



ΕΛΛΗΝΙΚΗ ΔΗΜΟΚΡΑΤΙΑ
HELLENIC REPUBLIC



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Accreditation Report

for the Undergraduate Study Programme of:

Informatics

Institution: University of Piraeus

Date: 16 January 2021



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 **Informatics** of the **University of Piraeus** 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 **Informatics** of the **University of Piraeus** comprised the following four (4) members, drawn from the HAHE Register, in accordance with Laws 4009/2011 & 4653/2020:

- 1. Prof. Petros Drineas (Chair)**
Purdue University, United States of America

- 2. Dr. Paraskevas Dalianis**
UniSystems S.M.S.A., Greece

- 3. Prof. George Papadopoulos**
University of Cyprus, Cyprus

- 4. Prof. Angelos Stefanidis**
Bournemouth University, United Kingdom

II. Review Procedure and Documentation

The External Evaluation & Accreditation Panel (or EEAP for short) visited virtually the University of Piraeus (UniPi) Department of Informatics (DIT) on Tuesday 12th and Wednesday 13th of January 2021. Prior to the virtual visit, on Monday, January 11th of 2021, the Panel members were briefed by members of HAHE on the standards and guidelines of the QA accreditation process, as well as on the national framework of HEIs.

On January 12th, the Panel first met with the Vice-Rector/President of MODIP (Professor Pantelis Pantelidis) and the Head of the Department of Informatics (Professor Maria Virvou) to discuss the history, academic profile, current status, strengths, and possible areas of concern for the department. The meeting was followed by a detailed two-hour presentation by Professor George Tsihrinzis (OMEA Head), discussing the degree of compliance of the undergraduate programme to the Quality Standards for Accreditation. The next meeting focused on a discussion of professional development opportunities, mobility (e.g., via the ERASMUS programme), workload, and student evaluations. The meeting was attended by multiple teaching staff members of the department. The day concluded with a meeting with active undergraduate students of the department. Discussions during this meeting focused on student satisfaction from the undergraduate curriculum and the departmental facilities, as well as issues concerning student life and welfare.

On January 13th, the first virtual meeting focused on an online tour of departmental facilities (classrooms, lecture halls, libraries, and laboratories). The discussion with Professor Efthimios Alepis and Konstantina Chrysafiadi focused on evaluating facilities and learning resources to determine whether the available equipment and facilities are adequate for the department's undergraduate curriculum. Next, the Panel met with a set of students who recently graduated from the department and discussed their experiences during their undergraduate studies in the department and their career paths. The Panel also met with an extensive set of employers and social partners of the department, in order to discuss relations of the department with stakeholders from the private and the public sector. Finally, the day was concluded with meetings with OMEA and MODIP representatives, as well as the Vice-Rector/President of MODIP and the Head of the Department to discuss Panel findings that might need further clarification and to present the key findings of the EEAP.

In preparation for the virtual visit, the Panel had access to a wealth of information regarding the Department of Informatics of the University of Piraeus. The department provided detailed data on each of the ten principles that this report will address and HAHE provided access to the previous external evaluation report (from October 2011). It is worth noting that the previous evaluation had a broader scope than the current one, which only focuses on the undergraduate programme. Additionally, HAHE provided detailed information on an annual basis for a multitude of quality indicators that are measured by HAHE using data provided by the department. Finally, upon request by the Panel members, the department expeditiously provided additional data, including additional details on course evaluation forms, diploma theses, course homework, course syllabi, etc.

Finally, the EEAP held multiple internal meetings to discuss the outcomes of the virtual meetings and the contents of this report. This report represents the collective findings of the Panel after the aforementioned discussions were concluded.

