



ΕΛΛΗΝΙΚΗ ΔΗΜΟΚΡΑΤΙΑ
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Accreditation Report for the Undergraduate Study Programme (Integrated Master) of:

Animal Science

Institution: Agricultural University of Athens
Date: 7 November 2020

Report of EEAP appointed by the HAHE to undertake the review of the Undergraduate Study Programme (Integrated Master) of **Animal Science** of the **Agricultural University of Athens** 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 **Animal Science** of the **Agricultural University of Athens** comprised the following five (5) members, drawn from the HAHE Register, in accordance with Laws 4009/2011 & 4653/2020:

- 1. Professor (f.) Constantin Vamvakas (Chair), *University of Ghent, Belgium***

- 2. Professor Andronikos Mauromoustakos, *University of Arkansas, USA***

- 3. Professor Ioannis Tzanetakis, *University of Arkansas, USA***

- 4. Professor Michael Polymenis, *Texas A & M University, USA***

- 5. Dr. Dimitrios Galamatis, *Representative of the Geotechnical Chamber of Greece, Greece***

II. Review Procedure and Documentation

Due to the current Coronavirus virus (COVID-19) pandemic measures taken to limit its spread. The **Hellenic Authority for Higher Education (HAHE)** decided to implement the accreditation review process of the undergraduate study programme of the **Department of Animal Science and Aquaculture (DASA)** of the **Agricultural University of Athens (AUA)** via teleconferences. All briefings and meetings were conducted efficiently and within the allocated time frame through Zoom. Replacing the on-site visits with virtual meetings was a challenge for all participating parties. The video conferences proceeded without any technical problems. However, the lack of face-to-face contact and physical presence of the panel members at the DASA premises did not allow for an in-depth evaluation of the departmental infrastructure.

On Monday, 2 November 2020, a two-hour orientation meeting was held with the HAHE's Director-General Dr. Besta via Zoom. The members of the **External Evaluation & Accreditation Panel (EEAP)** Constantin Vamvakas and Dimitrios Galamatis, joined the meeting; Andronikos Mauromoustakos, Ioannis Tzanetakis and Michael Polymenis were unable to attend. Dr. Besta presented the Quality Assurance standards for Quality Accreditation of Undergraduate Programmes and Accreditation Guidelines, and all members received useful information. The EEAP also received the final timetable for the teleconferences at this point. The Chair of EEAP acted as the host for all debriefing and private meetings among the EEAP members. Before the 'virtual' visit, the EEAP received the Proposal for Accreditation of the Department of Animal Science, the External Evaluation Report of 2011, and other relevant material. The EEAP discussed the strategy and issues to be considered during the visit and the Chair allocated the tasks of each panel member. Upon request of the EEAP, additional supporting documentation and presentations were provided promptly by DASA staff after the teleconferences.

The accreditation review initiated on Tuesday, November 3, at 3:00 pm Athens time. The inaugural teleconference was held with Professor Spyridon Kintzios, Rector of AUA, and Professor Konstantinos Mountzouris, Head of the Department. Prof. Kintzios, who additionally acts as president of the **Quality Assurance Unit (QAU/MODIP)** of the University, provided a brief comprehensive presentation of the history and academic profile of AUA, which celebrates its Centennial year in 2020. Prof. Mountzouris presented the departmental profile, its policies on quality assurance, and other study programme issues. The key issues focused on the curriculum's suitability and structure, the pursuit of learning outcomes and qualifications, following the European and the National Qualifications Framework for Higher Education.

The teleconference meetings continued with (6) members of the **Internal Evaluation Group (IEG/OMEA)** and (2) members of the **Quality Assurance Unit (QAU/MODIP)**. Prof. Styliani Chadio-Manzari represented the QAU, and Mrs. Alexandra Douka acted as secretariat support. A variety of issues were discussed, focusing mainly on the Undergraduate Programme's compliance with quality accreditation standards, curriculum revisions, the students' progression, and assignments. The IEG expressed its support and commitment to implementing a comprehensive quality policy that will promote the academic profile and more focused programme orientation. The

teleconference continued with 10 teaching faculty who thoroughly discussed the undergraduate study programme, the interrelations between teaching and research activities, the professional development opportunities, the faculty workload, projects and research activities, and the undergraduate students' questionnaire evaluations. Following this meeting, the EEAP met and discussed with a group of 10 students of different years of study about their studies, the Departmental/Institutional facilities, and their contacts with the academic staff. At the end of the first day, the EEAP held a private debriefing meeting to reflect on the impressions of the teleconferences.

