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Ανώτατης Εκπαίδευσης**
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Accreditation Report
for the Undergraduate Study Programme
(Integrated Master) of:

Biological Applications and Technologies
Institution: University of Ioannina
Date: 10 October 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 (Integrated Master) of **Biological Applications and Technologies** of the **University of Ioannina** 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 (Integrated Master) of **Biological Applications and Technologies** of the **University of Ioannina** comprised the following four (4) members, drawn from the HAHE Register, in accordance with Laws 4009/2011 & 4653/2020:

- 1. Prof. Emeritus Spyridon Agathos (Chair)**
Université Catholique de Louvain, Belgium

- 2. Prof. Irene Kokkala**
University of North Georgia, United States of America

- 3. Dr. Nicholas Ktistakis**
Babraham Institute, United Kingdom

- 4. Adjunct Prof. Tassos Papageorgiou**
University of Turku and Åbo Akademi University, Finland

II. Review Procedure and Documentation

The Hellenic Authority for Higher Education (HAHE) formed an external and independent panel of experts to conduct an assessment of the compliance of the study programme of the Department of Biological Applications and Technologies (BAT) of the University of Ioannina (UOI) in accordance with the HAHE Quality Assurance requirements (laws 4009/2011 & 4653/2020). The assessment was conducted through document reviews and online interviews. The method used was an evidence-based process centred on a sampling of the Department's activities and it was aimed at evaluating the fulfilment of the HAHE requirements of the relevant Quality Standard of the Undergraduate Study Programme (Integrated Master) and commenting on its compliance, effectiveness and applicability for the scope of the requirements. The information provided by the Department was assumed to be factually correct.

Due to the unprecedented circumstances of the Covid-19 pandemic, the entire evaluation and accreditation exercise did not include a site visit of the Department and University campus in Ioannina but was carried out remotely using the Zoom platform.

On September 15, 2020 the External Evaluation and Accreditation Panel (EEAP) received from HAHE the Accreditation support material from the HAHE Cloud link <https://docs.ethaae.gr/index.php/s/rMKcYkFL49RSqbi> which contained the following:

1. Biological Applications and Technologies – University of Ioannina Material, consisting of the documents:
 - B1. Proposal of Academic Accreditation
 - B2. Quality Policy of Undergraduate Study Programme
 - B3. Study Guide
 - B4.1 General Regulations of Laboratory Conduct
 - B4.2 Definition of Selection Criteria for Erasmus+
 - B4.3 Regulation for Diploma Theses
 - B4.4 Regulation for Practical Internship
 - B4.5 Regulation for Doctoral Studies BAT
 - B4.6 Regulation for Postdoctoral Studies UOI
 - B4.7 Internal Regulation for Undergraduate Study Programme BAT - UOI
 - B5. Course Outlines
 - B6. Quality Targeting
 - B7. Questionnaires to Students for Course Evaluation and Results
 - B8.1 Minutes of 6th Decision of MODIP – UOI on Internal Evaluation
 - B8.2 List of Findings of Internal Evaluation BAT – MODIP
 - B8.3 Questionnaire of Internal Evaluation BAT – MODIP
 - B9. Quality Data OPESP (comprising miscellaneous statistical data on the Undergraduate Study Programme and referring to the reports for the years 2015-16 and 2016-17)
 - B10.1 Additional Documentation Material – Specific Learning Outcomes of Advanced Courses (Level 7) plus the outlines of these courses
 - B10.2 Additional Documentation Material – concise listing of all courses, level, ECTS values and names of instructors and their specialisations

2. HAHE Material, containing the documents:
 - Accreditation Guide
 - P1. Standards for Quality Accreditation Programme
 - P12a. Guidelines for the Accreditation Panel
 - P13. Mapping Grid
 - P14. Template for the Accreditation Report
 - European Qualifications Framework
 - Guidelines for Accreditation
 - Quality Indicators Dept BAT 2015-2016
 - Quality Indicators Dept BAT 2016-2017
 - Quality Indicators Dept BAT 2017-2018
 - Quality Indicators Dept BAT 2018-2019
 - Quality Indicators Undergraduate Programme BAT 2015-2016
 - Quality Indicators Undergraduate Programme BAT 2016-2017
 - Quality Indicators Undergraduate Programme BAT 2017-2018
 - Quality Indicators Undergraduate Programme BAT 2018-2019
 - UOI – BAT External Evaluation Report, 2011

On Monday October 5, 2020, an orientation meeting via Zoom was organized by HAHE's Director General Dr Christina Besta addressing the procedures to be followed during the virtual site visit and subsequent report drafting. During this meeting, a thorough presentation was made on the quality assurance (QA) mission and guidelines of the accreditation process were given.

In view of getting to know each other and establishing a modus operandi regarding the exercise of accreditation, the EEAP members met virtually on the same day, following the presentation and discussion with Dr Besta.

On Tuesday October 6, 2020, at the Panel's request, HAHE transmitted to the EEAP supplementary material from the Department's internal Evaluation Group (OMEA) that was missing or not readily available among the previously received files or on the Department's website. This material included data on Student Support, samples and data on Diploma Theses, Assignments, Examinations, Course Evaluation Questionnaire, as well as Feedback on Erasmus+ mobility, internship, alumni, etc.