III. Study Programme Profile

The Department of Informatics at the University of Piraeus was founded in 1992. Undergraduate studies in the department have a four-year duration and are concluded after a student successfully completes a total of 46 courses and a two-semester-long diploma thesis. The department currently offers a total of 95 courses and three concentrations for its undergraduate students. The first concentration is focused on Software Engineering and Intelligent Systems; the second concentration is focused on Networking; and the third concentration is focused on Information Systems and Services. The undergraduate curriculum is revised regularly, and the last major revision occurred in June 2019. During the first year of studies, students are expected to take 12 core courses. During the second year of studies, students are expected to take ten core courses, two optional courses, and two courses studying a foreign language. During the third year of studies, students are expected to take six core courses, two optional courses, and five core courses in the concentration of their choice (as well as two courses studying a foreign language). Finally, during the fourth year of studies, students are expected to take four optional courses, six core courses in the concentration of their choice, and also work on their year-long diploma thesis. The students graduate with a minimum of 240 ECTS credits.

According to data provided to the EEAP by the department, after graduation students typically pursue one of the following three directions: (i) employment in the public sector; (ii) employment in the private sector; (iii) graduate studies, either towards an MSc or a PhD degree. Students can seek advice for employment opportunities either from their academic advisors or from placement offices at the university level. Finally, it is worth noting that the department currently has a total of approximately 1,200 undergraduate students that are within the first *six (4+2)* years of their studies.

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 labour 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

Following the careful scrutiny of the academic programme and a set of comprehensive discussions with students, staff, and other key stakeholders, it is the judgment of the EEAP that the Department's curriculum and its learning and teaching methods, meet the expected national and international standards of academic provision in the area of Informatics. The EEAP has confirmed that the programme of study is comparable to similar Greek and international programmes, and it meets well-established international academic and research standards.

The EEAP noted that the recommendations from the previous external review of the programme, carried out in 2011, have been addressed diligently by the Department. This is seen as further evidence of the Department’s willingness to grow the quality of its teaching, and in doing so, place the needs of the students at the heart of its activities. The provision of the programme of study is subjected to student scrutiny on a regular basis in the form of student evaluation questionnaires for each of the delivered modules. It was encouraging to note that both the students and academic staff place great value on this exercise.

As part of the discussions with academic staff, it became evident that their commitment to quality research outputs is high and they see them as an integral element of the Department’s identity. Further discussions with existing and recent graduate students, confirmed the strong effort of academic staff to incorporate their research into their teaching. Publishing papers with students but also engaging them directly in relevant funded research projects, is seen as further evidence of supporting the students in their pursuit to acquire a multitude of relevant hard and soft skills, enabling them to secure good graduate employment positions. Subsequent conversations with employers and other external stakeholders, confirmed the strong demand for the Department’s graduates, who were described as some of the most highly skilled graduates in the country.

The periodic review of the programme is seen by all stakeholders as a very successful endeavour. In all the discussions with the AP, it was repeatedly confirmed by all groups that the programme is relevant, topical, and up to date with the majority of technological and industrial developments. The process of updating the programme is heavily influenced by the research undertaken within the Department but also its close links with the international academic community and the numerous associations with high profile academics around the world.

Finally, the Department’s OMEA has a deep and strong relationship with MODIP. There is clear mutual respect and a strong sense of acceptance of the collective responsibility that both bodies have for maintaining the highest quality standards possible.

Panel Judgement

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

Panel Recommendations

- Continue to explore ways to improve the administrative support offered to students by the main administrative office in the Department.
- Provide annual feedback to all stakeholders, including students, such as identifying the areas needing improvement and the actions that the Department implements to improve these areas. Keep records of such improvements.
- The Department is encouraged to establish systematic processes for eliciting input from external stakeholders, like industrial partners and alumni, in order to continuously enhance its study programme and QA policies.