The teleconferences continued the following day with an additional 10 teaching staff members. The EEAP members were 'guided' virtually at the premises of the Department Laboratories, including Institutional facilities. The next teleconference meetings involved (10) alumni graduates of the Department who expressed their opinions for the study programme, teaching and research, facilities, and the career paths they have followed. Overall, the student's views were positive about their relationship with the teaching faculty and were mostly content with their learning outcomes. Following this, a group of 7 social partners and stakeholders from the private and public sectors joined the meeting. The EEAP discussed their contacts, links to the Department, and their experiences with graduates and Departmental staff. The second day of the review ended with a joint teleconference meeting of IEG and QAU representatives along with the Rector and the Department Head. During this meeting, the discussions focused on issues that needed further clarification. A request for supplementary material that was not included in the initial package the EEAP was requested and received. The Chair of the EEAP concluded the meeting presenting the review's key findings, stressing the strong points of the curriculum and the Department's shortcomings, followed with further discussion and expression of views.

The EEAP acknowledges the spirit of cooperation shown by the Departmental staff and their willingness to collaborate and work towards supporting the University's Quality Assurance policy at all levels and contributing to the upgrading of the Department's quality standards. The process of accreditation review via teleconference was deemed sufficient and efficient. All individuals who participated in the e-meetings had the opportunity to voice their views.

From Thursday, 5 November to Saturday, 7 November, the EEAP members worked independently and as a team on their assigned tasks on the Accreditation Report. The teamwork was accomplished via teleconferences daily, as organized by the Chair.

III. Study Programme Profile

The Agricultural University of Athens was established by law in 1920 (Law 1844/1920) as an Independent Higher Education Institution with University status under the name of the Higher Agricultural School of Athens. In 1989, it was renamed Agricultural University of Athens (Presidential Decree 377/1989). The AUA provides education at both undergraduate and postgraduate levels covering all sectors of agricultural activities. It consists of six Schools, namely: 'Plant Sciences', 'Animal Biosciences', 'Environment & Agricultural Engineering', 'Food & Nutritional Sciences', 'Applied Biology & Biotechnology', 'Applied Economics & Social Sciences'.

DASA belongs to the School of Animal Sciences; The Science of Animal Production consists of one of the main pillars of the AUA. The AUA was originally established in 1920 as the Chair of General and Special Animal Technology. In 1950 it was divided into 4 "Specialties," each corresponding to one separate Laboratory. In 1964 the Chair/Laboratory of Animal Nutrition was added, and in 1977 the Chair/Laboratory of Applied Hydrobiology. Last year it was proposed to the Ministry of Education the division of DASA in two separate Departments: Animal Production and Aquaculture. This division has not yet been realized.

The mission of the Department is the in-depth training of students, able to apply the principles of biology, technology, and economics in issues related to the management and well-being of the terrestrial and aquatic animals.

The number of incoming students is determined yearly by the Ministry of Education and Religious Affairs. The total number of registered undergraduate students for the academic year 2018-2019 is 771 (~500 are considered active, since they have not exceeded the 7th year of their studies), with 164 graduate students for the years 2015-2018 and 32 PhD candidates for the academic year 2018-19.

The programme offers an Integrated MSc degree (National and European Qualifications Framework 7) within 10 semesters (5 years), requiring a minimum of 300 ECTS. Integral parts of the Curriculum are the Diploma Thesis (30 ECTS). Based on the data received, 48 courses are mandatory and 24 are electives out of which every student should elect 14.