The EEAP Review of the BAT study programme started formally on Tuesday October 6, 2020, at 15:00 (Athens time) via Zoom. In the first part of this virtual meeting, the UOI Vice-rector and president of MODIP Prof. S. Nikolopoulos familiarised the panel with UOI (facts and figures) and the Head of the BAT Department and OMEA member Assoc. Prof. P. Marangos gave an overview of the UP's origins, evolution and current status. The different aspects of compliance with the accreditation principles (A1-A10) were presented by OMEA members of BAT, including the Department Head Assoc. Prof. P. Marangos, Assoc. Prof. Th. Michaelidis, Asst. Prof. M. Filiou, Asst. Prof. D. Alivertis and Asst. Prof. Ch. Labrakakis with the presence and support from MODIP representatives Assoc. Prof. A. Makis and Assoc. Prof. N. Benos, plus MODIP staff Ms P. Alexoudi and Ms E. Tagkareli (MODIP secretaries). The EEAP subsequently met virtually with faculty

members selected by the Department that included two Professors (C. Psarropoulou, G. Thyphronitis), two Associate Professors (V. Kati, K. Papaloukas), two Assistant Professors (V. Douris, H. Karayanni) as well as one EEP (L. Andreou) and one EDIP (K. Konidaris). Finally, the EEAP met with 9 undergraduate students (S. Oikonomou, A. Kefala, 2nd year; Aik. Zilaki, 3rd year; E. Grammenou, T. Danelis, E. Kokkinogenis, 4th year; D. Kyriazi, K. Tziavaras, K. Afordakos, 5th year).

On the next day, Wednesday October 7, 2020, starting at 15:00, the EEAP had a virtual meeting with six social partners and employers of the study programme's graduates (Dr C. Chiotelli, Pamvotis Lake Management Body; Dr S. Christoforidis, Director, Biomedical Research Division – IMBB, FORTH; Dr K. Stergiou, Director, IMBRIW, HCMR; Dr. M. Koutrakis, Hellenic Agricultural Organization “Demeter”; Dr I. Lampropoulos, “Papathanasiou I.– Lampropoulos I. LLP” – IPER Quality Control Lab; Dr I. Georgiou, Dean, School of Health Sciences, UOI). The next virtual meeting was between the EEAP members and eight alumni of the BAT study programme from the most recent ones to those having graduated almost 15 years ago, who work in various sectors (Dr I. Pavlidis, Assistant Professor, Dept. Chemistry, Univ. Crete; Dr P. Takis, Research Associate, Dept. Metabolism, Digestion & Reproduction, Imperial College London; Ms E. Angeli, Corporate Environment, Health and Safety Manager at Etex, Brussels; Ms K. Mavraki, Drug Safety Value Partner, Roche, Greece; Mr. A. Galaris, PhD student, BSRC Alexander Fleming, Athens; Ms A. Bisioti, Business Development Manager at Eisai EMEA; Ms E. Bellou, PhD student, Max Planck Inst. Biophys. Chem., Germany; Mr. K. Stamatou, PhD student, Brunel University, London). An on-line tour of the Department's facilities was presented to the EEAP via a prerecorded video of classrooms, lecture halls, library, laboratories and other facilities (<http://bat.uoi.gr/services/links/19-department/155-infrastructure>). The virtual site visit was narrated by Asst. Prof. D. Alivertis and additional discussions on the facilities were carried out with faculty members Assoc. Prof. P. Marangos and Prof. G. Thyphronitis, while Technical Administrative Staff member Mr. A. Deftereos was available for on-site inspection. Lastly, after a debriefing among EEAP members in private, the EEAP provided an informal overview of their preliminary impressions and assessment of the BAT study programme to the Vice-Rector of UOI Prof. S. Nikolopoulos, the Head of the Department Assoc. Prof. P. Marangos and representatives of OMEA (Assoc. Prof. Th. Michaelidis and Assist. Professors M. Filiou, D. Alivertis and Ch. Labrakakis) and MODIP (Assoc. Professors A. Makis and N. Benos, secretaries Ms P. Alxoudi and Ms E. Tagkareli) and discussed their major findings and recommendations.

Upon completion of the two days of virtual meetings at UOI, the EEAP recognized a positive atmosphere and a willingness of the Department to cooperate and support the University's QA policy at all levels with a commitment to maintaining and further upgrading the quality standards of the Department and the University in compliance with HAHE. The EEAP would like to thank the Department and University Administration as well as all faculty members for their cooperation and fruitful discussions.

During the following three days (October 8-10, 2020), the EEAP members had remote online meetings for the completion of the draft Accreditation Report (AR).

III. Study Programme Profile

The Department of BAT is part of the School of Health Sciences of the UOI and is located in the University's Ioannina campus. It was founded in 1999 and accepted its first undergraduate students in the academic year 2000-2001. The undergraduate study programme aspires to be at the cutting edge of basic and applied life sciences and to provide students with a modern high-quality education in all fields of Biology. It has a distinct identity among biological study programmes in Greek universities because of its broad scope, its emphasis on applications and its 5-year duration. The programme introduces the student to current biological technologies and applications and, since September 2018, it leads to a Level 7 Qualification according to the National & European Qualifications Network (Integrated Master). The programme amounts to a total of 300 ECTS and includes 34 obligatory courses (25 laboratory-based), 42 elective courses (18 laboratory-based, 9 offered in English), and a compulsory final diploma thesis project. The latter is carried out during the 5th year (semesters 9 and 10) and is based on research. The programme encompasses the study of life sciences at all levels of description, from the molecular and cellular level upward, providing knowledge and fostering basic and applied research along two axes: (i) the pursuit of academic knowledge in all life sciences focusing on technology and its applications (currently with a biomolecular emphasis) and (ii) the generation of knowledge and technology addressing natural resources and habitats (with an environmental emphasis). Starting from the academic year 2019-2020 two optional orientations are available to the students after covering background and common trunk courses: (a) Biomolecular Sciences and Biotechnology and (b) Environmental Biology and Technology.

Since its evaluation in 2011, BAT has pursued a trajectory of academic growth as evidenced by the increasing number of faculty members, high-impact research publications and participation in competitive research programs. The students graduating from the BAT study programme are well qualified and have been filling positions of responsibility in academic institutions, research centres, industries, laboratories (e.g. biological testing of food, water, soil, etc.), health and environmental agencies, as well as in the wider public and private sector. The diploma (Integrated Master) confers specific professional qualification in ichthyology and in food analysis. A further career outlet for students is in pedagogical and teaching competence, upon completion of a corresponding qualification. Finally, the BAT Department offers four inter-departmental postgraduate programmes (Molecular-Cell Biology and Biotechnology; Environment and AgriFood; Medicinal Chemistry; Environmental Sciences and Sustainability), doctoral studies, as well as post-doctoral research in all the above-mentioned fields.

