



ΕΛΛΗΝΙΚΗ ΔΗΜΟΚΡΑΤΙΑ  
ΑΔΙΠ

ΑΡΧΗ ΔΙΑΣΦΑΛΙΣΗΣ ΚΑΙ ΠΙΣΤΟΠΟΙΗΣΗΣ  
ΤΗΣ ΠΟΙΟΤΗΤΑΣ ΣΤΗΝ ΑΝΩΤΑΤΗ ΕΚΠΑΙΔΕΥΣΗ

HELLENIC REPUBLIC

HQA

HELLENIC QUALITY ASSURANCE  
AND ACCREDITATION AGENCY

**Accreditation Report**  
**for the Undergraduate Study Programme of:**  
**Biochemistry and Biotechnology**  
**Institution: University of Thessaly**  
**23 November 2019**

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**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 HQA to undertake the review of the Undergraduate Study Programme of **Biochemistry and Biotechnology** of the **University of Thessaly** for the purposes of granting accreditation.

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

### **I. The Accreditation Panel**

The Panel responsible for the Accreditation Review of the Undergraduate Study Programme of **Biochemistry and Biotechnology** comprised the following four (4) members, drawn from the HQA Register, in accordance with Law 4009/2011:

**Prof. Spyros Pavlostathis** (Chair)

Georgia Institute of Technology, Atlanta, Georgia, USA

**Prof. Emeritus Spyridon Agathos**

Université Catholique de Louvain, Louvain-la-Neuve, Belgium

**Dr. Nicholas Ktistakis**

Babraham Institute, Cambridge, UK

**Prof. George Zouridakis**

University of Houston, Houston, Texas, USA

## II. Review Procedure and Documentation

The Panel received information about the Accreditation procedure and relevant documents on 12 November 2019. The documents received included the following:

1. The accreditation proposal of the University of Thessaly, Department of Biochemistry and Biotechnology (UTBB) undergraduate programme.
2. The study guide for undergraduate students.
3. General guidelines for different academic programmes (PhD thesis, Diploma work, mobility, and practical internship).
4. Information about courses offered currently and in the past.
5. UTBB's policy regarding various benefits, activities, Libraries, and safety rules during lab exercises.
6. UTBB's educational and research targets up to 2020.
7. Results of questionnaires given to students.
8. Results of the internal evaluation of UTBB.
9. Quality assessment data for UTBB and the undergraduate programme.
10. Information about quality assessment of UTBB from 2017 to 2019 (ΟΠΕΣΠ).
11. Additional information about UTBB, including faculty accomplishments, various productivity metrics and statistics, and GDR.
12. The report of the external evaluation carried out in 2011.
13. UTBB's responses to the last (2011) external evaluation recommendations.

The Accreditation Panel (AP) did not receive the faculty CVs as most are available on the Departmental website.

The AP initially met in Athens at Divani Acropolis Hotel on Monday, 18 November 2019 with the President of ADIP, Prof. Pantelis Kyprianos, and the Managing Director, Dr. Christina Besta. During the meeting, AP members discussed the pending accreditation and asked several questions about various procedures. The meeting ended at 12:00 pm and then the AP travelled to Larissa by a car provided by the University of Thessaly.

The site visit to UTBB started on the following day, Tuesday, 19 November 2019 at 9:30 am. The AP members met in the main conference room of the UTBB building with key members of the Department, including the UT Rector, Z. Mamouris; Head of the Department, K. Mathiopoulos; OMEA representatives: D. Stagkos, D. Tsikou, A. Giakountis, and D. Karpouzias; and MODIP representatives: D. Bogdanos and G. Papadopoulos.

The AP subsequently met with faculty members selected by the Department that included three Professors, three Associate Professors, and three Assistant Professors, as well as members of EDIP/ETEP. The AP also requested to meet with a senior faculty member from the Medical School to fully appreciate research and training interactions between the two Departments. Because Prof. Bogdanos, as a member of MODIP, was from the Medical School, AP had a short separate meeting with him. Next, AP met with students (19) and recent graduates (7) from the Department who work in various industries and Universities. The last meeting of the AP was held with a group of external stakeholders, namely: D. Barkas (Nireas Enterprise), O. Rizos (Thesgi), A. Zapaniotis (Coffee Island), G. Kyriazi (Sci Co), E. Biti (Danish Refugee Council), and M. Kolyras (Efthymiades Agrochemicals).

On the next day, 19 November 2019, the site visit started at 9:30 am, with discussions with three key members of the administration staff (D. Kandylari, A. Tsekou, and V. Papadopoulou) followed by visits of main and secondary classrooms, teaching laboratories, and all of the research laboratories. Lastly, the Panel provided an overview of their assessment of UTBB to the Rector of the University of Thessaly, the Chair of UTBB, and representatives of MODIP and OMEA, and discussed their major findings and recommendations. The meeting concluded at 3:30 pm. The AP members returned to Athens for the completion of the report during the following three days (21 to 23 November 2019).