Today, DASA is comprised of twenty-five (25) faculty members, three (3) Laboratory Teaching Staff, four (4) Special Technical Laboratory personnel, three (3) Administrative Staff, and four (4) animal handling technical personnel

The Department includes the following four Laboratories:

- Laboratory of Nutritional Physiology and Feeding
- Laboratory of Anatomy and Physiology of Farm Animals
- Laboratory of Applied Hydrobiology
- Laboratory of Animal Breeding and Husbandry, with a focus on Animal Science and Aquaculture

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

After the external evaluation of September 2011, the Department followed the vast majority of the EEP recommendations. The Department provided an extensive list of each action taken and details on the progress and the results obtained. Most of the recommendations were incorporated in the recent Programme of studies.

The QAP of the Department is available online detailing the principles mentioned above [a-h] mirroring the HAHE guidelines.

Panel Judgement

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

Panel Recommendations

The Department needs to explore additional ways to disseminate and render most prominently its revised QAP to the following target audiences:

- AUA students
- Alumni
- Stakeholders and social partners
- Policy makers and governmental bodies
- Collaborating Universities
- General public

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

DASA undergraduate/integrated MSc programme is the flagship Department among several similar Greek universities' programmes. It offers unique opportunities to graduates in Animal Production. The programme includes a wide range of courses with laboratory exercises offered by its four laboratories: Nutritional Physiology and Feeding, Anatomy & Physiology of Farm Animals, Applied Hydrobiology, and Animal Breeding & Husbandry. The professional rights of graduates as Animal Scientists and Ichthyologists lead to positive views by relevant stakeholders regarding their knowledge and skills.

EEAP positively views the fact that the five-year programme leading to an integrated MSc degree offers a significant advantage to graduates in the labour market and solid foundations for further graduate education in two different areas.

Students' workload appears excessive in terms of course numbers (average 33 hours per week for ten semesters), and the Department might consider reducing it by a few courses. The ratio of mandatory to elective courses appears high, and the Department might consider grouping some electives that could lead to different minors. Additional electives could also be offered on topics not covered sufficiently; for example, "Quality Methods", "Scientific Writing and Presentations", "Sustainability Ethics and Law", "Data Analytics" and "Programming in Biological Sciences". Since these topics are common and generally

found in most graduate programs they can be offered in collaboration with other Departments through video conferences and online sites with external experts and stakeholders. One such free online offering that leads to several certifications is the "Statistical Thinking for Industrial Problems", that offers certificates in seven different such modules (https://www.jmp.com/en_us/online-statistics-course.html.)

Faculty links research with teaching in the undergraduate programme, mainly through the undergraduate thesis and internships, and by using examples of their research in courses. It is noteworthy that several undergraduate theses are published in scientific congresses and refereed journals. EEAP positively views that most undergraduate thesis topics are research projects with data collection and analysis and not just literature reviews.

The DASA undergraduate study programme curriculum is well-articulated and very comprehensive, and the student workload is compliant with the European Credit Transfer and Accumulation System (ECTS).

The Department responded to the 2011 External Evaluation by reducing the number of required courses offered and increasing the number of elective offerings and did manage to reduce the average number of years for graduating with the degree by two full years (from nine to seven).

Students expressed the need and wished for additional hands-on laboratory training since many laboratory courses are based mainly on demonstrations due to the large number of attending individuals. This is mostly due to the lack of funds for consumables and equipment maintenance. EEAP acknowledges the importance of internship and the mandatory thesis for the laboratory training of students.

Teaching load appears to be relatively high, mainly because they have to divide students in groups and repeat many sections of the same laboratory exercise with smaller numbers. Online remote education could be exploited further with the assistance of the university's administration in modern technology infrastructure to reduce the average teaching load. EEAP understands that it is challenging to implement face to face instruction for most required theory courses due to the lack of available space for students, especially in the mandatory laboratory exercises, given that most courses have a laboratory component.

A revision of the study programme in consultation with stakeholders, external experts, students, and graduates, should be further promoted.

The DASA undergraduate/integrated MSc programme leads to fully established professional rights in both Animal Science and Aquaculture. Still, perhaps in the future, with additional faculty with expertise in Aquaculture, the two Departments will better address students' needs.

All stakeholders present expressed a positive view of the programmes' graduates, and many of the stakeholders were graduates of the programme themselves.