The Department's facilities include a new autonomous multipurpose building containing classrooms, offices and teaching laboratories, buildings E2-E4 housing research laboratories and an administration building on the UOI campus, plus a research station in the Zagori area. Teaching and research laboratories meet international safety standards and are endowed with

modern equipment. Additional facilities, including the library, are shared with the UOI Medical School. The library appears to be adequate with resources and spaces for study. Additional large-size classroom spaces able to accommodate more than 100 persons are needed.

The Department is composed of 19 faculty members (7 Professors, 4 Associate Professors and 8 Assistant Professors) plus 8 laboratory teaching and technical staff (EDIP and ETEP) and 10 contractual teaching staff. In addition to their teaching duties, the faculty are engaged in research and outreach service to society, with a growing record of scientific accomplishments, increasing external collaborations in Greece and abroad, and external funding. These aspects attest to the continuous development and recognition of the Department.

There were 502 registered students actively pursuing their studies (ενεργοί) in the academic year 2018-2019 and 147 students had gained entrance in the 1st year in 2020 compared to 120 students who had been admitted in 2016.

The Department aspires to strengthen its links to a range of stakeholders and society-at-large. To this effect, it is organising its alumni through a dedicated LinkedIn group and it encourages its students to participate in a number of scientific and social events as a way to help develop a culture of innovation among its students and graduates.

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

Based on the Accreditation Proposal, the Department BAT has the vision to be at the cutting edge of basic and applied research and to provide students with modern high-quality education in all fields of Biology. As such, it is the only Department among the similar biologically-oriented academic units in Greece with such a broad scope. A strategic advantage of the Department's study programme is its 5-year duration, which allows the students to be introduced to new technologies and applications, in particular during their final diploma thesis project, where they develop a deeper appreciation of the process of scientific research. According to its founding documents the mission of the Department (GG 179/6-9-1999) is to study the science of Biology

and promote life sciences at all levels of description, from the molecular and cellular level upward, providing knowledge and fostering basic and applied research along two axes: (i) the pursuit of academic knowledge in all life sciences with an emphasis on technology and its applications and (ii) the creation of knowledge and technology for the development and protection of natural resources and habitats at the local and national level. In its current form, there appears to be an imbalance between (i) (mostly biomolecular) and (ii) (mostly environmental) in terms of faculty numbers and allocated resources.

The continuous pursuit of quality improvement of the educational, research and administrative operation of the study programme is a strategic goal of the Department in full agreement with the legislative framework and the UOI's commitment to the Principles and Guidelines for Quality Assurance in the European Higher Education Area (European Standards Guidelines 2015). The goal of total quality is part of the general strategic planning of the Department and is reflected in the annual planning and specific targeting of its actions, articulated in terms of the following 7 strategic targets: Continuous upgrading of the study program; Extroversion and Internationalization of the study program; Expansion of professional rights of the final degree (Integrated Master); Enhancement of undergraduate research; Promotion of research, attainment of innovation and excellence; Full use of infrastructure and improvement of the services provided; Further development and strengthening of human resources. These quality targets are realistic and build on prior and continuous progress. Through its OMEA, the Department is committed to the continuous improvement of a quality policy that supports the academic profile and orientation of the curriculum, and supports the students and the Faculty.

The general principles of the study programme have been designed based on international standards and are systematically reviewed based on the evaluation and inputs by - student suggestions, - Study programme Committee, - External evaluations, - Faculty and Teaching staff, - Feedback from alumni and external stakeholders. These are proposed to the Study Programme Committee which then bring them for approval to the General Assembly. Occasionally, current developments and advancements in various fields and technologies are also taken into account, resulting in new courses or educational amendments.

Graduates of the Department have the background to study, research, understand and apply fundamental concepts and modern methodologies for the development of applied biosciences in a wide range of fields from health to the environment. They can be employed in the private and public sectors for research, development and quality control, including laboratories of agro-industrial, food, pharmaceutical and biotech companies, hospitals and microbiological laboratories. Other outlets for employment include higher and secondary education and research institutions as well as national agencies and supervisory/regulatory authorities, and organizations overseeing processes and products of biological origin.

The Department plans or revises its quality goals regarding the study programme on an annual basis (no later than April), with a time horizon of one academic year. For instance, for the current academic year, the process was completed and approved at the meeting of the General Assembly (264 / 12-03-19) and the implementation schedule covers the academic year 2019-2020.

In defining the Department's targets, its vision and mission were taken into account as well as the data and indicators of the Information program (OPESP) of the academic year 2016-2017. They are based on the following criteria: To be specific. To be measurable. To be accurate. To be achievable. To be within time limits.

The fields of application of these targets are: the educational function, the research activity, the financial management, the administrative efficiency, etc.

The means of achieving the above QA strategic goals, include:

- The continuous internal evaluation and improvement of the quality and efficiency of teaching within the Department
- The continuous effort to link teaching with research
- The acquisition of skills and qualifications of BAT graduates in view of competitive insertion into the labor market
- The continuous strengthening of the network of support services for the students

Panel Judgement

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

Panel Recommendations

- The Department is encouraged to review its strategic vision concerning the two thematic orientations with a special emphasis on maintaining the proper balance between the two. In the opinion of the EEAP the current balance of ~85% to ~15% is not optimal and does not reflect the market and societal needs.
- The development and enhancement of the capabilities and qualifications of the faculty members is an important quality target that needs to be further improved.
- The continuous improvement of the quality of the research work of the faculty members should be further supported both at the Department level and at the central level of the University.
- External sources of support should be continually sought.

