



ΕΛΛΗΝΙΚΗ ΔΗΜΟΚΡΑΤΙΑ

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ΑΡΧΗ ΔΙΑΣΦΑΛΙΣΗΣ ΚΑΙ ΠΙΣΤΟΠΟΙΗΣΗΣ
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HELLENIC REPUBLIC

H Q A

HELLENIC QUALITY ASSURANCE
AND ACCREDITATION AGENCY

Accreditation Report
for the Undergraduate Study Programme
(Integrated Master) of:
Natural Resources Management and Agricultural Engineering
Institution: Agricultural University of Athens
Date: 21/12/2019

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Report of the Panel appointed by the HQA to undertake the review of the
Undergraduate Study Programme (Integrated Master) of
Natural Resources Management and Agricultural Engineering 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 Accreditation Panel

The Panel responsible for the Accreditation Review of the Undergraduate Study Programme (Integrated Master) of **Natural Resources Management and Agricultural Engineering** of the **Agricultural University of Athens** comprised the following four (4) members, drawn from the HQA Register, in accordance with the Law 4009/2011:

- 1. Professor George Vellidis (Chair)**
The University of Georgia, Tifton, Georgia, USA
- 2. Associate Professor George Manganaris**
Cyprus University of Technology, Lemesos, Cyprus
- 3. Professor Emeritus Ioannis Vlahos**
Hellenic Mediterranean University, Heraklion, Greece
- 4. Mr. Loukianos Kontelas**
Geotechnical Chamber of Greece, Athens, Greece

II. Review Procedure and Documentation

Three members of the Accreditation Panel (AP), Professors G. Vellidis, I. Vlahos, and Mr. L. Kontelas convened on Monday 15th December 2019 at the Headquarters of HQA in Athens for a briefing meeting. The AP was briefed by the Vice President and the General Director of HQA on the Quality Assurance (QA) standards for Quality Accreditation of Undergraduate Programmes and Accreditation Guidelines. During the briefing, the Panel received the final timetable for the site visit to the Department of Natural Resources Management and Agricultural Engineering of the Agricultural University of Athens (AUA). The fourth member, Associate Professor G. Manganaris, joined the AP later the same day. Prior to the site visit, the AP received the Proposal for Accreditation of the Natural Resources Management and Agricultural Engineering (NRMAE) undergraduate programme, the programme's External Evaluation Report from 2011, and other relevant material. Additional supporting documentation was provided by Department staff during the site visit. Subsequently, the AP met and discussed the strategy and issues to be considered during the site visit. During the next two days, the four members of the AP conducted a site visit at the AUA campus in Votanikos.

The AP initially met with the AUA Rector, Professor S. Kintzios, who also serves as the President of the AUA Quality Assurance Unit (QAU) and the Department Head, Assoc. Professor I. Argyrokastritis. The AP was briefed on the history and academic profile of the AUA and the Department Head presented the Department's current profile, its policy on quality assurance and other issues relating to the NRMAE programme. The meeting was interrupted by a small group of students, however the AP continued its scheduled programme of interviews at a different venue in the campus. The meetings continued with five (5) members of the Internal Evaluation Group (OMEA), representatives of the QAU, Vice-Rector Professor N. Dercas and departmental administrative staff Ms. M. Fragiskou. Discussions were held related to the compliance of the NRMAE programme to the standards for quality accreditation and other issues including student questionnaires and assignments. Later on, the AP met teaching staff and discussed the programme, links between teaching and research, professional development opportunities, mobility, faculty workload and evaluation by students. Following that, the AP met with a group of alumni and stakeholders from both the private and the public sector. During these meetings, issues related to student satisfaction and their experiences with teaching and research, facilities, career paths and relations with stakeholders were discussed.

To avoid further disruptions, the site visit schedule was modified and research and teaching laboratories in the Department's Roussopoulou building were visited at the end of Day 1 of the site visit instead of Day 2. The AP visited the laboratories of Geographic Information Systems and Remote Sensing, Soil Science and Agricultural Chemistry, Mineralogy and Geology, Agricultural Hydraulics, Farm Structures, and Renewable Energy Sources and were briefed by the staff about the teaching and research activities conducted in these facilities.

On the following day, Wednesday 18th December 2019, the AP interviewed a group of undergraduate students in their 5th year of studies, followed by a meeting with representatives of the OMEA. Later in the afternoon, the AP had a short debriefing meeting via teleconference with the Rector and the Head of the Department and presented the site visit outcomes.