Panel judgement

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

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

**In case of negative judgement, please justify*

Panel Recommendations

- Additional hands-on laboratory training of students should be pursued.
- DASA should consider reducing the total required weekly student hours but increase the number of elective courses on general topics starting with the fourth year of study.
- A structured procedure for evaluation of the study programme should be examined in regular Department retreats, involving stakeholders, external experts, graduates, and industry people.
- As DASA splits into two Departments, there should be additional infrastructure and personnel to accommodate the newly formed Department of Aquaculture.

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.*
- *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 student-centred character of the undergraduate programme is evident and communicated in detail. The majority of courses (63%) are linked with a laboratory/experimental component across the Department's four laboratories covering broad areas of animal science.

Assessment criteria and methods are published in advance, and they are accessible on the Departmental website. Individual and group projects are in place in some courses. However, it appears that the majority of courses are still assessed only by a single comprehensive final exam at the end of each semester.

The research thesis is an integral part of the programme that leads to an integrated Master. The thesis accounts for 1/3 of the student's grade point average but <10% of the ECTS towards the degree, underscoring its weight and significance. A sizable number of graduating students (ca. 25%) earn authorship in journal articles. In three cases in 2019-

20, the students were listed as the first author in research publications. These are significant accomplishments, validating the student-centred character of the programme.

Current and former students were positive about their overall training and how this contributed to their professional development and careers.

Students are required to complete evaluation questionnaires for all courses taught through well-articulated questionnaires. The number of questionnaire surveys completed by the students in the theoretical component was very low (20% or lower) for about half of the courses, reaching 40% or higher in only 3-4 courses. The low student participation in these surveys may not accurately reflect the quality of the course or instruction. However, the questionnaire completion rate was high for the laboratory courses (60% or higher). Nonetheless, from the questionnaires that were completed in the 2016-18 period, the overall scores for the offered courses were positive and satisfactory (on average, 3.8-3.9 for the courses and a little higher, 4.1-4.25, for the instructor).

From student interviews, it appears that students may not be given feedback on how points raised by the students in the course evaluations were addressed to improve the learning process.

Course material is available to the students for all courses (each student is entitled to receive one book per course). Access of course material, in electronic format, through the e-class platform, is utilized.

Current students and alumni recommended eliminating some theoretical courses and replacing them with more translational, hands-on courses.

A formal appeal process for handling complaints is in place, and it is described in detail on the programme's web page.

There are mechanisms for flexible and different delivery modes, such as group and project assignments, especially for laboratory work, and even field trips. There are also mechanisms to accommodate students with disabilities.

Panel Judgement

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

Panel Recommendations

- EEAP recognizes the intrinsic difficulties imposed by the extraordinary increases in incoming students, raising the student body by about 3-fold. Under these circumstances, the efforts of the faculty are highly commendable and arguably heroic. The time to degree hovers around 7 years. While it is substantially lower than in the past (~9 years), it is still significantly higher than the advertised 5-year duration of the programme, and additional efforts to reduce the degree time will be helpful.
- A substantial drop in the required ECTS already took place since the previous accreditation. To shorten the time to degree, it is recommended to lower even more (from 316-330 to 300) the ECTS needed for graduation. Eliminate overlapping information between courses and/or combine courses that significantly overlap.
- Introduce prerequisites for some courses to ensure that students already have the proper skills and knowledge to master the material. This was also a suggestion from the students themselves during their discussion with EEAP. Along the same lines, group some elective courses in a modular sequence. Upon completing such a modular series, the students could receive a specialization certificate, which could further their career.
- Replace some in-person classroom courses with ones that are easy to accommodate in an online-only format. For example, covering data analysis, basic programming skills, computational biology, lab safety, scientific writing, ethics. This will also reduce the onerous teaching load of the instructors.
- To improve the completion rate of assessment questionnaires, perhaps their completion could be required before taking the course exam. If the questionnaires' online-only completion due to the COVID-19 pandemic increased their completion rates (as is the case in other institutions), then move all course evaluations online.
- To improve the sense that students' input is considered when the curriculum is revised, publicise, and highlight the changes made in response to their suggestions.
- Enhance communication and feedback input with current and past students, utilizing social media platforms with an academic orientation. Revamp the alumni association.
- To increase class attendance and student performance, consider using hybrid courses that sometimes meet online, and other times meet in person. Moving course material, such as videos of recorded lectures online, is already done via the e-class platform. That could allow the lecture hours to be used exclusively for help sessions and problem-solving.