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

UTBB is part of the School of Health Sciences of the University of Thessaly. It was founded in 2000 and accepted its first undergraduate students in the academic year 2000-2001. As an academic unit, it has a unique profile in Greece as it combines two areas, Biochemistry and Biotechnology, in a single degree programme.

Since 2016 the Department is located in a new building in the outskirts of Larissa (Biopolis) and accepts approximately 120 undergraduate students annually. It offers modern, high-quality education with a four-year (8 semesters, 240 ECTS units) undergraduate degree programme as well as five postgraduate programmes. UTBB is composed of 22 faculty members (7 professors, 3 associate professors and 12 assistant professors), 6 laboratory teaching staff (EDIP), and 2 technical staff (ETEP). In addition to their teaching duties, the faculty are engaged in innovative scientific research and outreach services to society, with an ever-expanding record of excellence in scientific accomplishments, an extended network of external collaborators in Greece and abroad, and receive competitive external funding. All these contribute to the continuous development and scientific recognition of this young Department.

The average UTBB awarded degree grade of graduates is 7.3/10.

The UTBB building consists of modern facilities, including well-equipped laboratories and functional classrooms with sufficient space, very clean and attractive, with no graffiti or littering. The AP found that the absence of a large auditorium creates a lot of problems for the delivery of large undergraduate classes and urges the relevant authorities to find a way to finance such space. There is a bus connection with the city that is offered free to students. There are no residence halls for students, but plans are in place for new buildings within the campus.

The research areas of the Department are built around the two pillars of Biochemistry and Biotechnology focused on the areas of Health, AgroFood and Environment. Research lines address the study of biochemical and molecular mechanisms of diseases, the development of novel bioactive compounds, the investigation of interactions of insects, plants and microorganisms with the environment, the study of phytochemicals and nutraceuticals, bioprocessing and environmental technology, as well as molecular and genetic biodiversity. Experimental and translational research is an integral part of student training as illustrated by the recent distinction of the UTBB student team who came first in the i-GEM competition in Boston (November 2019).

UTBB prepares graduates for careers in the private and public sector of the economy, including in diagnostic or research laboratories, in pharmaceutical companies focusing on drug production or marketing, in quality control laboratories, in food industry production and maintenance, in companies focusing on the production of new biotechnological products, in regulatory agencies carrying out biochemical and biotechnological control of environmental parameters, as well as in secondary and higher education. The Department is developing novel applications and offers services on modern diagnostic methodologies of molecular biology, genetics and biotechnology to government agencies, health care entities, NGOs and private enterprises.

Strong links to the society, both in the Province of Thessaly and beyond, are a key priority of the Department, which is involved in consultancy to social organizations and public awareness events such as public dissemination of scientific achievements and mass media interventions concerning bio-ethical and scientific issues.



## 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);*

The AP considered the following:

The structure and organization of the curriculum are suitable for achieving the UTBB's teaching objectives. The learning objectives, outcomes, and qualifications follow the European and National Qualifications Framework for Higher Education. There are considerable efforts to promote high quality and effectiveness of teaching, with the ultimate goal of equipping graduates with skills to be successful in their careers and workplace as well as for their further graduate training. The degree awarded in Biochemistry and Biotechnology is in agreement with European standards.

The quality of teaching within UTBB is excellent (mean student satisfaction in questionnaires is 4.2/5.0 in instructor/course evaluations by students). All teaching faculty hold a Ph.D. degree and they use up-to-date information from the literature in their courses. Teaching and research are very well linked.

The labour market for UTBB graduates is very diverse, including fisheries, pharmaceutical, agrochemical and biomedical industries. A large number of UTBB graduates choose to pursue further graduate education (MS, Ph.D., post-doc) and many appear to excel in their subsequent academic or industry careers.

UTBB assigns one faculty member as Academic Advisor for each year of study for student advisement and mentoring. The AP noted, and the students confirmed, that all faculty members are approachable and involved in student guidance. There are also established procedures to address student welfare issues, some locally at the Department level, others centrally at the University level. However, such services, in particular those related to mental health, should be improved. The AP spent a considerable amount of time discussing with students and faculty mental health issues of the student body. The faculty recognizes the issue but it might be necessary to improve engagement strategies to tackle this global problem effectively.

Annual review procedures and internal audit of the quality assurance system of the UTBB undergraduate programme are being managed by OMEA in coordination with the MODIP.

### Panel judgement

<b>Principle 1: Institution Policy for Quality Assurance</b>	
Fully compliant	<b>X</b>
Substantially compliant	
Partially compliant	
Non-compliant	

### Panel Recommendations

**1a)** The underutilised Faculty Advisors could consider student engagement in a group-wide format to discuss common problems and emphasise the importance of this role. Non-faculty advisors should also be considered by the Department for both academic and non-academic issues (counselling).

**1b)** Communication among MODIP, OMEA, and the Department should be strengthened in view of the fact that University programmes from now on will be reviewed and evaluated via the current accreditation mechanism. Information on accreditation must be better disseminated.

## 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.*

The AP considered the following:

UTBB's strategy has been formulated to cover two areas of Biology: Health Sciences and Agrofood/Environmental Sciences. The AP believes the curriculum is well designed and executed, with the proviso that a broader theme is constantly present to guide against one-sided development. The general principles of evolutionary theory are covered in the course "Introduction to Biology" in the first semester of study.