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 vision of the Department is to be at the forefront of both basic as well as applied research, to provide its students with the most modern and high-quality education in all fields of Biology, and to differentiate itself from other departments in the academic map of Greece by offering a wide range of learning opportunities.

The study programme is based on international standards aiming to offer both theoretical and practical knowledge in modern technologies and methodologies through a series of laboratory exercises, field exercises, work placement/internship, and a final diploma work (1 year). The courses are structured into three distinct groups as students move from the 1st to the 5th year of their studies: A) general background courses (a total of 11 1st year courses) B) special background - core courses (a total of 22 2nd and 3rd year courses), and C) specialization courses of general knowledge-skills development (40 elective courses of 3rd, 4th and 5th year).

The programme is structured in semesters. However, there is only partial staging, except for some laboratory courses, with prerequisite courses that need to be successfully finished before

other courses are taken. This leads to a lack of explicitly enforced staging and orderly progression through the programme.

The programme follows the European Credit Transfer System (ECTS). The individual course workload, in general, does not seem to be heavy, although some demanding courses give fewer ECTS than normally expected.

The stakeholders of the labour market as well as the academic partners mentioned that the BAT graduates were very well trained. The number of stakeholders the EEAP met was adequate and a good picture was obtained about potential opportunities for the graduates in the job market. The EEAP believes that BAT has a big potential in exploring opportunities with industrial and social partners at both the local and the national level.

The structure of the study programme is rational, coherent and clearly articulated. The printed Student Guide is complete, concise and appropriate and offers basic information about the Department. A full and detailed description of the courses is provided on the website. The printed and on-line information are updated every year and there is a plan to revise the study programme regularly. The curriculum revision procedures expect an active consultation with students, however, so far, there is limited student participation. Although there are procedures in place to officially implement changes and approve them in the General Assembly, these procedures do not appear to be clearly formulated with the participation of all interested parties, including external stakeholders.

The programme aims to engage all students in participating in new developments. However, many students take more than five years (only 17-20% graduate within 5 years) to complete their studies, which might be caused by reduced student engagement.

The percentage of graduates who receive a final diploma grade >8 is low and appears to be consistent for the last 4-5 years.

Panel Judgement

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

The External Evaluation & Accreditation Panel agrees that this Programme leads to a Level 7 Qualification according to the National & European Qualifications Network (Integrated Master)	YES	NO
	X	

Panel Recommendations

- Prerequisites that could improve student engagement should be introduced. Curriculum revisions could be implemented in the laboratory courses and starting with a new batch of first-year students. Establishment of a minimum percentage of ECTS completed (75-80% of total ECTS in each year) before the student could progress beyond the first and the third year is recommended.
- Methods of student engagement should be explored, such as tutorials, new pedagogical methods of learning etc.
- The EEAP could foresee strategic stakeholder alliances with research institutes, environmental agencies, the biomedical and pharmaceutical sector, and others. It is not clear, however, to what an extent at present the stakeholders can take part in discussions and preparation of the curriculum; this needs to be improved.
- Procedures to introduce new courses should be clearly formulated and the needs for new courses to be explained.
- The Department aims to cover a large scientific area of study. It is realistically impossible that students would become experts in all areas of biological applications and beyond. While the EEAP encourages the mission of the Department to serve the study of biological applications in broad terms, the coursework must be significantly adjusted to introduce advanced concepts (e.g. -omics techniques, synthetic and systems biology, entrepreneurship) and not to lead to potential repetitions and narrow technical specialization of the students.
- The EEAP discussed the possibility of including a course on the general principles of evolutionary theory early during the curriculum, preferably during the first semester and not at a late stage.
- The percentage of graduates with higher final diploma grade needs to be improved.
- Owing to the presence of the Medical School, the Department aims to increase the synergies in the field of Medical Biosciences. On the other hand, there is an increasing demand for graduates with skills and knowledge in environmental sciences and climate change. The EEAP believes that the BAT can play an important role in developing such a relevant curriculum and resource allocation.

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 BAT undergraduate programme is organised in a positive student-centred learning environment that offers flexible learning paths. Different types of delivery are employed using various pedagogical methods such as problem-based learning, active learning, experiential learning, multimedia applications, and electronic depository of learning materials (e-course). Students are encouraged to develop individual skills primarily through the selection of elective courses, the selection of the topic of the thesis, internships, and field experiences. Students are treated for the most part as active partners through invitation to participate in committees and contribution of ideas for curriculum development. Such recommendations by students on an

informal basis appear to have been received well by the faculty leading to adjustments in the courses.

The students commented on their satisfaction with the quality and variety of the elective courses.

For some lecture courses, the overall grade is assessed using multiple examination measurements. There are several courses though where there is only a final exam from which the final grade is derived for the theoretical portion of the course. The syllabi (course outlines) describe the contents as well as the assessment criteria methods.

The EEAP noted the modest participation of students in the course evaluations. Efforts should be made to increase the participation of students in the course evaluation process which contributes to the continual improvement of courses and teaching.

There is a formal appeal process in place for grades which is clearly stated in the documentation although information received by the EEAP noted that the process is rarely used by students.

The programme is delivered in a student-centred environment on the basis of mutual respect and cooperation.

Students are not fully aware of the actual role and the services an Academic Advisor can provide towards their success. One of the problems could be the distribution of students using student registration number to advisors.

Panel Judgement

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

Panel Recommendations

- The BAT should make further efforts to increase the participation of students and their confidence in the course evaluations, for example:
 - During class hours or at the beginning of an exam, the instructor should further emphasise the importance of participation in the evaluation process.
 - Other possible innovative ways (e.g. social media) should be adopted.
- The role and duties of the Academic Advisor should be further promoted to the students and adapted to the specific needs of the Department. A formal assessment of Academic Advisors by students should be considered. The assignment of the advisors should be done based on common career interest between student and faculty. Additionally,

students should have the option to change advisors if desired. This issue is also addressed under Principle 4.