Principle 4: Student Admission, Progression, Recognition and Certification

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

Institutions and academic units need to put in place both processes and tools to collect, manage and act on information regarding student progression. Procedures concerning the award and recognition of higher education degrees, the duration of studies, rules ensuring students progression, terms and conditions for student mobility should be based on the institutional study regulations. Appropriate recognition procedures rely on institutional practice for recognition of credits among various European academic Departments and Institutions, in line with the principles of the Lisbon Recognition Convention. Graduation represents the culmination of the students' study period. Students need to receive documentation explaining the qualification gained, including achieved learning outcomes and the context, level, content and status of the studies that were pursued and successfully completed (Diploma Supplement).

Study Programme Compliance

The Department organizes welcoming and orientation sessions for incoming students, informing them about the Department, the curriculum, the research laboratories, facilities, and other topics.

EEAP recognizes that admissions are outside the control of the Department. The extraordinary increase in admissions in the last few years has put facilities (e.g., teaching laboratories) and faculty under enormous pressure.

Students are informed through the Departments' website about the courses offered, the learning outcomes, level, and content of studies. The website of the Department is well-done, informative, and helpful.

A faculty member is assigned as an academic advisor for incoming students and for every year of the studies to monitor student progression. All faculty members serve as academic advisors, with the students distributed equally among the faculty members.

Programme and Student Guides are detailed and easily accessible via the Departmental website.

The ECTS system is applied in all courses taught. The total ECTS for graduation, including Diploma thesis and Internship, is more than 300 ECTS (316-330; excluding English courses to satisfy the foreign language requirement for graduation). Each semester accounts for a total of 30-34 ECTS.

Student mobility is promoted by the Department, which has developed bilateral agreements with European Universities and others outside the EU through the International mobility of ERASMUS+. Through the IAESTE mechanism, there are opportunities for students to complete internships abroad. The outgoing mobility is upward, from 3 students in 2015-16 to 14 students in 2018-19. The Department provides courses in English for incoming students.

Practical training (Internship) is in place. The Department has developed an extensive list of collaborating external organizations and companies for student placement to support this component throughout the country and abroad through IAESTE. However, students did not appear to be well informed about the mechanisms to select and apply for internships.

The excellence of undergraduate students is rewarded through four awards that are provided on an annual basis.

Panel Judgement

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

Panel Recommendations

- The total workload for receiving the degree could be reduced to precisely 300 ECTS units, equally distributed in all 10 semesters. If a student chooses to take more courses and accumulates more than 300 ECTS units, the additional courses could be documented in the Diploma Supplement.
- Efforts to secure funding from sponsors for additional awards of excellence, in addition to the four already in place, should continue. Commercial entities that already liaise with the Department could be the source of such awards.
- To address student complaints to EEAP that the process for selecting internships is not clear, the mechanism should be advertised during the welcoming of new students and by the student’s advisor afterward.
- The list of entities (currently >200) that can host student interns should be kept up-to-date, expanded if possible, and include contact information (now lacking). With the contact information at hand, the students should be encouraged to contact internship hosts directly. The process could be further facilitated during the ‘career-day’ event organized by the liaison’s office, in collaboration with other Departments.
- The Academic Advisor should be informed automatically through an online system whenever a student is in poor academic standing.
- The paperwork associated with internships is overly excessive. EEAP understands that other government agencies usually mandate the bureaucratic burden in such cases. Still, every effort has to be made to minimize and digitize the process as much as possible.

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 Departmental recruitment and promotion policies are consistent with the practices, rules, and regulations of both the University and the Ministry of Education.

EEAP is not aware of a plan for the professional development opportunities of faculty members (e.g., seed funds to initiate new research projects). This is understandable considering the limited Departmental budget.

The Department's Accreditation proposal provides evidence of increased mobility, with >20 faculty participating in programmes of academic collaborations, taking advantage of ERASMUS⁺.

The students expressed satisfaction that the majority of the courses include laboratory exercises with hands-on practice. However, with the increase in admissions, there were student complaints that there were limited opportunities for truly hands-on research experience.

