEAR, ACCURATE, OBJECTIVE, UP-TO-DATE AND READILY ACCESSIBLE.

Information on Institution's activities is useful for prospective and current students, graduates, other stakeholders and the public.

Therefore, institutions and their academic units provide information about their activities, including the programmes they offer, the intended learning outcomes, the qualifications awarded, the teaching, learning and assessment procedures used, the pass rates and the learning opportunities available to their students, as well as graduate employment information.

Study Programme Compliance

The Department's website is user-friendly and contains information about its facilities, staff, undergraduate and graduate programs guides, announcements, events, policy of quality assurance, and internal assessment reports. The information needs, however, prioritization, since some important items are difficult to find. The website is available in Greek and English, but, as discussed earlier, the English version contains less information than the Greek.

The visibility of the Department can also be improved if an annual News Letter becomes available. The letter will provide the platform to inform the public, employers, current students and graduates about the annual activities of the DM.

Panel Judgement

Principle 8: Public Information	
Fully compliant	X
Substantially compliant	
Partially compliant	
Non-compliant	

Panel Recommendations

- Prioritize the information on the website and improve the English version.
- Develop an annual newsletter addressed to students, employers and outside stakeholders.

Principle 9: On-going Monitoring and Periodic Internal Review of Programmes

INSTITUTIONS SHOULD HAVE IN PLACE AN INTERNAL QUALITY ASSURANCE SYSTEM FOR THE AUDIT AND ANNUAL INTERNAL REVIEW OF THEIR 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 study programmes aim to maintain the level of educational provision and to create 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. Revised programme specifications are published.

Study Programme Compliance

The Department self-assesses its undergraduate program annually in a satisfactory manner and the learning resources and support services are equally well monitored. The program conforms with internationally established norms for mathematical training. The MODIP oversees the overall process.

Panel Judgement

Principle 9: On-going Monitoring and Periodic Internal Review of Programmes	
Fully compliant	X
Substantially compliant	
Partially compliant	
Non-compliant	

Panel Recommendations

The EEAP commends the Department for its monitoring process and urges its continuation.

Principle 10: Regular External Evaluation of Undergraduate Programmes

PROGRAMMES SHOULD REGULARLY UNDERGO EVALUATION BY COMMITTEES OF EXTERNAL EXPERTS SET BY HAHE, AIMING AT ACCREDITATION. 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 committee of independent experts. HAHE grants accreditation of programmes, 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 template's requirements, and as a catalyst for improvement, while opening new perspectives towards the international standing of the awarded degrees.

Both academic units and institutions participate in the regular external quality assurance process, while respecting the requirements of the legislative framework in which they operate.

The quality assurance, in this case the accreditation, is an on-going process that does not end with the external feedback, or report or its follow-up process within the Institution. Therefore, Institutions and their academic units ensure that the progress made since the last external quality assurance activity is taken into consideration when preparing for the next one.

Study Programme Compliance

The last evaluation of the UP was part of the assessment of the Department in 2013. Comments about the degree of compliance of the Department can be found throughout this report.

According to the EEAP's opinion, although the mathematical education of the UP is of satisfactory quality, there is room for substantial improvement by adopting many of the recommendations made earlier.

As indicated in other parts of the report, the procedure of verifying the quality of academic education both at the Department and the University is rigorous. Faculty and staff are overall dedicated to the students learning and education.

The input to the EEAP from current students was positive. The EEAP had the opportunity to meet only two employers. Both were satisfied by the quality of the graduates they hired. In particular, they strongly indicated that their mathematical studies were sound. The employers also suggested that graduates aiming to follow an industry career improve their skills by taking more courses from the applied directions of the Department.

All the stakeholders, including lab personnel and administrative staff, appreciated the significance of the external review and contributed to the success of the visit.

Panel Judgement

Principle 10: Regular External Evaluation of Undergraduate Programmes	
Fully compliant	X
Substantially compliant	
Partially compliant	
Non-compliant	

Panel Recommendations

The EEAP found the effectiveness of the monitoring mechanism satisfactory, and recommends the continuation of the established process of self-evaluation. Moreover, the EEAP understood that the faculty is open to constructive suggestions from external sources including industrial/social partners, collaborators, and evaluators.