The student programme is designed based on international standards to offer both theoretical and practical knowledge through a series of laboratory exercises (relatively unusual for Greece, being always part of coursework and not stand-alone), practical internship (2 months, mandatory), and diploma thesis (29 ECTS units mandatory = 24 for thesis and 5 for practical internship). Student representatives are invited to participate in several committees that design strategy, but unfortunately they choose not to. This was discussed at length with the faculty as well as the Rector who was present in several meetings. We encourage both the Department and students to find ways to resolve this impasse. Students need to participate in the design of the programme; on the one hand, to understand the need for innovation and updates to the contents typically proposed by the faculty, and on the other, to provide extensive feedback and evaluation. The AP discussed several ideas on how to improve and execute this point.

The AP was very impressed with the broad representation of external stakeholders during the relevant session of the site visit. This included local and national industries working on Fish Farming (aquaculture), Agro-industry, Coffee Shop franchise, farmers' cooperative, and a non-

governmental refugee organisation. A rather unique characteristic of UTBB is its very clear, strong, and mutually beneficial interaction with the external stakeholders. This initiative can serve as an object lesson to other academic programmes in Greece.

The programme study is structured in semesters. An excellent UTBB initiative is the establishment of an internal regulation that only students having passed at least 75% first biennium courses are allowed to progress to years 3 and 4. Although this created anxiety at first (with some continuing up to date for some students), it does seem to have resulted in improved graduation rates and a more self-motivated student body. In the opinion of the AP, this is a good example of a Department-led policy that addresses in a positive way a systemic problem of Greek universities with regard to student graduation rates, stemming from the fact that there are no course prerequisites. The AP noted the special effort made by the Department to accommodate students with mobility problems and other special needs. The Student Guide is up-to-date and the Study Programme is revised on a regular basis. The curriculum revision procedures expect an active consultation with and involvement of students or their representatives, but this is not taking place because students refuse to participate (see above).

The programme follows the European Credit Transfer System (ECTS). The AP did not receive any complaints about the students' workload. UTBB requires a 2-month practical internship in an external company or institution for all students.

Teaching and research activities are pursued through Diploma Thesis projects (mandatory) that are experimentally oriented and require completion of a research project. Other ways that link teaching and research are summer placements, Erasmus+ programmes (limited participation, but with an increasing trend), journal clubs within courses, etc. It is also a unique characteristic of UTBB that all courses are linked to laboratory exercises and that no stand-alone laboratory course is offered. From relevant AP discussions, it was clear that the faculty are keen to continue this policy, which is overwhelmingly supported by the students.

There are procedures in place to regularly revise and officially implement changes that are approved by the Faculty General Assembly.

### Panel judgement

<b>Principle 2: Design and Approval of Programmes</b>	
Fully compliant	<b>X</b>
Substantially compliant	
Partially compliant	
Non-compliant	

### Panel Recommendations

**2a)** The AP considers that student participation in the various course committees is of paramount importance and recommends that the Department and students find ways to increase engagement.

### 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.*

The AP considered the following:

Teaching material for all courses is available on the UTBB website, is very detailed and structured and is provided to students at the beginning of each class electronically through e-class modules. The AP was able to review "e-class" courses upon request and found them comprehensive and well-illustrated.

The teaching faculty indicated consistent efforts to promote quality and effectiveness of teaching. Planned for the future are faculty mentoring initiatives aimed at refining faculty skills that can make teaching more effective when needed. The AP strongly encourages this initiative.

The number of elective courses has been significantly increased in response to the 2011 external programme evaluation. Students are allowed to actively participate in the teaching procedure through small group presentations. All core courses are based on a final examination, whereas elective courses have more flexible grading procedures. Evaluation of student performance depends on the course structure and is based either on a single final examination or on several

types of partial evaluation throughout the semester. Student assessment is carried out only by the instructor of record. Laboratory exercises are always part of a theoretical course. It is noteworthy that several laboratory modules benefit from the assistance of Ph.D. students whose participation is part of their contractual requirement. The fraction of students submitting the electronic course evaluations varies according to the class and it can be as low as 10%, but usually around 50%. One question that the AP received from the students and needs to be answered at a high level is “what are the benefits/outcomes of filling in those questionnaires?” It was not clear to students how course evaluations are linked to future course improvements, nor was it clear to the AP how course evaluations are linked to faculty performance evaluations.

During the conversation of the AP with students, it was clear that the relationship with the instructors was based on mutual respect and no problems were revealed. In conversations with faculty and students, it was clear that the welfare of students was of paramount importance to the faculty.

UTBB faculty and administrative personnel appeared enthusiastic and strongly committed to ensuring a high quality of student support services.

The AP asked about procedures for possible student appeals (e.g., course grading), and it was clear that such a process is in place.