The AP was received by the Department's faculty and staff very warmly and exhibited a willingness to cooperate during the process of the site visit. All parties involved conducted

themselves professionally and the process was deemed effective and efficient despite the disruption caused by a small group of students.

From Wednesday evening through Friday evening, December 18-20, 2019, the AP drafted and completed the Accreditation Report.

III. Study Programme Profile

The Department belongs to the School of Environment and Agricultural Engineering and was established in 1989 as the Department of Land Reclamation and Agricultural Mechanics. It was renamed to the Department of Natural Resources Management and Agricultural Engineering in 1997. The Department consists of the four divisions listed below and six research laboratories.

- Farm Structures and Farm Machine Systems
- Water Resources
- Soil Science and Agricultural Chemistry
- Geological Sciences

The Department is an independent, self-administered unit run by the Head, Vice-Head and the Department Assembly (consisting of academic staff, as well as representatives of technical and teaching staff and students). The Department cooperates closely with Universities and Institutions in Greece and abroad through participation in joint research projects and other relevant activities.

The Department grants an Integrated Master's Degree of Agronomist (Tier 7 of the national and European Qualifications Framework), titled Natural Resources Management and Agricultural Engineering (NMRAE) with specializations in Water Resources, Land Resources, and Agricultural Engineering. It consists of 300 ECTS, completed over a period of 5 years (10 semesters). The course of study includes a combination of required and a relatively small number of elective courses (250 ECTS), a thesis (30 ECTS), and a 4-month internship (20 ECTS).

At the time of this report, the Department comprised twenty seven (27) faculty members, fourteen (14) laboratory teaching staff members, eight (8) special technical laboratory staff, two (2) administrative staff, teaching personnel under the P.D. 407/80 and post graduate fellows.

The number of incoming students is determined by the Ministry of Education and Religious Affairs and does not reflect the number of students requested by the Department based on available teaching resources. The total number of incoming students requested by the Department for the 2019-2020 academic year was 60. However, the number assigned by the Ministry of Education was 140. An additional 32 students transferred from other HEIs. The total number of students served by the Department during the 2019-2020 academic year was 637 undergraduates, 60 MSc students, and 115 PhD students.

PART B: COMPLIANCE WITH THE PRINCIPLES

Principle 1: Academic Unit Policy for Quality Assurance

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

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

The quality policy statement of the academic unit includes its commitment to implement a quality policy that will promote the academic profile and orientation of the programme, its purpose and field of study; it will realise the programme's strategic goals and it will determine the means and ways for attaining them; it will implement the appropriate quality procedures, aiming at the programme's continuous improvement.

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

- a) the suitability of the structure and organization of the curriculum;*
- b) the pursuit of learning outcomes and qualifications in accordance with the European and the National Qualifications Framework for Higher Education;*
- c) the promotion of the quality and effectiveness of teaching;*
- d) the appropriateness of the qualifications of the teaching staff;*
- e) the enhancement of the quality and quantity of the research output among faculty members of the academic unit;*
- f) ways for linking teaching and research;*
- g) the level of demand for qualifications acquired by graduates, in the 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

The Department, in conjunction with Quality Assurance Unit (QAU) of the Agricultural University of Athens (AUA) established an Internal Evaluation Committee (OMEA) comprised of faculty members representing the Department's six laboratories. The Policy for Quality Assurance is implemented by the Department's OMEA addressing each of the Key Performance Indicators (KPIs) listed below:

- Evaluating the suitability of the structure and organization of the curriculum;
- Pursuing of learning outcomes and qualifications in accordance with the European and the National Qualifications Framework for Higher Education;
- Promoting of the quality and effectiveness of teaching;

- Assessing the appropriateness of the qualifications of the teaching staff;
- Enhancing the quality and quantity of the research output among faculty members of the academic unit;
- Ensuring the linking of teaching and research;
- Assessing the demand for qualifications acquired by graduates in the labor market;
- Ensuring the quality of support services such as the administrative services, the Library, and the student welfare office;
- Conducting an annual review and internal audit of the quality assurance system of the undergraduate programme(s) offered in collaboration with the OMEA with the AUA's QAU.

The Policy for Quality Assurance is published on the Department's website in Greek. It is not available in English nor is it available in downloadable format (PDF).