- Departmental seminars (internal and external speakers) on a regular basis and perhaps one-day workshops would provide the students with an opportunity to be informed on new advances in their areas of study.
- All courses should be assessed by multiple methods (midterm exams, presentations, group projects, etc.).
- Different modes of delivery could be included in courses, for example group work (learning communities), scientific writing intensive courses (including extensive literature review reports), etc.
- Attention should be given to the heavy workload of the third year of studies. A review of the curriculum should be conducted and possible changes could be made to balance the workload across all years of the programme.

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

(1) The EEAP was shown extensive data to suggest that student progression is an item of major concern and activity of the UOI BAT. From the time the students are enrolled (approximately between 120 to 150 students gain entrance each year) until their graduation five (or more) years later, they are given in written form as well as electronically extensive descriptions of the courses of study and the requirements for successful passing of each course. This information is clearly described in the e-course platform in advance. One recent addition to the procedures of student progress monitoring is the assignment of a faculty Advisor to each student entering BAT. The assignment is random at this point. Some students told the EEAP that their assigned Advisor may not have been appropriate for their scientific interests and they would have preferred to be able to choose their Advisors themselves.

(2) After many years of effort, BAT has been able to have their degree recognized as an Integrated Master, and this is the first such degree among Biology departments in Greece. All students interviewed by the EEAP were aware of this, in fact, they considered it a major selling point for choosing BAT after their University entrance exams. The degree to which this Integrated Master is recognized in Greece and abroad is variable, tending towards negative for the UK and for various job opportunities in the private sector in Greece (based on testimony from recent graduates). It is also worth noting that, perhaps as an ultimate test of the effectiveness of this degree design, students from BAT working abroad compare very favorably with their local colleagues, and in many cases their skills are more advanced. In general, BAT follows very closely the Bologna Convention for award and recognition of higher degrees (based on the award of ECTS) including the duration of studies, rules ensuring students' progression, and terms and conditions for student mobility. Student mobility is three-fold: internship/practical placement; Erasmus+ work experience; thesis placement. Although there

are more candidates than positions for the first two, and not all first choices are fulfilled for the third, in general the EEAP was impressed by the overall policies for student mobility.

Finally, BAT is the only Department in Greece that awards an ichthyology degree as a specialization.

(3) The procedures for graduation are clearly spelled out in the course guide (Οδηγός Σπουδών), and the students can obtain very rapidly when needed a copy of their Diploma Supplement (in both Greek and English) listing all courses attended and the grades achieved. In this context, it is worth noting that the thesis written after the last year laboratory placement is very extensive, and the EEAP was impressed to know that 13% of these theses are integral parts of scientific publications from BAT.

The time to graduation is not adequately managed in terms of students falling behind (v+1, v+2, v+... years).

Panel Judgement

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

Panel Recommendations

- Strengthen the student Advisor role and allow flexibility for students to switch advisors once they are more familiar with the Department and their own interests. However, this needs to maintain a balance among Advisors so as to avoid that a few faculty members are responsible for too many students. Another suggestion is that Advisors initiate themselves the first meeting with the students in their care in order to start a mentoring relationship early on.
- Lobby the relevant authorities in the UK (Higher Education Authority) to recognize the integrated Master, perhaps by asking to find out what elements are missing and implementing them. A similar strategy may be implemented for employers and Universities in Greece.
- Efforts should be made to reduce the number of students falling behind in their graduation (stagnant students). This could be one of the functions of the student Advisor.
- Consider increasing the duration of the practical placement to 4 months since then it would be possible to ask external stakeholders who host the students for a financial contribution to the programme (this was suggested by the stakeholders themselves during the meeting with the AP).

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 quality of the faculty at BAT is overall good, with some room for improvement. The EEAP noted the following regarding points 1-7 above.

(1) Recruitment procedures appeared fair as indicated by the high level of recent recruits. No startup package is available for newly recruited faculty, but it was mentioned that the department tries its best to secure some extra funds. In the words of one recent recruit “I knew about the absence of a start-up package when I applied.” Mentoring of the new faculty is informal. The EEAP notes the loss due to the recent retirement of some faculty members.

(2) Very few opportunities for professional development are available for faculty in an organized way; most of them rely on foreign collaborations and on following the literature to stay on top of their specialty.

(3) Most faculty are active in writing review articles in their field. In addition, by having to read and evaluate several theses each year they maintain a good link between education and research. PhD thesis supervision in cutting edge subjects appears to be uneven among faculty members.

(4) The EEAP noted that teaching of students is taken very seriously by the faculty and, especially for elective courses, several innovative activities were available, including courses dispensed entirely in English. Field trips for some environmental and ecology courses are especially highlighted. Adapting of teaching methods during the coronavirus lockdown was both rapid and effective.

(5) The research output of the faculty is a major concern of the AP, especially for a number of mid-level and senior staff. There are a number of faculty with extremely few first or last author papers in the last 15 years, and others whose research output shows a very modest trajectory

in recent years. The EEAP notes that newly recruited faculty have entered the BAT with a good publication record, and hopes that this can be maintained.

(6) Mechanisms are in place to monitor faculty teaching performance based on student evaluations. The EEAP was pleased to know that, in some cases, these evaluations have resulted in suggestions for improvement to the faculty concerned.

(7) In order to attract well-qualified staff, the BAT must rely primarily on its reputation and on its geographical placement within an attractive campus and place to live. As mentioned above, recent faculty recruits have been of high quality and they were both from inside and outside Greece. This suggests that, despite problems with start-up funds and career progression, the BAT remains an attractive destination for faculty candidates.