### **iGEM Thessaly**

The AP was impressed with the success of the iGEM Thessaly team that participated in the International Synthetic Biology Competition with their project: “ODYSSEE: a Modular Platform for Field Diagnosis of Tuberculosis” in the Fall of 2019. Several UTBB students were part of the team which won the Gold Medal and the Best Diagnostic Tool Award. The AP met with some of the student team members and their faculty advisors and strongly believes that this achievement is a direct result of the excellent pedagogical education and research training taking place in the Department.

### **Panel judgement**

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

### **Panel Recommendations**

**3a)** In terms of grading student course performance, diversifying course evaluation by including student team projects and presentations, multiple quizzes throughout the semester, and final examination by faculty may promote more reliable and representative assessment of student learning. Although several courses include some of the above-mentioned evaluation elements of students’ progress during the semester, the AP recommends expanding such evaluation elements to a higher number of courses.

**3b)** The procedure of obtaining feedback from students about the curriculum needs rethinking and creative new approaches, such as, for example, using the laboratory courses to obtain completed questionnaires. Furthermore, shortening the questionnaire, and decentralizing the electronic evaluation system by allowing access from mobile platforms, might improve student participation.

## 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).*

The AP considered the following:

During the UTBB visit, the AP felt that the Department has in place appropriate procedures and tools to collect and analyse information on student progress. UTBB manages effectively and acts swiftly when necessary. AP was given complete lists with information stored in the student registration system.

UTBB has well-established procedures for awarding of higher education degrees, the duration of studies, rules ensuring student progress, and terms and conditions for student mobility. Student mobility is based on the Erasmus+ rules augmented by Departmental (e.g., emphasis on placement) and University guidelines. This is described in detail in the document titled "B3. Οδηγός Σπουδών."

According to European practice, UTBB recognition of credits is based on the ECTS which is clearly and consistently applied across the curriculum.

Only students who fulfil all requirements of the curriculum can progress to graduation. It is encouraged by the Department that students graduate in a timely manner soon after the 8th semester. It is noteworthy that the adoption of the internal policy mentioned in Principle 2 above regarding student progression to the 3rd year of studies only upon completion of at least 75% of the ECTS units required by the curriculum has improved the rate of student graduation in n+1 years. Currently, 8% of all students complete their degree in 4 years, 54% in 5 years, 23% in 6 years, and 15% in more than 6 years.

There are established procedures for students to receive documentation that explains the ECTS units included in the final grade reported in the Diploma degree and the units reported in the Diploma Supplement (transcript). All information can be obtained electronically.

There is a procedure in place for students to become certified to teach middle and high school Biology

### Panel judgement

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

### Panel Recommendations

The AP has no recommendations for Principle 4.



## 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;*

The AP considered the following:

Although the AP did not see a faculty recruitment portfolio (it may be useful for future assessments to have access to such information), it was mentioned by the faculty that recruitment procedures are fair and transparent, as also indicated by the high academic level of recent recruits (Drs. Skamnaki, Giakountis, and Tsikou). Additionally, there is no evidence of extensive institutional “inbreeding”, which plagues other Greek institutions. As is the case with most Greek universities, no start up packages are available to new faculty, and formal mentoring with regard to course development, teaching, and development of grant proposals is an unknown practice. The AP notes the assurance of the UTBB faculty that, due to good departmental practices, they were able to withstand the recent economic crisis relatively unscathed.

The AP felt that opportunities and promotion of professional development of faculty, through for example sabbatical leave, are not discouraged, although only a limited number of faculty have taken advantage of this opportunity in recent years because of the relative small size of the faculty, as well centralized funding cuts. The AP believes that sabbatical leaves constitute an integral part of continuous faculty training and professional development. Helpful in this respect may be the fact that there is overlap in some teaching areas with more than one faculty, at least with respect to their research interests.

Although the teaching staff is well-qualified in their sub-disciplines, the AP did not see evidence of retraining and mentoring mechanisms of the faculty in expanding areas (e.g., training in teaching techniques, teaching sabbaticals, short visits). However, the Rector announced that plans are underway to provide such training for Faculty.

The majority of faculty members are research-active, and this helps the link between education and research. New developments in various fields become quickly part of the curriculum, benefiting student education. Furthermore, faculty members are active in writing and translating textbooks based on the latest research findings, including the first book on Synthetic Biology in the Greek language. Notwithstanding this generally positive trend, the AP notes, in agreement with the external evaluation report of 2011, that there are still some faculty with low research output.

From the data provided, it is clear that the faculty have a very good number of publications per year (mean 53/year in the last 10 years) that have resulted in an increasing number of citations. The AP expects publications in high impact journals to be forthcoming based on current research programmes of UTBB. Teaching faculty actively pursue externally funded opportunities with over €2M/year awarded in the last two years (approximately €400K from the EU). In this metric, UTBB ranks third among all departments of the University of Thessaly (in absolute terms). Such external research funding strengthens up-to-date laboratory training of the students. Overall, research is well-linked effectively with undergraduate teaching and training.

There is ample opportunity to combine research and education for both students and faculty. Support Faculty (EDIP) and post-doctoral researchers provide daily supervision to the diploma students and practical exercises.