The Policy for Quality Assurance is currently a mirror of the text issued as a guiding document by HQA.

During the site visit of the Accreditation Panel (AP), it became clear that current students, alumni, and other stakeholders of NRMAE were not aware of the Policy for Quality Assurance.

The Department has established the means for collecting the needed data to conduct an annual review and internal audit of the NRMAE. The Department collects the data but annual reviews and internal audits are not conducted annually.

The Policy for Quality Assurance has not yet been fully implemented.

Panel judgement

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

Panel Recommendations

1. Fully implement the Department's Policy for Quality Assurance.
2. Ensure that the Policy for Quality Assurance is made widely known to faculty, students, alumni, and other stakeholders of NRMAE so that they are all aware of its existence and its importance. This can be accomplished by:
 - a. Being distributed annually by email to all parties mentioned above;
 - b. Being explained in detail to incoming students during orientation events;
 - c. Made highly visible and accessible on the Department's website by establishing a tab at the top of the front page dedicated the PQA; and
 - d. Made available on the website in English and Greek and in downloadable format (PDF).
3. Conduct an annual review and internal audit of the NRMAE using the Policy of Quality Assurance as a guide and report the findings.

4. The report must include actions that the Department will implement to meet the KPIs listed above.
5. The annual reports should be made available on the Department's website using the formats indicated above.

Principle 2: Design and Approval of Programmes

INSTITUTIONS SHOULD DEVELOP THEIR UNDERGRADUATE PROGRAMMES FOLLOWING A DEFINED WRITTEN PROCESS WHICH WILL INVOLVE THE PARTICIPANTS, INFORMATION SOURCES AND THE APPROVAL COMMITTEES FOR THE PROGRAMME. THE OBJECTIVES, THE EXPECTED LEARNING OUTCOMES, THE INTENDED PROFESSIONAL QUALIFICATIONS AND THE WAYS TO ACHIEVE THEM ARE SET OUT IN THE PROGRAMME DESIGN. THE ABOVE DETAILS AS WELL AS INFORMATION ON THE PROGRAMME'S STRUCTURE ARE PUBLISHED IN THE STUDENT GUIDE.

Academic units develop their programmes following a well-defined procedure. The academic profile and orientation of the programme, the objectives, the subject areas, the structure and organisation, the expected learning outcomes and the intended professional qualifications according to the National Qualifications Framework for Higher Education are described at this stage. The approval or revision process for programmes includes a check of compliance with the basic requirements described in the Standards, on behalf of the Institution's Quality Assurance Unit (QAU).

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

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

Study Programme compliance

The NRMAE curriculum has been in place beginning with the 2015-2016 academic year. It is the result of revisions made following the 2011 external evaluation of the programme. However, the recommendations of the 2011 external evaluation were not fully implemented. For example, there was no formal input from stakeholder groups external to the Department. The procedures used during the previous revision were not well documented in the information provided by the Department for the accreditation review.

The current curriculum offers specializations in Water Resources, Land Resources, and Agricultural Engineering. Students begin pursuing their area of specialization during their 6th semester. The curriculum consists of many required and some elective courses, an internship, and a thesis.

The AP examined several randomly selected theses and agreed that some of them were of the quality and depth required of an integrated Masters Tier 7 Qualification as specified by the National & European Qualifications Network. In addition, the thesis is supervised and evaluated by a three-member faculty committee and defended publicly. Only AUA faculty are allowed to serve on this committee. This is not compatible with the Department's stated goal of

encouraging students to conduct their thesis research at other institutions. Advisors and mentors at other institutions should be allowed to serve on the advisory committee.

Internships are typically conducted in two 2-month periods during the summers. Both students and internship supervisors in the private sector that this is model is ineffective as the time periods are too short to teach/train students. Notably, a vast majority of the internships (85% based on the data provided) are conducted on the AUA campus. Although this may provide students with additional research experience, it does not expose them to the marketplace nor does it provide them with an opportunity to develop professional networks that may assist them once they graduate. This is a major shortcoming that must be addressed. To Department is addressing this problem by encouraging students to conduct their internship during a continuous 4-month period and if possible, in conjunction with the research conducted for their thesis.