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 Department has a clearly defined process which governs the periodic review and evaluation of the programme. Through this process, content updates are introduced for the purpose of reflecting the continuous advancements in the field of informatics, both in relation to teaching and research. The annual review and its recommendations for proposed changes by the studies committee, are underpinned by the fundamental aims and objectives of the programme, such as employability aspirations, expected levels of academic achievement and attainment, research interests and direction, and international developments in the field. It also considers the wider research strategy of the university. Proposals for updating the programme are presented to the Department's general assembly for consideration and ratification. As noted elsewhere, from an external standpoint, the programme adheres to national and international curriculum standards.

The programme features a variety of courses which are designed in a way that enables the regulation of the diet of subjects studied at any given time, based on the underpinning knowledge students accumulate as they go through the different years of study. The student guide, which is comprehensive and is available electronically to all students, provides detailed information on the programme structure, curriculum, course content, and assessment.

The engagement with the professional and business communities is a strong feature of the overall strategy of the Department. This is evidenced by many close working relationships that the Department has with some of the largest companies in Greece, including funded research projects. Encouragingly, there are numerous businesses of various sizes founded by alumni of the Department, confirming the true quality of work which has been taking place for a number of years. While much of the collaborative work with external companies is carried out by academic staff who have developed personal relationships with these companies over time, there is also a clear recognition that the Department stands as a beacon on entrepreneurship, ready to collaborate with the outside world.

External stakeholders, such as graduates, were mentioned as the major sources of information used for the design and updating of the study programme. Nevertheless, the Department appears to follow an informal approach in the process of involving the stakeholders in the collection of relevant information.

Panel Judgement

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

Panel Recommendations

- The Department should consider setting up an External Advisory Board, which could provide recommendations to its General Assembly that can be considered as adjustments to the structure/content of the Programme. External stakeholders can be drawn from areas such as distinguished members of the academic community, representatives of the labour market, organizations and business, experienced external partners, etc.

Principle 3: Student- centred 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-centred learning and teaching plays 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-centred 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 EEAP has been presented with strong evidence that the Department is committed to the principles of student-centred learning and teaching. The programme has been designed in a way that supports academic stimulation and peaks the students' motivation, leading to strong engagement with the learning processes.

While the entry level qualification profile of students continues to grow steadily (annual national university entrance exams), the Department recognizes that the new generation of students present a variable range of ability and interests. As such, the Department has designed a programme which offers flexible learning and the opportunity to follow specializations by

undertaking courses which are optional, and hence, focusing on subjects that the students see as potential career pathways.

Depending on the nature of the course and the subject matter being covered, the assessments are administered in different ways and are presented in different formats, including written exams, take home assignments of a theoretical nature, and practical lab assignments among others. The students appear to be well-informed about their responsibilities, rights, and obligations. There is a sense of good understanding of student expectations by the Department. The EEAP was reassured by the confidence and conviction with which the students described their positive relationship with academic staff. Further discussions with the academic team reinforced the 'open door' policy which is seen as the pillar of student-staff collaboration, mutual trust, and respect.

Variable teaching styles by academic staff lead to different pedagogical methods that reflect the particular needs of each discipline (e.g., mathematics vs. networking), and to a large extent, the staff's own reflective approach. The variety of modes of delivery normally include lectures and seminars, self-directed study using online material, and further pedagogical approaches such as the students being asked to undertake guided research or work in groups. The students are thereby encouraged to develop a wide range of soft skills, something which received repeated praise from the external stakeholder group.

Finally, students expressed satisfaction with the assessment methods and strategies employed by the programme of study but also highlighted occasional discrepancies where certain courses appear to be more heavily assessed than others.

Panel Judgement

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

Panel Recommendations

- Consider how to improve the amount of feedback offered to students, following the analysis of the questionnaire results. Possibly, a "you asked, we did" action plan could be used throughout the Department to evidence the actions taken resulting from student feedback.
- Review recent feedback regarding the overall number of assessments of a very small number of courses which may merit some revision.
- Consider a way of balancing the credits between different courses, especially where the discrepancies are significant.