The undergraduate cohorts appear to be enthusiastic about their studies: they enter the programme with high grades and most of them plan to continue with graduate studies in Greece or abroad upon graduation.

Teaching is based on both standard and innovative methods and technologies. There was some evidence of promoting innovation in teaching methods and the adoption of new technologies although this could improve substantially. Some plans are in place for faculty training programmes offered by the University centrally.

Although implied in most of the faculty activities, the AP did not identify any concrete mechanism designed to promote and increase the volume and quality of research output within the Department. Additionally, after receiving some communication, the AP felt that integration of all faculty into a common vision still needs improvement, and must always be a strong objective of all faculty. The quality and quantity of research output are considered very good with the potential to become excellent in the future. Given the broad research interests of UTBB and vicinity of the Medical School, in terms of geography and focus areas, even stronger research output in high impact outlets is to be expected in the near future.

One issue brought up in the previous external evaluation conducted in 2011, which the AP also wishes to highlight, is the inhomogeneity of the UTBB faculty with respect to academic progress and cohesiveness towards achieving excellence. Although this issue is not at a critical level, it nevertheless results in some faculty feeling outside of the core group of the Department and others not having sufficiently progressed. The AP simply states this fact, hoping that some action can be taken to ameliorate the situation.

The AP did not see any evidence of formal mechanisms that track faculty performance and address potential problems. In an environment where there is no clear authority, analogous to the Department Chairperson/Head abroad, it is not clear how such a mechanism could be implemented. One possibility could be the formation of a committee of very senior faculty acting in a mentoring capacity. However, a broader framework may need to be put in place by the University Senate and/or the Ministry of Education for the above-suggested mechanism to be accepted and implemented.

The procedure to attract highly qualified personnel to fill new faculty positions relies mostly on the nationally implemented ΑΠΕΛΛΑ system that advertises the positions. UTBB aspires to attract highly qualified faculty, to continue the current trend evidenced by the recent recruits. Hiring of exceptional mid-career faculty will further enhance the international profile of the Department and secure additional highly competitive grants (e.g., ERC).

## Panel judgement

Principle 5: Teaching Staff	
Fully compliant	
Substantially compliant	<b>X</b>
Partially compliant	
Non-compliant	

## Panel Recommendations

**5a)** Publications in high-impact journals should continue with an ever increasing positive trend.

**5b)** The Department is strongly encouraged to adopt mechanisms of monitoring quality assurance processes by introducing appropriate indicators and support professional development of the faculty.

**5c)** The AP recommends that compliance with faculty workload policy be monitored for an equitable contribution by all faculty, both research and non-research intensive, according to their talent and preference.

**5d)** UTBB could consider creating a small committee of experienced and successful senior faculty who will monitor - in a light touch way - the process of new faculty integration and their career progression.

**5e)** The AP recommends that instructor training or retraining based on short sabbatical visits abroad must be implemented. We encourage the Department to find ways to enhance faculty mobility to keep up with emerging trends in teaching and education in general.

**5f)** The AP encourages stronger efforts to expand the number of foreign professors visiting UTBB to either teach specialty courses, short courses, and/or be involved in research, which will increase the international profile of the programme and may lead to closer collaborations with departments abroad. Such activities will also provide opportunities to UTBB faculty to participate in faculty exchanges with foreign institutions.

## 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 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.*

The AP considered the following:

Since 2016, UTBB occupies a new building in the Biopolis campus, adjacent to the School of Medicine. The UTBB building houses three classrooms, one computer room, one conference room, offices (staff, post-docs, and visitors), dedicated teaching laboratories, as well as research laboratories. The largest classroom, which is used for first-year courses, is inadequate both in size and student sitting arrangement. Lack of amphitheatres should be noted. The construction of a large amphitheatre will address the aforementioned need to accommodate large classes and provide space for Department-initiated activities, e.g., seminars and other academic and social events. The UTBB faculty consider the construction of the amphitheatre as their highest infrastructure priority.

Departmental financial support comes mainly from state funding, the Public Investment Programme (ΠΔΕ), and the Special Accounts for Research Funding (Ε/ΑΚΕ), which handle external competitive grants, sponsorships, and industrial funding. A substantial increase in European funding is noted during the last several years. Furthermore, the Department has five postgraduate MSc programmes, four of which run on tuition fees paid by participating students (self-funded programmes) that are also contributing to funding other research activities at UTBB. It should be noted that funding for teaching lab support has dramatically declined by 80% (from €50K to €10K) over the last several years due to the economic crisis. It is commendable that in spite of the reduced funding, teaching labs continue to be effective through resources provided by research projects of faculty members, as well as the assistance of Ph.D. students as part of their contractual requirement.

The AP was particularly impressed by the instrumentation available in the research laboratories, as well as the collaborative spirit of faculty working in sub-groups. In general, the UTBB educational facilities are adequate; however, additional teaching laboratory space would decrease the workload of faculty and EDIP personnel, who are now forced to offer the same laboratory exercises at least three times for lack of space. Teaching laboratories appeared to be

well maintained and organized. Hands-on laboratories, where students performed their Diploma thesis research, appeared to be well maintained and adequately supervised. The research infrastructure could be further improved in terms of lab equipment maintenance contracts and technical staff.