Panel Judgement

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

Panel Recommendations

- The EEAP suggests that future recruitment of faculty members must be discussed and decided in connection to the strategic orientation of BAT, and especially with respect to the uneven split between “health” and “environmental” subspecialties. In the opinion of the AP, the environmental orientation must be significantly enhanced.
- Despite the constraints imposed by the centralised system of recruitment of University faculty members, the EEAP suggests to the Department to employ informal approaches for attracting candidates and getting to know them before the formal process of recruitment.
- Within the limitations of current funding and overall resource allocation, the BAT must consider ways to enable its faculty to undertake sabbatical placements to allow personal development for both teaching as well as research.
- The UOI ELKE should provide greater support to faculty members in their pursuit of competitive external research funding.
- In view of the modest record in research for a significant number of faculty members, the EEAP suggests the establishment of a small group of outside scientists, prominent in the relevant fields of BAT, which can serve as mentors and evaluators of the research performance of the department on an annual basis.
- The EEAP found that a large number of faculty CVs were not updated on the website until a few days before the visit, and in fact, following the request by the EEAP for updates, one faculty still only updated their CV in the English version of the website but not in the Greek version.

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 BAT has the necessary facilities such as classrooms, laboratories, IT infrastructure. The buildings provide a good working environment kept in satisfactory condition. Some of the facilities are shared with the UOI Medical School such as the library. The library appears to be efficient providing access to resources and spaces for study. The laboratory equipment and spaces are adequate and equipped with updated instruments. There are some instruments that could be added such as a confocal microscope. In some cases, the availability of equipment may be limited because of the increased number of students admitted each year. Additional bigger classrooms able to accommodate large groups (over 100 students) are needed. The teaching and research laboratories are well organized and meet international safety standards, however, limited training on first aid is provided to the laboratory staff and where necessary to students. All classrooms and laboratory spaces are designed to provide safety in case of fire, such as fire doors, multiple exits, etc. The EEAP noticed that the BAT has a very good IT infrastructure and designated computational facilities with personal computers available to the students.

The significant presence of elements in support and access of individuals with special needs was noted. These elements include ramps, lifts, size of doors and aisles in laboratories, etc. Significant services in support of personal and psychological issues are offered by ΣΚΕΠΙ (Συμβουλευτικό Κέντρο Πανεπιστημίου Ιωαννίνων).

The EEAP noted the lack of emergency response procedures/training and emergency drill for the BAT building, a responsibility that falls not only at the departmental but also at the university level.

As part of the wider UI campus, a wide range of support services is currently available to the students such as housing, restaurant, gym, exercise fields, including day care facility. The support and administrative staff are well qualified and able to provide excellent service, but these offices appear to be understaffed, causing delays in the delivery of services.

Panel Judgement

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

Panel Recommendations

- First aid training should be provided to BAT staff, in addition to a specialized manual in each lab provided to users.
- The BAT should implement an emergency response procedure and frequent emergency drills.
- Efforts should be made to increase the library holdings (or greater access to resources) maintaining a balance for all areas of study focus.
- Efforts should be focused on securing funding to build a larger classroom.
- Efforts should be made to increase the numbers of the administrative staff.

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 information system operated by ΜΟΔΙΠ allows the collection of Key Performance Indicators (KPIs) for every individual year for staff and students. Many KPIs are presented in text, or at best in tabular format. In addition to the presented data, consolidated graphs showing trends throughout the years would have been very informative, for example the precise number of graduates at $n+2$ years or $>n+2$ in order to capture such information and to implement corrective actions in time. The EEAP acknowledges the information and graphs received from OMEA regarding the study programme.

The general student population profile is available (e.g., gender balance, year of study, graduation year etc.). The admitted students appear to be highly qualified and the Department is among their top choices. Data regarding the employment of graduates, career paths etc., are shown on the BAT website. Some information is also available in social media.

There are students that take longer than five years to complete their studies. Scrutiny of the data that were provided suggested that an estimated ~25% of the enrolled students exceed two years past the projected five-year period for degree completion (" $>n+2$ "). A drop was noted for 2018-2019, which needs to be monitored. The percentage of " $n+2$ " and " $>n+2$ " fluctuates between years from ~35 to ~45%.

Graphs are used for the student surveys concerning courses. While the staff is strongly involved in collecting and analysing information, student involvement remains desirable as the majority does not return the questionnaires. This precludes any chances for appropriate analysis. This is an area of concern, but we acknowledge the difficulties in implementing such actions. It is commendable that before graduation the students have to fill in a mandatory questionnaire concerning their studies and the Department in order to receive their degree.

Course resources are available through e-course. Six courses are taught entirely in English. Description of the courses is provided on the website in Greek and English. Available support for students is provided although it appears to be restricted mostly to study-related matters.

Panel Judgement

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

Panel Recommendations

- The information management system is a large area of concern. A substantial effort involving all parties (ΜΟΔΙΠ, ΟΜΕΑ, University Central services), is necessary to address this issue. These actions should aim to improve the methodology to collect, analyse and present all information in a more efficient and engaging manner. Use of other ways of presentations, preferably in a graphical form, is highly recommended, especially for the KPIs to assist in the better planning of the Department's strategy by identifying trends in early stages and in decision-making processes. ΟΜΕΑ should take an active role in preparing graphs based on the collected information.
- A formal mechanism for the follow-up of the graduates (career progression, job opportunities etc.) is necessary.
- Student support should be expanded to sensitive issues and become clearer about confidentiality issues. In this regard, the involvement of the university's counseling resources should be pursued.