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 Department is fully compliant and has created procedures for award and recognition of higher education degrees, studies duration, rules for students' progression, and recognition of credits among various European academic Institutions according to the Lisbon Recognition Convention. Students receive sufficient documentation explaining learning outcomes, context, level, content of studies completed culminating in qualification gained. Upon graduation, DIT automatically prepares a Diploma Supplement for all students, following a University-wide policy, including information on ECTS credits and courses successfully passed. Course content and requirements for their completion may periodically be monitored to assure that are balanced against the ECTS attributed to them among the different courses of the curriculum.

DIT implements a comprehensive induction programme to support new students transitioning from high school to university academic life. Key information assuring the orientation of new students during their first few weeks at UniPi, is available on the website and is also presented in a rather short in duration "Welcome Day" event by the Department. To that end, the University should actively participate in this event, introducing its support services to all new students.

Students were fully aware of the support services information available on the web site, although not fully aware of some of the rather new university-wide support services. The recent introduction of the Academic Advisor in the Department, with the involvement of all academic staff and assignment of a small group of incoming students to each of them, is expected to play a significant role towards this direction. Since the Department does not have any control on the number of incoming students, which is mandated by the State, it should always put effort towards improving the student to staff ratio, by hiring new highly qualified faculty and staff.

Students are also encouraged to participate in the ERASMUS+ programme by attending courses at an overseas institution. The Department dedicates reasonable resources in that respect. To its credit, the Department offers students the opportunity to complete a compulsory Final Year Thesis, which is organized in two successive courses, during the last two semesters of studies (i.e., 7th and 8th). To that end, also to the Department's credit, a detailed Thesis Handbook is available assuring the existence of a common set of rules and regulations towards its successful completion. As part of their studies, students also have the option to undertake a paid internship in industry.

Panel Judgement

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

Panel Recommendations

- The role of the Academic Advisor, which was recently introduced with the involvement of all academic staff and assignment of a small group of incoming students to each of them, has to be well documented (with the introduction of an Academic Advisor Guide), promoted and fully supported by the Department. This role should be carefully communicated to 1st-year students with appropriate live sessions during the orientation activities.
- The Department may further benefit from its wide professional network of external stakeholders and expand its internship opportunities (and related Practical Training course), taking into consideration any limitations applicable due to the State Law.
- The provided Diploma Supplement may be further enhanced with information related to concentration(s) attended by the student in association with their respected modules.

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 Department does have the necessary faculty and staff to implement the curriculum. Faculty instructors are highly qualified and trained. Teaching staff are assessed by students through the course evaluation surveys. Evaluation feedback of this process is provided to faculty members as useful information for course delivery improvement, as well as instructors' personal teaching development.

Although staff mobility appeared to be encouraged, there was not much detail in the reports on such activities. Staff benefit from their research funding for limited absences mainly via their collaborations with foreign partners/universities during their research activities. It appears that this flexibility is sufficient for them to remain current in their research and the fast-changing technology bringing back an extra value to their Department.

All undergraduate courses are taught by two faculty members in order to improve performance and flexibility. Each faculty member teaches a minimum of six (6) hours per week. The ratio of students to faculty members is, on average, 52,95, which is considered to be high. Research activity of the academic staff is strong, as evident by the number of publications in top tier journals and conferences, relative ranking tool rates, high number of citations, as well as participation in research projects.

Students are encouraged to be exposed in research activities mainly via their diploma theses. They are also being informed about such activities in the early stages of their studies, such as the welcome event for 1st year students.

DIT and its Staff cover a wide area of research topics, which are mapped in the three aforementioned concentrations of the Programme.

Panel Judgement

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

Panel Recommendations

- The Department and the University should develop a strategy and a fair process for professional development improving faculty mobility to and from the Department.
- DIT must ensure that research-informed teaching is delivered in undergraduate courses beyond the final year thesis. Related activities and processes should be documented in the Programme, wherever possible.
- The department should make every effort to increase the percentage of student participation in the course evaluation process every semester. Improvements in participation would provide DIT with valuable information in order to monitor the quality of the courses.