The NRMAE Student Guide is well constructed and provides prospective and current students with a wealth of information. It is available in printed and electronic form online but only in Greek. The online version includes links to downloadable syllabi (PDFs). Individual syllabi contain information about learning outcomes, general abilities, course outlines, teaching methods and structure, student assessment and recommended reference sources. For certain courses, prerequisites are indicated in their outline. However prerequisites are not enforced per AUA policy. This allows students without the necessary background to enroll in advanced courses.

Recommendations made by the 2011 external evaluation included reducing the number of course sequences (for example, Soils 1, Soils 2, Soils 3), eliminating courses with overlapping information, and reducing the number of required courses while increasing the opportunity of elective courses. All of these recommendations were either partially or fully implemented. In total, 35 courses were combined or eliminated. Some of these courses were combined to create new courses. Unfortunately this entailed delivering the content of both original courses during a single semester. This is inappropriate and does not promote student learning. A total of 31 courses were revised or created. In addition, students were given the opportunity to select their area of specialization earlier in their academic careers and to take relevant elective courses earlier as well.

Core courses are common across many undergraduate programs at AUA and consequently not tailored to the needs of students in individual programs. Students universally voiced frustration that some required core courses offered by other departments include content that is not relevant to their program. Examples of such courses are Pomology and Vegetable Crops. Student preferred versions of these courses containing content directly relevant to their degree. The Department indicated that it too had requested these types of specialized courses from other departments at AUA but limitations in resources prevented these courses from being offered.

The ECTS system is applied to all courses, however the credits assigned to each course are either 4 or 5 and may not reflect the true workload of each course.

The peer institutions selected by Department may not be appropriate for student mobility as they do not offer directly comparable undergraduate degrees. Peer institutions should offer comparable degrees that facilitate Erasmus and other international exchanges.

Panel judgement

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

1. The NRMAE curriculum must be annually evaluated based on the Institutional strategy.
2. ECTS units should be applied to each course reflecting the actual work load; this issue should be addressed during the next course restructuring.
3. In conjunction with item 1, the total number of courses should also be reevaluated.
4. Revision should include formal written input from individual stakeholders and stakeholder groups including students, alumni, industry, etc.
5. Course prerequisites are an absolute necessity and must be implemented.
6. Combined courses must be reevaluated to ensure content is appropriate.
7. Certain elective courses addressing state-of-the-art techniques or technologies (i.e. Precision Agriculture, Climate Change) should be included in the 300-ECTS workload for all specializations. These courses are useful to all specializations.
8. Core course content during Years 1-3 should be relevant to the major.
9. Core courses tailored to the NRMAE programme should be developed. Knowing that resources are limited, the Department should explore innovative ways to offer these courses (post-doctoral researchers, etc.)
10. More opportunities should be provided to students to take elective courses, especially during their specialization years.
11. The curriculum should be revised to better match the curricula of peer institutions. This approach will facilitate the mobility of students.
12. Continuous 4-month internships should be encouraged to ensure appropriate learning outcomes.

13. Faculty from other institutions in Greece or abroad should be allowed to serve on the three-member thesis advisory committee. If AUA regulations prevent this, they should be modified accordingly.
14. Student to teacher ratios should be reduced. They must be reduced significantly in laboratory courses.

Principle 3: Student-Centered Learning, Teaching and Assessment

INSTITUTIONS SHOULD ENSURE THAT THE UNDERGRADUATE PROGRAMMES ARE DELIVERED IN A WAY THAT ENCOURAGES STUDENTS TO TAKE AN ACTIVE ROLE IN CREATING THE LEARNING PROCESS. THE ASSESSMENT METHODS SHOULD REFLECT THIS APPROACH.

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

The student-centred learning and teaching process

- *respects and attends to the diversity of students and their needs, enabling flexible learning paths;*
- *considers and uses different modes of delivery, where appropriate;*
- *flexibly uses a variety of pedagogical methods;*
- *regularly evaluates and adjusts the modes of delivery and pedagogical methods aiming at improvement;*
- *regularly evaluates the quality and effectiveness of teaching, as documented especially through student surveys;*
- *reinforces the student's sense of autonomy, while ensuring adequate guidance and support from the teaching staff;*
- *promotes mutual respect in the student - teacher relationship;*
- *applies appropriate procedures for dealing with students' complaints.*

In addition :

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

Study Programme compliance

The AP had the opportunity to interact with faculty members, undergraduate and graduate students, and Departmental and other Institutional units responsible for quality assurance and evaluate the level of student-centered culture that is being implemented by the Department.