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 Departmental website appears in both Greek and English versions. The Greek version includes a wide range of relevant and useful publicly available information that presents: A concise general description of the Department including the philosophy underlying the study programme as well as the professional rights of the graduates; The Department structure and functioning (Administration, Infrastructure, Services, etc. with notable inclusion of the QA dimension); Detailed Description of Studies including the undergraduate and postgraduate programmes (with course outlines in both Greek and English according to HAHE standards), associated regulations (e.g. Regulation of conduct in laboratory courses), a comprehensive study guide for academic year 2020-21, information regarding the diploma thesis project, practical training internship and Erasmus+ mobility, information regarding alumni, their professional rights and career opportunities through a link with a dedicated LinkedIn webpage, and, last but not least, student support services; Personnel Information (including CVs) for most teaching, research and administrative staff; Research, including laboratories and field station and their activities; News and specific announcements, especially about course calendars etc.; Services, including all the digital forms and platforms (e.g., e-course, Eudoxos etc.), provisions for the disabled, plus links to the central UOI website with information regarding career opportunities (DASTA = Δομή Απασχόλησης και Σταδιοδρομίας), awards and scholarships, Research Committee, Epirus Technology Park, as well as other research centers and biologically-oriented academic units in Greece, etc.

The English language version of the website, although adequate, is considerably less detailed than the Greek one.

Although faculty members' CVs are now available in both Greek and English (with variable format and content) on the BAT website following the AP's request just before the current accreditation, the presentation of key faculty quality indicators (citations, grants, etc.) is not consistently informative. Also, not all faculty members have a Google Scholar profile nor an ORCID ID.

Panel Judgement

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

Panel Recommendations

- The Department should provide the entire content currently available in its Greek website also in English for the international audience, and particularly for people interested in joining the Department through exchange programmes such as Erasmus+. This will also help the Department to become more open to the world and attract visiting professors and researchers.
- With the exception of the LinkedIn alumni group, there is not sufficient presence in social media (such as Twitter, Facebook, Instagram etc.) commonly employed by international university departments in order to promote activities, provide up-to-date information etc. BAT is encouraged to enhance its presence in popular social media, in line with current worldwide trends. This will provide a universal forum to advertise available curricula, provide news and updates concerning departmental activities etc.
- The EEAP urges all faculty to develop a Google Scholar profile and ORCID ID as they are free and are constantly updated automatically. Also, more standardised CVs should be posted.
- The BAT Department should develop a structured mechanism (e.g., regular one-day workshops, newsletter, etc.) connecting the Department with the local community and social partners.

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 study programme is regularly monitored and revised by the undergraduate programme committee, the general assembly, and OMEA. OMEA (coordinated and supported by MODIP) collects and analyses various indicators, including the evaluations of the faculty by the students. Other input into the study programme comes from external evaluations by alumni and external stakeholders' input. Some content of the study programme is up to date, but there are areas that need to be modernised (-omics, microarrays, synthetic and systems biology).

There is no strong evidence and it is unclear to the EEAP whether the programme follows closely current and evolving needs of society. Although there have been efforts through the establishment of the student Advisor to support students in the progression and completion of their degrees, there is still a need for further development of processes to monitor the students' progress.

There is a need to increase the ways and means by which students are assessed in all courses. There is a paradox that students enter the BAT with very high grades but the majority graduate with very average academic records.

The students participate in course surveys and they indicate that they are relatively satisfied with the programme and with BAT. The level of participation in the surveys is not significant. There is a final survey conducted before graduation that shows consistent satisfaction with the programme.

In general, the students expressed satisfaction with the learning environment and support services. The BAT is part of a larger educational ecosystem comprising the Medical School, the

IMBB-BR, Department of Materials Science, and the Chemistry Department. All together, they have a critical mass of expertise and complementarity of skills.

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 recommends increased involvement with changing societal needs when reviewing adjustments to the programme and enhanced outreach by presenting current scientific information to the general public.
- The EEAP encourages the teaching faculty to adjust their grading upwards where appropriate.
- The effectiveness for the evaluation of the courses by the students should be improved by encouraging higher participation (make it mandatory before the final grade is released).
- As noted in principle 7, the collection and analysis of information should be more efficient.

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

This is the first time that the study programme is undergoing accreditation review and there is no prior report to check for compliance. However, an external evaluation of BAT took place in June 2011. The BAT has provided detailed responses to the recommendation and described actions taken in response to the evaluation.

In general, the EEAP considers the responses to the previous evaluation satisfactory but there are still a few issues needing improvement. These will be highlighted in the recommendations below.

Panel Judgement

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

Panel Recommendations

- More overlapping laboratory exercises need to be merged across courses.
- Midterm exams and other multiple ways of testing should be instituted for all courses.

- Erasmus+ exchanges for faculty members should be further encouraged.
- Further efforts should be implemented to increase student attendance in lectures.
- Startup funds should be secured to support junior and starting faculty.
- The role of the student Advisor should be strengthened and adapted to the needs of the students.
- The BAT should encourage more students to follow the organismic and environmental biology orientation.
- In view of the modest record in research for a significant number of faculty, the EEAP suggests the establishment of a small group of outside scientists, prominent in the relevant fields of BAT, which can serve as mentors and evaluators of the research performance of the Department on an annual basis.

PART C: CONCLUSIONS

I. Features of Good Practice

The Department makes a considerable effort to establish and maintain stakeholder alliances with research institutes, environmental agencies, the biomedical and pharmaceutical sector, and others.

The recently introduced role of the Student Advisor is a positive action and it holds great potential for offering guidance and monitoring student progress.

After many years of effort, BAT has been able to have their degree recognized as an integrated Master, and this is the first such degree among Biology departments in Greece.

The EEAP noted that teaching of students is taken very seriously by the faculty and, especially for elective courses, several innovative activities were available. Field trips for some environmental and ecology courses are especially highlighted. Adapting of teaching methods during the coronavirus lockdown was both rapid and effective. The teaching of several elective courses totally in English is also commendable.

The connection of teaching with research is most notable in the research-oriented final thesis. The thesis is generally quite substantial, and the EEAP was impressed to know that 13% of these theses are integral parts of scientific publications from BAT.

The EEAP notes that newly recruited faculty have entered the BAT Department with a good publication record. This practice is very promising for the future of the programme.