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

Despite the limited public funding, DIT has adequate infrastructure to support a variety of student learning and research activities. The Department operates eight (8) sufficiently equipped laboratories. Three (3) of them, which are located in the main UniPi building, are used only for the undergraduate studies and provide 60 available seats for teaching purposes. The latter ones are fully reserved all day long for teaching purposes only and operate by an in-house web application (labtutor.cs.unipi.gr). Their equipment has been recently updated using appropriate funds (Prefecture funding). Teaching and research equipment in the classrooms and laboratories appears to be of good quality. All lecture rooms, which are shared with other university Departments, as well as Department's labs are equipped with Internet and audio-visual facilities. Auxiliary facilities are also available and accessible to students as needed. Although students mentioned that they have sufficient access to the teaching labs, some concerns appeared on their adequacy for their studies due to the limited resources compared to the large number of new students per year.

All course study material is available online through the departmental website and the e-learning platform (GUNet2 eClass), in which recommended textbooks and lecture handouts are also posted. Till now, there is no availability of infrastructure and processes for lecture recording in the lecture rooms, although staff is doing its best to provide all related material in the platform. Following the pandemic restrictions, staff is putting effort towards recording the online lectures for its provision to students for on demand view.

Student support services, such as library services, dining facilities, primary health services, advisory support, student welfare, support for ERASMUS+, support for employment and career planning, practical training (Internships) support, etc. are provided centrally for all Departments at the Institutional level. Through the centralized UniPi services, DIT offers opportunities for practical training, as well as student exchange programmes (e.g., ERASMUS+) that encourage mobility, networking and the acquisition of new knowledge and skills or obtaining practical experience through Internships.

The University provides limited -if any- facilities or support for sports. Besides, it does not own any dormitories. Nevertheless, it offers a very limited boarding space for students, reserved from other universities' dormitories in Attika.

Finally, the Department administrative Services is located in the main UniPi building and they provide adequate services to students and staff with the support of the University's electronic system (including <https://students.unipi.gr/>).

Panel Judgement

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

Panel Recommendations

- Despite the obvious space restrictions, which affect virtually all campuses based in the centre of large capital cities, UniPi and DIT might further enhance their efforts to support the provision of additional facilities for boarding, sports, cultural, and social activities to students.
- DIT should also consider the provision of more teaching lab space or consider the preparation and provision of extended virtual lab environments for its students.
- Since DIT appeared to have an extensive professional network, it is recommended to further extend the opportunities available to students to gain practical experience by establishing appropriate collaboration agreements. To that end, the Department should consider extending the internship course (practical training) as mandatory, if possible.
- Continue to explore ways to improve the administrative support offered to students by the main administrative office in the Department.
- The Department should encourage and support its graduates towards setting up and maintaining an Alumni Body, which is expected to significantly contribute to the Department's activities in various ways (for example, invited in student events presenting topics for professional development, as external stakeholders participating in reviewing / supporting committees, etc.).

- The Department should enhance the range of support services available to the students, by further encouraging, for example, cooperation agreements with the municipal / prefecture authorities or local sport unions, providing its students access to sport facilities.

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 seems to have appropriate mechanisms and procedures in place to both collect and analyse all relevant information and, in particular: (i) key performance indicators as stipulated by HAHE, on an annual basis; (ii) student population profile, including percentage of minority population; (iii) student graduation rate as a function of the number of years of attendance; (iv) student evaluations for each course, measuring various aspects of student satisfaction with the undergraduate curriculum; (v) career paths of students after graduation. The department seems to be following best practices with respect to data collection and seems to have procedures in place to use such data in order to revise the curriculum and the course offerings and improve the student experience.

Panel Judgement

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

Panel Recommendations

None.