The average weekly teaching load of faculty members is >14h. This is excessive, extremely onerous, and appears to be higher than other Departments of AUA. EEAP is aware that several members of the faculty have extra administrative duties. Still, despite the heavy load the faculty members carry as a whole, their commitment to quality teaching and research is evident and admirable.

In addition to classroom teaching, each faculty member supervises 1-2 graduate students on average.

The research carried out by Departmental staff is being funded by national and mainly by international entities. On average, each faculty member publishes 2-3 papers each year. Both the quantity and quality (based on the citations in the literature) of the published work are on an upward trajectory in recent years. Similarly, the number and size of external awards are increasing in the last few years (e.g., from <50 in 2016, to >70 in 2019).

EEAP is not aware of any awards that recognize excellence in teaching or research.

Panel Judgement

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

Panel Recommendations

- Together with National laws and regulations governing the promotion and evaluation of faculty, internal criteria for advancement and promotion should be developed and posted on the Departmental website.
- Encourage the professional development of the Academic staff with particular attention to Assistant/Associate Professors, as well as to Special Scientific Personnel [ΕΔΙΠ] with significant research productivity.
- To adopt a policy of promoting and rewarding excellence in teaching across all teaching personnel ("Teacher of the Year"), based on the students' questionnaire surveys and other related achievements and activities of the teaching staff. Analogous research awards, recognizing highly productive faculty that publish outstanding papers and maintaining substantial funding, should be instituted. As with the student awards, commercial entities that already liaise with the Department could be the source of the faculty's teaching and research awards.
- Increase online and hybrid offerings to reduce the excessive teaching load of the faculty.
- Increase involvement of ΕΔΙΠ on laboratory exercises and proportionally reduce the teaching load of the faculty.
- Encourage faculty and students to participate and present their research to the Department as well as at national and international conferences. If budgetary obstacles exist, participation in online research conferences should be considered as an alternative.

- If not already established, a Departmental research seminar series in which faculty/graduate students/PhD candidates present their work or ideas for new projects should be put in place.

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

All Communications were performed virtually and thus not optimal when it comes to assessing the status of the facilities. Nevertheless, the Department provided videos and PowerPoint™ presentations that cover all aspects of infrastructure and the EEAP feels that it has a good understanding of the available facilities and equipment.

The main building of the Department (Dimakopoulos building) is on the main campus of AUA and has access to Iera Odos. The buildings include classrooms, teaching and research laboratories that appear well equipped.

The teaching facilities at Dimakopoulos building include two ~50-person classrooms, a number of laboratories and equipment needed to run the laboratory exercises. The Department has several animal facilities in the main campus covering the husbandry of all economically important animal species for Greek agriculture (poultry, swine, aquaculture etc). All appear to be in excellent condition.

The Department has state-of-the-art equipment obtained either through National funds or other projects. The laboratories appear well-equipped, yet facilities and equipment do not cover each laboratory teaching and research needs given the high number of students.

Exercise facilities, student clubs and amenities for extracurricular activities and other support services are located on campus and are easily accessible by the students. In

the era of COVID-19 there is a newly established outdoors exercise area with weather-proof equipment.

Panel Judgement

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

Panel Recommendations

- The Departmental facilities were designed to accommodate a significant smaller number of students than what is currently enrolled in the Department. This puts a strain to the system and both faculty (μέλη ΔΕΠ) and students feel that the present infrastructure can no longer accommodate the increased number of individuals, especially those attending the laboratory exercises.
- There needs to be a coordinated effort to reinforce the infrastructure with additional laboratory space and animals as well as additional faculty members that can teach theory and classes to the ever-increasing number of students.

Principle 7: Information Management

INSTITUTIONS BEAR FULL RESPONSIBILITY FOR COLLECTING, ANALYSING AND USING INFORMATION, AIMED AT THE EFFICIENT MANAGEMENT OF UNDERGRADUATE PROGRAMMES OF STUDY AND RELATED ACTIVITIES, IN AN INTEGRATED, EFFECTIVE AND EASILY ACCESSIBLE WAY.