The Department has now a new building with very good working environment in terms of modern laboratory spaces and equipment as well as office and classroom space. Students, faculty members and staff have access to very good sporting facilities. Moreover, the dormitories, day care facilities, restaurant and other amenities are of very good quality.

BAT's website includes a wide range of relevant and useful publicly available information.

II. Areas of Weakness

The EEAP notes that some of the weaknesses of the BAT Department and its study programme are due to constraints imposed by the operational environment of Greek universities (lack of funding, bureaucratic procedures, etc.), and those weaknesses cannot be rectified at the Department level. However, several others should be possible to overcome or minimize.

The EEAP believes that the current balance of ~85% to ~15% between biomolecular and environmental focus areas is not optimal and does not reflect the market and societal needs.

There are no formally enforced prerequisites to courses as the students progress from semester to semester.

There is a high percentage of graduates with modest final diploma grade, which can potentially handicap the students in their quest for postgraduate studies admission or employment.

A great percentage of lecture courses (theory) are assessed on the basis of only a final written examination.

The time to graduation is not adequately managed in terms of students falling behind (v+1, v+2, v+. years).

Very few opportunities for professional development are available for faculty in an organized way; most rely on foreign collaborations and on following the literature to stay on top of their specialty.

The research output of the faculty is a major concern of the AP, especially for a number of mid-level and senior faculty members. There are a number of faculty with extremely few first or last author papers in the last 15 years, and others whose research output shows a very modest trajectory in recent years.

There is insufficient assistance to faculty members by ELKE in their pursuit of competitive grants.

The methodology of collecting and analysing relevant information is not efficient and is not presented in a sufficiently engaging format.

III. Recommendations for Follow-up Actions

Efforts should be made to improve the balance between biomolecular and environmental focus areas.

Establishment of a minimum percentage of ECTS completed (75-80% of total ECTS in each year) before the student could progress beyond the first and the third year is recommended.

The current students, the alumni as well as other stakeholders should take part in structured discussions and preparation of the curriculum on a regular basis.

The coursework must be significantly adjusted to introduce advanced concepts (e.g., synthetic and systems biology, -omics techniques, entrepreneurship) and avoid potential repetitions and narrow technical specialization of the students.

It is recommended that a course on the general principles of evolutionary theory be introduced early during the curriculum, preferably during the first semester and not at a late stage.

The percentage of graduates with higher final diploma grade needs to be improved.

The Department should encourage a more extensive participation of students in the course evaluations.

The role of the Academic Advisor should be enhanced, and efforts should be made for students to take advantage of this opportunity. One of the functions of the Advisor (in concert with a more general departmental policy) could be directed towards reducing the number of students falling behind in their graduation (stagnant students).

All courses should be assessed by multiple methods (midterm exams, presentations, group projects, etc.) and more courses should be delivered using multiple formats, including group work (learning communities), scientific writing intensive training (including extensive literature review reports), etc.

The BAT should implement an emergency response procedure and frequent emergency drills and equip each laboratory with a safety manual.

A formal mechanism for the follow-up of the graduates (career progression, job opportunities etc.) is necessary. The Department should develop a structured approach (e.g., regular one-day workshops, newsletter, etc.) connecting the Department with the local community and social partners, including potential employers, Erasmus+ and internship placements. More generally, the BAT Department and programme should strive towards wider extroversion and cooperation with the academic, industrial and social landscape of the country and beyond.

Information should be presented in a graphical form, especially for the KPIs to assist in the better planning of the Department's strategy by identifying trends in early stages and in decision-making processes. The OMEA should take an active role in preparing graphs based on the collected information.

The UOI ELKE should provide greater support to faculty members in their pursuit of competitive external research funding. Overheads from external competitive research grants won by BAT faculty members should be returned to the Department. A regular process providing start-up grants and other opportunities should be established for the newly hired faculty members. BAT should set up mechanisms for professional development and mentoring of junior faculty members and encourage its faculty to undertake sabbatical placements. In the same context the EEAP recommends to the Department the set-up of a small group of outside scientists, prominent in the relevant fields of BAT, which can serve as mentors and evaluators of the research performance of the Department on an annual basis.

Finally, although the EEAP is fully aware of the financial, logistical and legislative constraints, given the centralized character of higher education in Greece, it nonetheless recommends the increase in new faculty member hires especially in systems biology and environmental sciences, the decrease in student admissions to ~100 each year together with a more active role in their selection by the Department/University, the renovation of existing facilities for research laboratories, the enhancement of the core analytical and imaging instrumentation (e.g. confocal microscope), the upgrade of the animal house, the provision of new classroom space accommodating > 100 persons, and a fuller and potentially profit-making use of the Lambriadios field station. Last but not least, the EEAP encourages the Department to establish a culture and policy of recognition and rewards for student and Faculty excellence through awards and other measures. This should be instituted and followed by the Quality Policy as it is strongly linked to continuing improvements.

IV. Summary & Overall Assessment

The Principles where full compliance has been achieved are: **1, 8, 9, 10**

The Principles where substantial compliance has been achieved are: **2, 3, 4, 5, 6, 7**

The Principles where partial compliance has been achieved are: **None**

The Principles where failure of compliance was identified are: **None**

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

The External Evaluation & Accreditation Panel agrees that this Programme leads to a Level 7 Qualification according to the National & European Qualifications Network (Integrated Master)	YES	NO
	X	

**The members of the External Evaluation & Accreditation Panel for the
Undergraduate Study Programme (Integrated Master) Biological Applications
and Technologies of the University of Ioannina**

Name and Surname

Signature

- 1. Prof. Emeritus Spyridon Agathos (Chair)**
Université Catholique de Louvain, Belgium

- 2. Prof. Irene Kokkala**
University of North Georgia, United States of America

- 3. Dr. Nicholas Ktistakis**
Babraham Institute, United Kingdom

- 4. Adjunct Prof. Tassos Papageorgiou**
University of Turku and Åbo Akademi University, Finland