Study guides are provided to all students as hard copies and they can also be accessed via the web. Other instructional resources, such as course material, are also available through the web, although the AP did not see a specific e-course example during the visit. However, upon request, the Department provided codes for accessing e-class courses promptly. After browsing some examples, the AP felt that course content and organization were very good. Overall, from conversations with students, and after reviewing course syllabi and other material on the web, the AP believes that the UTBB learning resources are adequate.

The AP was not able to visit the Library due to time constraints, but was told by the students that the facilities are adequate. Upon email request to the Head of the Department, the AP received photos of the Library, which confirm the adequacy of the Library resources. Information and communication systems, as well as dining services, appeared adequate. Athletic or cultural facilities accessible by students are not available in the Biopolis campus. Students commute to the City of Larissa for housing and other activities via city bus transportation.

The Biopolis campus and its future link to the Geopolis campus offers a good learning environment. The multi-disciplinary nature of the Geopolis campus, with departments such as Environmental Sciences, Agrotechnology, Animal Science, Energy Sciences, Digital Systems, Accounting and Finance, and Nursing, will provide opportunities for UTBB student participation in a wider range of learning activities and exposure to other sub-disciplines.

Support and counselling services are not available on campus. Such services for students are available in Volos. Support services, such as easy access to counselling for academic, financial, psychological, personal identity, and sexual harassment issues should be strengthened and information for accessing such services while keeping strict confidentiality should be clearly disseminated on a regular basis to all students. In fact, similar support services should be in place also for the faculty.

Overall, the UTBB building is very well maintained with impressively clean and inviting facilities in the classrooms, laboratories, and related spaces.

### Panel judgement

<b>Principle 6: Learning Resources and Student Support</b>	
Fully compliant	
Substantially compliant	<b>X</b>
Partially compliant	
Non-compliant	

### Panel Recommendations

**6a)** The AP urges that relevant authorities find a way to finance the construction of a large auditorium to address the needs of UTBB. As the campus is being integrated (Biopolis and Geopolis), it will also be important to create facilities for recreation, outreach, and cultural activities.

**6b)** The AP recommends that a safety officer be appointed to oversee all laboratory-related activities. The need for such a position was stressed by several faculty members.

## 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.*

The AP considered the following:

UTBB provided detailed data on a large collection of key performance indicators (KPI), both in summary form and on an annual basis, spanning the academic years from 2010 up to the present. KPIs included the following: Admission Grade to the programme, Duration of Studies, practical internship (“πρακτική εξάσκηση”), Diploma thesis destination, Graduation Rate and Grade, and the number of publications with student participation. In general, admission scores were strong, between 16000 to 18000 points (out of 20000), and the rest of the indicators were reasonable. The tables provided implied that the Department collects various KPIs to monitor progress over the years adequately.

The programme attracts students that select UTBB as their first choice, as well as students that select Medical Schools as their first choice. This results in a pool of highly motivated students entering the programme. The majority of students come from Thessaly and Macedonia with a sprinkling coming from other areas of Greece.

Very few students finish their studies in four years, a trend that is consistent with the majority of Greek Universities. Most students require five to six years with about 15% going to seven years or even longer. In recent years, the average time to graduation has dropped somewhat but it is still very high. Two reasons that may have contributed to reducing the average graduation time are the economic crisis and the introduction of the 75% core-course completion requirement before progressing to the third year of study.

UTBB has established mechanisms for collecting and analysing data regarding student satisfaction with the quality of courses and their instructors. The average score is quite high (4.2/5 in course/instructor satisfaction) with some low levels at 2.7/5. However, although UTBB

tries to collect data for all courses, only a minority of students participate in course/instructor evaluation (10 to 40% of course attending students submit electronic evaluations). Therefore, the information gathering process has partially failed to motivate students to provide feedback. When asked, students suggested that the indifference was partly due to the lack of knowledge on how this information is used and partly due to the need to physically go to a special lab to score courses. This is an area of concern for the AP. One possible solution could be to redraft and simplify the questionnaires to encourage wider participation of students.

UTBB does not have an obvious mechanism for collecting information on its alumni, and most tracking of graduates appears to rely on either word of mouth or personal contacts with the faculty. The AP believes that one of the support staff in the administrative office could be tasked with this activity.

### Panel judgement

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

### Panel Recommendations

**7a)** Although there is an alumni association of UTBB graduates (currently inactive), it will be useful to follow the progress of the alumni centrally, via the Department secretariat. The AP thinks that one member of the administrative staff may be tasked with this activity, maintaining contact with alumni and expanding networking opportunities available to students for their practical training internships and future employment.

**7b)** Career paths of alumni should be documented, updated, and used for the benefit of recent graduates.

## 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.*

The AP considered the following:

UTBB has a well-designed website that provides information on the Department and the various courses offered. The course descriptions and contents are clearly presented.