Institutions are expected to establish and operate an information system for the management and monitoring of data concerning students, teaching staff, course structure and organisation, teaching and provision of services to students as well as to the academic community. Reliable data is essential for accurate information and for decision making, as well as for identifying areas of smooth operation and areas for improvement. Effective procedures for collecting and analysing information on study programmes and other activities feed data into the internal system of quality assurance. The information gathered depends, to some extent, on the type and mission of the Institution. The following are of interest:

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

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

Study Programme Compliance

The Department has established and operates a very detailed information system for managing and monitoring data, the best one that any member of this EEAP has seen in any of the Departments reviewed. These data were used to prepare a precise and detailed accreditation proposal.

The presentation of data in graphs have been exceptional and assisted the EEAP in demonstrating trends and allowing direct interpretations and comparisons.

The Department is not having an active Alumni Association, but such an effort is in the works and it was communicated to the EEAP that a DASA Alumni website will be operational by early 2021. This will be a most valuable tool to assist alumni with career decisions and secure support for the Department when needed.

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

Panel Recommendations

- Move forward with the reinvigoration of the Alumni Association and track the employability and career paths of graduates.
- Incorporate professional orientation in key, early (up to 6th semester) courses and enhance the career days. Several students indicated that such a move would greatly assist them in identifying areas of specialization based on job requirements and availability.
- Add the information provided to EEAP on the Departmental website for use by prospective students, industry and stakeholders at-large.

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 the Institution's activities is useful for prospective and current students, graduates, other stakeholders and the public. Therefore, institutions and their academic units provide information about their activities, including the programmes they offer, the intended learning outcomes, the qualifications awarded, the teaching, learning and assessment procedures used, the pass rates and the learning opportunities available to their students, as well as graduate employment information.

Study Programme Compliance

The Department communicates its teaching and academic activities mainly through its website. The Departmental website was constructed in 2020, and the provided information is adequate, yet it refers primarily to the present. It should be fortified with links to Departmental activities and data from the near past (e.g., 2015 onwards) to portray a continuation of the DASA research, teaching, and outreach.

The website provides details about the structure, human resources, laboratories, and infrastructure. Announcements and press releases are available on the Home page. Education tab: Undergraduate Programme Guide, as well as the outline of the individual courses, is available online in a downloadable format in Greek but not English.

Research and collaboration tabs: Publications and programs are provided in Greek, whereas the collaborations tab does not provide an adequate description. The rich mesh of Departmental activities (meetings, conferences, and connectivity to various stakeholders) is not provided in the English version of the website. The students' professional prospects and relevant stakeholders' chambers and associations' involvement are described.

EEAP acknowledges the assigned personnel's willingness and dedication to maintain and upgrade the Departmental website.

Panel Judgement

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

Panel Recommendations

- The English version of the website should reflect the respective content depicted in the Greek version.
- The Department is encouraged to take advantage of social media presence with academic nature to increase the visibility of its research and teaching activities.
- The website needs to highlight the professional prospects of graduates. It needs to further elaborate and document the Geotechnical Chamber of Greece (ΓΕΩ.Τ.Ε.Ε.) existence that assures their professional rights.

Principle 9: Ongoing 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

Several annual assessments have taken place in the last few years. The annual reports record data derived from the students' questionnaires. The course reports on a semester basis should be used to assess strengths and weaknesses. Also, there was an External Evaluation conducted in the academic year 2011 by HQA. All these reports are and should be published on the Department website.

The Department has also drafted a report, complete with all action items, which draws on lessons from the last external assessment and incorporated the suggestion from the external evaluation. The report appears to be well-structured with specific goals and indicators. It contained a detailed timetable, implementation, and addressed the positive results.

Students are not involved actively in the revision of the study programmes' evaluation, but it appears there are signs of future improvements.

The Department alumni interviewed mentioned their useful contacts with the Departmental staff. Still, they also complained about the lack of an organized association that would work closely with the Department on the study programme revisions and student guidance issues. The external stakeholders expressed their support and hoped to establish better collaboration with the Department, which is based mostly on personal contacts.

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 students' participation and the involvement of alumni, external stakeholders and partners should be enhanced, and implemented within a structured procedure.
- Continue with the commitment to high standards of quality assurance.