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 adheres to this principle mainly via its web site. There is a Greek and an English version, both of which follow the same structure of organising and presenting information. This structure is appropriate for the contents of a University's Department and through it all the relevant stakeholders (students, public, etc.) can have access to all the key information regarding the Department's activities. More to the point, the web site presents all the relevant information regarding the structure of the offered programmes of study, regulations, news and announcements, available facilities and qualifications of academic personnel (with reference to rather detailed CVs but not personal web sites). Information for the Department's labs is short and very few labs have their own web site. As part of the description of the offered programmes of study, it is possible for a student to find all relevant information regarding the content of a particular course, any prerequisites as well as the associated syllabus and what specialisation areas are available within the programme of study.

The strategy of the Department regarding Quality Assurance is also available. The web site is well maintained, and its contents appear to be updated regularly. Regarding the use of social media, there is an active Facebook account but there does not appear to be a LinkedIn one, even though the Department's presentations mentioned its existence. The English version of the web site requires further polishing. Some links appear to be empty of content (e.g., 'Administrative structure', 'Honours', 'Department Admission Degree', 'Academic Advisors', etc.) while others refer to Greek content, even in cases where English versions could exist (e.g., Ethics and Good Practices). The Erasmus+ section of the English version should be explicitly designed for potential inbound students, rather than reposting material that is beneficial primarily for potential outbound Greek students, who would normally consult the Greek version of the web site. So, in the Erasmus+ section of the English version, one would expect to find more information about the courses that the Department offers to the inbound foreign students, information about accommodation, etc. Finally, the web site should eventually become fully compliant to the W3C guidelines of accessibility for potential students with special needs. In addition to the web site, students can communicate with the Department using electronic mail as well as appropriate electronic platforms for the courses (notably eClass). The communication system in place also makes use of electronic signatures for the generation of official documents. Interviews with present and past students made it clear that they have easy access to all information relevant to their studies.

Panel Judgement

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

Panel Recommendations

- Encourage academic personnel to create and regularly update their personal web sites.
- All departmental labs should have their own individual web sites with reference to the research activities, funding, publication, etc. of the lab.
- Create or make easily accessible (as appropriate) a LinkedIn account, in addition to the Facebook one.
- The English version of the web site should be more complete and have more appropriate contents for international prospective inbound students.
- The W3C guidelines on accessibility should be applied to the web site, regarding content presentation.

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

There is a well-established procedure in place for the monitoring and periodic review of the undergraduate programme. There is a clear distribution of responsibilities and roles of all parties involved in this process. The monitoring process involves all the appropriate stakeholders, namely the Internal Evaluation Team (OMEA), the Departmental academic and administrative staff, the current as well as past students, as well as relevant external parties such as representatives from the labour market and social partners. This process is taking place annually, covers all aspects of such an evaluation exercise (programme content, workload, student assessment, etc.) and its findings are reported to the University's Quality Assurance Unit (MODIP) for final approval. The documentation presented by the Department shows that the findings of the monitoring exercise are fed back into the programme for improvements and updates. The involvement of the students by means of filling questionnaires is documented but, in general, the response is rather low (around 20%), mainly due to legal constraints in providing the questionnaires in an electronic form (with the exception of the current period due to COVID).

Panel Judgement

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

Panel Recommendations

- Establish electronic means for the students to fill the evaluation questionnaires, that will be able to be applied even after the current period with COVID-19 related restrictions, in order to boost higher participation. Encouraging higher participation by students could be enhanced by introducing additional incentives (e.g., automatic participation to a lottery for a tablet, etc.).