The UTBB website does not provide direct information (or links) to centralized services of the University of Thessaly, such as disability services, health care, housing, awards and scholarships, or athletics. In several cases, links leading to the main University of Thessaly website provided information in Greek but not in English. Nonetheless, the information provided about most academic activities is comprehensive and covers most topics in a satisfactory manner.

The Department participates in the "Open Doors" programme of the University of Thessaly aimed at attracting local high school students potentially interested in studying at UTBB. Along similar lines, UTBB participates in a community outreach yearly event called "Researcher's Night" where local residents can visit the Department and learn about its multifaceted education, research, and community engagement activities.

UTBB has a committee tasked with connecting the Department with the local community. The AP believes this is an excellent idea, and evidence of its usefulness was seen in several activities of UTBB. For example, refugees from a local camp were invited to the Department and introduced to basic research activities. This outreach activity inspired the UTBB iGEM student team to design and develop an assay for the quick detection of tuberculosis in disadvantaged populations.

UTBB actively disseminates information about academic events and seminars in the Department and the Medical School.

The availability on the UTBB website of key faculty quality indicators is not consistently informative. It is also problematic that not all faculty members have a Google Scholar profile. The AP urges faculty to develop one as it is free and it is constantly updated automatically.

### Panel judgement

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



## **Panel Recommendations**

**8a)** The Department has established and operates an information system for managing and monitoring of student and faculty data, course structure and organisation, teaching, as well as provision of services to students, and the academic community. However, the process for determining the quality of teaching (student satisfaction survey) seems less than ideal due to the lack of student participation. It should be noted that, according to our direct previous experience, UTBB has managed to achieve higher completion rates in relevant surveys than other departments. Our recommendation is for OMEA, in cooperation with MODIP, to take responsibility and explore different ways to successfully engage with the students, even outside the standard regulatory framework. For example, course satisfaction questionnaires could be given during (mandatory) laboratory course sessions. In this respect it is worth noting that the interviewed students were unaware of the concept or the role of MODIP and OMEA. Efforts should be directed towards enhancing the visibility of these committees which oversee the quality of studies.

**8b)** The Department is encouraged to establish its presence in popular social media (such as Twitter, Facebook, Instagram etc.), in line with current worldwide trends. This will provide a universal forum to advertise the available curricula, and provide news and updates regarding, e.g., various departmental educational and outreach activities.

**8c)** The AP recommends that UTBB create a flyer defining both the mission and vision of the Department, highlighting its objectives, and showcasing its achievements. This flyer can be used for marketing and recruitment, distributed to prospective students and other interested parties. This is successfully done by other Biology departments in Greece.

## 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.*

There is regular monitoring and revision of the study programme by the Academic Planning and Studies Programme Committee, OMEA, and the General Assembly. OMEA leads the collection, analysis and evaluation of all key performance indicators, course satisfaction questionnaires, internal evaluation reports, and reports to MODIP. Thus, the study programme assessment is performed according to the quality principles as required by HQA. Additional input is provided by multiple committees and individuals (undergraduate and graduate programmes, alumni, stakeholders) that identify changing societal needs.

Specific points are identified and briefly discussed below:

Delivery of the curriculum by research active faculty ensures lecture notes are enriched with the latest discoveries and advances in the field. The research experience of the faculty complements their teaching to a very large degree.

The AP believes that appropriate actions are being taken to identify and address issues with the changing societal needs. The engagement of the Department with the refugee camps (e.g., the iGEM kit developed) is noteworthy.

Monitoring of student workload and progression is in general satisfactory, and pursued via the faculty advisor programme. A very positive and effective internal policy mentioned in previous sections, is the requirement of 75% completion of biennium courses before allowing students to register in third year courses. This policy has largely improved student progression and timely degree completion. However, the AP feels that strengthening the advising service through a knowledgeable and caring non-faculty academic advisor would further improve student success.

The effectiveness of the procedures for evaluating student performance needs to be more regularly discussed. The AP is not aware of mechanisms that identify individual student interests, such as, for example, for students that are research oriented and wish to pursue a career in academia vs. for students that wish to pursue employment in industry.

Student expectations, needs, and satisfaction are partially assessed via the electronic evaluation of each course. An indirect way to assess student satisfaction is market placement and career prospects of recent graduates, which the AP found extremely successful. The AP recommends that a programme of exit interviews be implemented, so that, upon graduation, students may provide feedback on their overall experience with UTBB.

### Panel judgement

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

### Panel Recommendations

**9a)** A more accurate assessment should be made to align student expectations, needs, and satisfaction with the programme. As was presented to the AP, MODIP may need to be more involved in ensuring the effectiveness of the monitoring programme implemented by OMEA.

**9b)** The AP recommends that students be explicitly informed of the existence and function of OMEA and MODIP. It is also recommended that programme content review continue on a regular basis and ideally include the involvement of students.

**9c)** A closer interaction between ADIP and UTBB will ensure that central decisions around the accreditation process are fully understood by the Department. For example, the relationship between the current accreditation process and the old evaluation process (αξιολόγηση) was not fully appreciated.