Principle 10: Regular External Evaluation of Undergraduate Programmes

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

HAHE is responsible for administrating the programme accreditation process which is realised as an external evaluation procedure, and implemented by a committee of independent experts. HAHE grants accreditation of programmes, with a specific term of validity, following to which revision is required. The accreditation of the quality of the programmes acts as a means of verification of the compliance of the programme with the template's requirements, and as a catalyst for improvement, while opening new perspectives towards the international standing of the awarded degrees. Both academic units and institutions participate in the regular external quality assurance process, while respecting the requirements of the legislative framework in which they operate. The quality assurance, in this case the accreditation, is an on-going process that does not end with the external feedback, or report or its follow-up process within the Institution. Therefore, Institutions and their academic units ensure that the progress made since the last external quality assurance activity is taken into consideration when preparing for the next one.

Study Programme Compliance

The Department is undergoing its first Accreditation procedure and has already undergone an external evaluation in 2011.

EEAP found that DASA implemented the EEC recommendations and they provided and documented the implementations with graphs and figures. A detailed description of the Department's response to these recommendations has been provided.

DASA reported having addressed most of the issues (other than the excessive student weekly overload) raised on that report and had considered and implemented several proposed recommendations. The most relevant information was included in the report and also provided when requested.

EEAP acknowledges that improvements have been made since the external evaluation, and DASA should continue its efforts to comply with the EEC recommendations.

Panel judgement

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

Panel Recommendations

- DASA has fully documented their efforts to implement the External Evaluation Committee's relevant and still valid recommendations.
- DASA has a strategic plan with detailed action plans and implementation timelines. The Department should periodically review/update the information to produce successful future accreditations/evaluations.

PART C: CONCLUSIONS

I. Features of Good Practice

- A highly esteemed, impactful undergraduate study programme.
- Well-equipped labs and well-maintained animal facilities.
- Staff commitment to assess and ensure the quality of the awarded degree.
- Alumni satisfaction with the professional benefits offered by the programme.
- Student-centred teaching methods are being employed with links between research and teaching for some programmes.
- Excellent documentation of Departmental actions to assure quality education for the students.
- Involvement of alumni and stakeholders in revisions of the study programme.

II. Areas of Weakness

- Imbalance in the number of teaching faculty (ΔΕΠ) and the number of students.
- Lack of available space and time for adequate execution of laboratory exercises given the increased enrolment in recent years.
- Significant number of students that pass the 7-year mark for graduation.
- Degree requires more than 300 credit hours.

III. Recommendations for Follow-up Actions

- Introduce prerequisites for some courses. Group some elective courses in a modular sequence, leading to a specialization certificate.
- Replace and add some in-person courses with new elective courses that are easy to accommodate in an online format.
- Streamline the internship process so that it is transparent and clear to the students. Facilitate the direct interaction of students with hosts and minimize the bureaucratic burden as much as possible.
- The professional rights should be aligned with the acquired knowledge, as it arises clearly from the curriculum and the undergraduate studies' framework.
- The newly founded Department of Hydrobiology and Aquaculture should be provided additional space and faculty lines. In addition, the Department should provide professional rights of «Ichthyologist». It is recommended that the Department cooperate with the responsible ministries and professional bodies (e.g., Geotechnical Chamber of Greece) to promote the required institutional adjustment.
- Strengthen networking opportunities with academics and other stakeholders.
- Access and implement approaches to recognize excellence in teaching and research.

IV. Summary & Overall Assessment

The Principles where full compliance has been achieved are: 1,2,6,7,9,10

The Principles where substantial compliance has been achieved are: 3,4,5,8

The Principles where partial compliance has been achieved are: None

The Principles where failure of compliance was identified are: None

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

The 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 UGP
(Integrated Master)**

Name and Surname

Signature

- 1. Professor (f.) Constantin Vamvakas (Chair),
*University of Ghent, Belgium***

- 2. Professor Andronikos Mauromoustakos, *University
of Arkansas, USA***

- 3. Professor Ioannis Tzanetakis, *University of
Arkansas, USA***

- 4. Professor Michael Polymenis, *Texas A & M
University, USA***

- 5. Dr. Dimitrios Galamatis, *Representative of the
Geotechnical Chamber of Greece, Greece***