PART C: CONCLUSIONS

I. Features of Good Practice

The EEAP is of the opinion that the following points are well addressed by the Department and/or the Undergraduate Program:

- The DM's faculty is very dedicated to its mission.
- The revision of the curriculum undertaken based on the 2013 evaluation is very appropriate given the composition of the student body.
- The study guide is well designed, informative and useful.
- There is an excellent annual evaluation system in place.
- The use of graduate students as Teaching Assistants is very appropriate.

II. Areas of Weakness

In the view of the EEAP, the following items require attention and improvement. The EEAP recognizes that the roots of many of the shortcomings are due to severe underfunding and the national rigid constraints imposed on the Universities by the ME.

- The faculty-to-student ratio is very high.
- The reduction in the faculty from 45 members to 24 during the last 10 years combined with the continuously increasing size of the student body.
- The lack of systematic feedback about progress given to the students in the mandatory 1st and 2nd year courses.
- The lack of midterm exams and mandatory graded homework.
- The large number of classes required to obtain the degree.
- The lack of an option for an undergraduate student to take graduate and/or reading courses for credit.
- The lack of an Alumni Association.
- Limited integration between teaching and research.
- The fragmentation of the Department in 4 Divisions.
- Limited relations with employers and societal stakeholders.

III. Recommendations for Follow-up Actions

The EEAP strongly recommends that the following be immediately addressed:

- Eliminate the current structure of 4 Divisions and create only 2 (Pure and Applied Mathematics) allowing joined membership and requiring that all students take at least 5 courses from each one.
- Continue the revision of the curriculum.
- Avoid nontrivial overlap among various required courses.
- Reduce the number of required courses to 32.
- All required courses should have midterm exams and graded mandatory homework.
- Establish weekly 4-hour labs for each of the required courses of the first 2 years of study.
- Provide at the first meeting of each course and maintain on the web a syllabus and expectations for each course including information about exams, homework, projects, presentation, and office hours.

- Ensure that there is uniformity in the covered material between sections of the same course.
- Allow undergraduates to take graduate courses for credit.
- Offer “reading courses” to advanced undergraduates.
- Develop an Honors’ sequence for the required courses of the first 2 years of study.
- Improve the training of the undergraduates so that their degree is more marketable for the private sector.
- Continue the practices of the “Diplomatiki” and “Internships”.
- Develop a more transparent and efficient mechanism for teaching assignments.
- Create coherent and explicit rules with specific time limits concerning the return of the exams and of grade posting.
- Establish a committee of faculty members to receive and address academic and non-academic concerns of students.
- Actively encourage students to take advantage of the ERASMUS mobility program.
- Develop a systematic student progression monitoring system.
- Reorganize the new student orientation program into a multi-day event with increased faculty involvement.
- Reinvigorate the system of Academic Advisor by requiring students, at least for the first 2 years, to meet with their advisor at a minimum once per semester.
- Develop ways to increase the student participation in the teaching evaluations.
- Enhance the support provided by the University to junior faculty for their research and visibility.
- The Department should provide mentoring to its junior members.
- Faculty should actively seek outside funding.
- Continue the trend of hiring new faculty who have not received their Ph.D. degree from the University of Patras.
- Establish weekly or bi-weekly undergraduate research seminars.
- Establish and maintain an active Alumni Society.
- Organize an annual “Home Coming” day for the graduates of the Department.
- Develop extended relationships between the Department and national and international private employers.
- Develop a systematic mechanism for getting input from stakeholders and former graduates.
- Organize an annual “Employment Fare”.
- Improve the English version of the information provided on the website.
- Develop a better system to prioritize and propagate important information.
- Improve the training of the undergraduates so that their degree is more marketable for the private sector.
- Improve the services provided for people with disabilities.
- Produce an annual newsletter addressed to students, employers and society stakeholders.
- Continue the very effective way to monitor and record annual activities of the Faculty.

IV. Summary & Overall Assessment

The Principles where full compliance has been achieved are : 3, 4, 6, 7, 8, 9, 10

The Principles where substantial compliance has been achieved are : 1, 2, 5

The Principles where partial compliance has been achieved are: None

The Principles where failure of compliance was identified are: None

Overall Judgement	
Fully compliant	X
Substantially compliant	
Partially compliant	
Non-compliant	

The members of the External Evaluation & Accreditation Panel

Name and Surname

Signature

- 1. Prof. Panagiotis Souganidis (Chair)**
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- 2. Prof. George Michailidis**
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