## Principle 10: Regular External Evaluation of Undergraduate Programmes

**PROGRAMMES SHOULD REGULARLY UNDERGO EVALUATION BY COMMITTEES OF EXTERNAL EXPERTS SET BY HQA, AIMING AT ACCREDITATION. THE TERM OF VALIDITY OF THE ACCREDITATION IS DETERMINED BY HQA.**

*HQA is responsible for administering the programme accreditation process which is realised as an external evaluation procedure, and implemented by a committee of independent experts. HQA 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.*

This is the first time that the Department is going through accreditation, and, as a result, there were no previous reports to check for compliance. However, an external evaluation of UTBB took place in 2011 with one of the current AP members chairing that process. That assessment was detailed and thorough, and the specific findings and recommendations for programme improvement were made available to this Panel. The AP notes with pleasure that all points of the 2011 evaluation were taken into consideration and addressed in detail. The Vice Chair of UTBB spent considerable time during this visit going over the specific actions stemming from the previous report.

The OMEA and MODIP representatives provided a thorough description of the mechanisms in place to follow the progress of UTBB in the various performance indicators being assessed, and in general the AP felt that the whole process is taken seriously and with professionalism by the faculty involved. A serious problem remains in that the students appear not to be informed of this entire evaluation/accreditation process and its meaning. Thus, student participation in the various committees is lacking.

Overall, it was felt that all Department representatives were very cooperative with the AP, eager to respond to all questions, and frank in their responses. In addition, they were very keen to take into consideration all points raised and try to improve them.

### Panel judgement

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

### Panel Recommendations

**10a)** OMEA could meet with the student body at the beginning of their term to inform them of the process of evaluation and the benefits for the overall success of the UTBB programme.

## **PART C: CONCLUSIONS**

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

1. Degree unique in Greece and strongly appropriate for the labour market
2. Outward looking programme with many contacts with stakeholders
3. Well-funded by outside sources, ranked third among the University of Thessaly departments
4. Very good, and clean facilities with state-of-the-art equipment
5. The 75% requirement is a great success for a timely degree completion
6. All courses are both lab- and classroom-based
7. Response to previous evaluation was very detailed, earnest and factual
8. Good atmosphere between students and Faculty
9. iGEM success story
10. Certification of UTBB graduates for teaching Biology in secondary education

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

1. A large auditorium is urgently needed
2. Low student participation in the evaluation process
3. Low Erasmus+ participation
4. Inhomogeneity of faculty accomplishments with some faculty members falling behind
5. Absence of faculty follow-up training in new teaching methods/subject areas
6. No mechanism to monitor and evaluate individual faculty internally
7. Strong reduction in departmental funding from government sources
8. Absence of local student support services for non-academic matters
9. OMEA and MODIP do not publicise enough to students the evaluation/accreditation process and its benefits

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

1. A large auditorium is urgently needed. Additional teaching laboratory space, as well as athletic and cultural resources in the Biopolis campus are also required. Student residence halls are crucial.
2. Need for a safety officer.
3. Retraining faculty in expanding areas (e.g., training in teaching techniques, taking teaching sabbaticals, short visits) should be implemented.
4. Increase publication output in high impact journals.
5. Course evaluation questionnaires should be redrafted and simplified. Encourage student participation in several departmental committees.
6. Services related to mental health and counselling should be available locally to students, faculty and staff.
7. Strengthening of student services through a non-faculty advisor for both academic and non-academic issues (counselling) should be considered.
8. MODIP/OMEA/Department coordination should be strengthened. Students must be explicitly informed of the existence and function of OMEA and MODIP.
9. The link between teaching and research through summer placements, Erasmus+ programmes, journal clubs within courses, etc., should be encouraged. Greater efforts

are required to expand the number of foreign students taking part in the Erasmus+ programme in Larissa.

10. Link course evaluations to faculty performance evaluations. Adopt mechanisms for monitoring the various quality assurance processes by introducing appropriate indicators and support the professional development of the faculty.
11. Compliance with the faculty workload policy should be monitored. Faculty with low research output should be provided with the opportunity to either increase their research output or assume a higher teaching and service load.
12. Integration of all faculty into shared vision and mission needs improvement. UTBB must follow a strong objective common to all faculty.
13. The bioinformatics laboratory infrastructure should be further supported and expanded.
14. Implement a programme of exit interviews upon students graduation to provide feedback on their overall experience with UTBB. Follow the progress of the alumni centrally, including their career paths, via the Department secretariat.
15. All faculty should develop a Google Scholar profile. UTBB should establish a presence in various popular social media and outlets, such as Twitter, Facebook, Instagram, etc.

#### **IV. Summary & Overall Assessment**

– The Principles where full compliance has been achieved are: **1, 2, 4, 7, 8, 10**

– The Principles where substantial compliance has been achieved are: **3, 5, 6, 9**

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

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

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

## **The members of the Accreditation Panel for the UGP of Biochemistry and Biotechnology of the University of Thessaly**

**1. Prof. Spyros Pavlostathis**

Georgia Institute of Technology, Atlanta, Georgia, USA

**2. Prof. Emeritus Spyridon Agathos**

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**3. Dr. Nicholas Ktistakis**

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**4. Prof. George Zouridakis**

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