The Department conducts an orientation for incoming students that addresses most of its operational procedures and practices. Faculty provide syllabi to inform students of the expectations and requirements of the course, course content, and how student performance is evaluated. The syllabi are also available online but only in Greek.

Although some faculty use modern teaching methods that engage students, most do not. For example, some faculty simply read the information on PowerPoint slides during lectures. This discourages students from attending lectures. The small number of students who attend lectures must be addressed. In some courses, there is a well-established practice of connecting teaching to research.

Students are satisfied with their access to faculty and the faculty's willingness to provide assistance and guidance on a variety of academic and non-academic topics. The atmosphere in the Department and in the classroom is friendly and open.

The e-class digital platform facilitates faculty-to-student interaction, communicates announcements, ensures availability of past and current learning materials and displays advance notices of schedule modifications, among other course related matters. It also provides access to bureaucratic forms. The platform also allows for the evaluation of student performance and the posting of grades.

The Department and students are served by two administrative staff. One of the staff appears to be significantly more productive than the other. Students were generally satisfied with the level of services provided.

The Department intends to establish a Student Advisor policy for students beginning with the 2020-2021 academic year. The AP agrees that this is an important policy that will ensure that incoming students are prepared for their studies. The Student Advisor policy should reduce the time to graduation.

Panel judgement

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

Panel Recommendations

1. The Academic Advisor policy should be implemented as soon as possible
2. Courses that have mean student evaluation scores below 3,5/5,0 should be reviewed and an action plan for their improvement developed and implemented.
3. Reading slides or lecture notes is no longer an accepted teaching method. All faculty must employ engaging student-centered teaching methods.
4. Student theses should be archived electronically in the university library.
5. Course syllabi should be made available in English.

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 during which the students are informed about the Department, the curriculum, the research laboratories, facilities, and other topics. AUA organizes orientation sessions about the Erasmus programme. An Academic Advisor for incoming students is planned but is not yet in place.

The Department has established procedures for student mobility through the Erasmus programme and a NRMAE staff member is responsible for the programme. However there is substantial room for improvement in this area as the mobility of both staff and students is limited. There appears to be strong need for assistance and guidance by the staff members in identifying and approving suitable courses at cooperating institutions that students can follow during the Erasmus semester. Assistance is also needed in finding suitable places for internships and in identifying potential Erasmus partner institutions.

The Diploma Supplement (DS) is a document explaining the qualification gained, the learning outcomes, the content, and status of the studies that were pursued and should be provided to graduating students in both Greek and English as is required by law. The DS has not been issued yet by NRMAE and none of the alumni with whom the AP met were aware of it or had received it. The AP was reassured that the DS will be issued electronically for all graduating students beginning with the 2019-2020 (current) academic year.

Panel judgement

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

Panel Recommendations

1. The Diploma Supplement should be made available to graduates automatically upon graduation.
2. The total workload for receiving the NRMAE degree must be 300 ECTS units as in all Integrated Master's programs. In the event that student chooses to take more courses than required and accumulates more than 300 ECTS units, the additional courses must be documented in the Diploma Supplement.
3. Student mobility should be encouraged and facilitated for NRMAE students and Department staff.
4. The Department must explore methods for attracting international students and faculty to the NRMAE programme.
5. Students should be encouraged to conduct their internships at research laboratories in international academic institutions and agricultural settings within Greece and abroad.

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 fair, reasonable and consistent with the best practices and the rules and regulations of both the University and the Ministry of Education. The Department will fill two new faculty positions in the near future.

The Department's Accreditation proposal does not provide a clearly defined plan of development opportunities for the teaching staff and the supporting teaching staff (ΕΕΔΙΠ/ΕΤΕΠ). It appears that a limited number of teaching staff are exploiting mobility as a means to enhance teaching capacity.

Students expressed their satisfaction that they have easy access to faculty members and frequently request their advice. The students also expressed their satisfaction regarding the outline of the courses that in their majority include well-articulated laboratory exercises. However, for certain lab exercises, the hands-on experience, particularly in the field, is missing, partially due to the excessive number of students.

The Department's laboratories have each developed one or more research focus areas some of which are internationally recognized as leaders in their field. Students indicated that it is not easy to enroll in some courses that incorporate this cutting-edge research. For example, students from all three specializations expressed their interest in the Precision Agriculture course but this is offered as an elective course in one specialization only.