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 undergraduate program and, indeed, the Department as a whole have not as yet undergone another accreditation process. However, 10 years ago the Department was externally evaluated by another HAHE appointed panel. The findings of that evaluation process cover all aspects of the Department's activities and a number of them are directly related to this accreditation process. The Department has sufficiently demonstrated that it has taken into consideration the majority of the recommendations of the external evaluation panel and these recommendations have now been integrated into the processes related to the implementation of the current undergraduate programme. A relatively small number of these recommendations have not been implemented, mainly due to legal restrictions. Every effort should be made for these recommendations to also be implemented. Furthermore, the established procedures for internal quality assurance are sufficient for ensuring that the findings and recommendations of this (or future) accreditation panel will be implemented. The relevant Departmental and University stakeholders are well aware of the importance of these accreditation exercises, have been actively engaged in the current accreditation process and are committed to implementing its findings.

Panel Judgement

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

Panel Recommendations

- Every effort should be made for the recommendations of the external evaluation process to be implemented as a whole (e.g., enforcement of prerequisites, electronic evaluations by students, adherence of the Departmental web site to W3C universal access standards).

PART C: CONCLUSIONS

I. Features of Good Practice

- The department has a solid undergraduate programme in place that is often revised and has been frequently adapted to incorporate state-of-the-art material in the course offerings.
- The undergraduate programme has incorporated elements of research (mainly via the diploma thesis) and is well-connected with industrial partners (mainly via practical training exercises).
- There is a high degree of student satisfaction from the undergraduate program, especially in terms of professional preparation.
- The department collects reliable data on course offerings via course evaluation forms that have been recently moved online and are conducted via electronic means.
- The department has offered summer schools catering to high-school students in order to attract talented undergraduate students. The quality of the department's undergraduate students has improved as evidenced by the increased minimum grade that students need to achieve in order to be admitted to the department via the panhellenic admission exams.
- The department has Academic Advisors (assigned to all undergraduate students) in order to offer advice on academic and employment-related matters to students.
- The department offers significant mobility opportunities to undergraduate students via the ERASMUS programme.
- The department sufficiently monitors the career paths of its graduates. More importantly, there seems to be significant satisfaction among employers regarding the quality and the training of the department's students.
- Finally, the department seems to be a healthy environment for both students and faculty in order to pursue their academic endeavours.

II. Areas of Weakness

- The department's infrastructure (especially when it comes to labs) is somewhat lacking. This might be having a negative impact on the undergraduate curriculum.
- Administrative structures within the department should move online as much as possible and become more user-friendly. It does appear that due to COVID-19 restrictions multiple steps towards that end are already being implemented.
- Accessing information such as publications, citations, funding, committee participation, etc. for some faculty members was not as straightforward as it should be.
- Student participation to course evaluations is somewhat low.

III. Recommendations for Follow-up Actions

- Continue to explore ways to improve the administrative support offered to students by the administrative offices.
- Provide feedback to stakeholders (including students) regarding actions taken by the department to address issues that are systematically raised in student evaluations.
- The department might want to consider setting up a (formal or informal) External Advisory Board for its undergraduate programme to provide recommendations to the department's General Assembly. The board could be composed by members of the academic community, employers' organizations, experienced external partners, etc.
- The department should continuously explore ways to increase student participation in course evaluations; establishing electronic participation to such questionnaires is certainly a first step.
- The role of the Academic Advisor has to be well documented (perhaps by introducing an Academic Advisor Guide). It should be thoroughly communicated to first-year students during their orientation.
- The department may further benefit from its wide professional network of external stakeholders and expand its internship opportunities (and related Practical Training course), taking into consideration any limitations applicable due to the State Law.
- The department and the University should develop a strategy and a fair process for professional development, improving faculty mobility to and from the department.
- The department could explore whether research-oriented teaching is delivered in undergraduate courses beyond the diploma thesis. Related activities and processes could be documented in the undergraduate programme, wherever possible.
- The department should also consider the provision of more teaching lab space or consider the preparation and provision of extended virtual lab environments for its students.
- The Department should encourage and support its graduates towards setting up an alumni organization.

IV. Summary & Overall Assessment

The Principles where full compliance has been achieved are: **1, 2, 3, 4, 5, 7, 9, and 10**

The Principles where substantial compliance has been achieved are: **6 and 8**

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

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