Teaching staff expressed their commitment towards provision of quality teaching. Teaching load spans from 6 up to 12 hours per week. Thesis supervision is not equally undertaken by faculty. Some supervise a considerably higher number of students than others. This may compromise the overall quality of supervision.

Several students stated that a substantial number of courses are not offered in an interactive manner. Nevertheless, students indicated that some faculty use very engaging teaching techniques and they appreciate it. AP is not aware of any apparent mechanisms for rewarding excellence in teaching.

Students are required to complete course evaluation questionnaires for all courses taught thus promoting quality assurance. However, for certain courses the number of completed questionnaires is extremely low as the number of students attending the course is very low. Therefore, such evaluation reports may not accurately reflect the quality of the course and the quality of instruction.

The role of the supporting teaching staff (ΕΔΙΠ/ΕΤΕΠ) were not included in the evaluation documents.

Panel judgement

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

Panel Recommendations

1. Develop an Action Plan that will encourage staff mobility as a means for professional development (sabbaticals, Erasmus, etc.). The Action Plan should include strategies for attracting lecturers/researchers from abroad for short, medium, and long term visits.
2. The two new faculty positions should be filled strategically and in disciplines that will maximize the potential for growth in research and teaching capacity.
3. NAMRE should consider hiring candidates with qualifications that will ensure seeding of new ideas and introduction of innovative teaching methods and avoid academic inbreeding.
4. Cutting-edge technologies should be incorporated into the NRMAE curriculum.
5. The Department must find ways to significantly increase student participation in the course evaluation surveys so that data can be used to reliably assess performance. Use of online surveys ensures rapid availability of the data.
6. The Department should establish a policy of promoting and rewarding excellence in teaching, research, and student achievement. Examples are annual “Teacher of the Year”, “Innovation of the Year”, and “Student of the Year” awards.

Principle 6: Learning Resources and Student Support

INSTITUTIONS SHOULD HAVE ADEQUATE FUNDING TO COVER TEACHING AND LEARNING NEEDS. THEY SHOULD –ON THE ONE HAND- PROVIDE SATISFACTORY INFRASTRUCTURE AND SERVICES FOR LEARNING AND STUDENT SUPPORT AND–ON THE OTHER HAND- FACILITATE DIRECT ACCESS TO THEM BY ESTABLISHING INTERNAL RULES TO THIS END (E.G. LECTURE ROOMS, LABORATORIES, LIBRARIES, NETWORKS, BOARDING, CAREER AND SOCIAL POLICY SERVICES ETC.).

Institutions and their academic units must have sufficient funding and means to support learning and academic activity in general, so that they can offer to students the best possible level of studies. The above means could include facilities such as libraries, study rooms, educational and scientific equipment, information and communications services, support or counselling services.

When allocating the available resources, the needs of all students must be taken into consideration (e.g. whether they are full-time or part-time students, employed or international students, students with disabilities) and the shift towards student-centred learning and the adoption of flexible modes of learning and teaching. Support activities and facilities may be organised in various ways, depending on the institutional context. However, the internal quality assurance ensures that all resources are appropriate, adequate, and accessible, and that students are informed about the services available to them.

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

Study Programme compliance

The Department is housed in a building complex named Roussopoulou on the campus of the AUA. The buildings are spacious and include the requisite classrooms and teaching and research laboratories. The interior and exterior of the buildings are in disrepair and covered with graffiti. This is typical of the AUA facilities as a whole. The AP acknowledges that student political organizations are responsible for the graffiti. Grounds are mostly well-kept.

The AP did not have the chance to visit classrooms but was able to visit research and teaching laboratories. Most laboratories are in the Roussopoulou building except the Soil Science and Agricultural Chemistry laboratories which are housed in Building B. Some of the teaching laboratories were in poor physical condition and lacked modern laboratory equipment. Some research laboratories were also in poor condition because funds were not available for routine maintenance which in turn affected research activities. For example, two large walk-in growth chambers were not operational.

Undergraduates are encouraged by the faculty to use the research laboratories for their thesis research which is very positive.

Some laboratory sections, due to the large number of students, are carried out mainly by demonstration. Students expressed the need for more experiential learning during laboratories. The laboratories of Hydraulics, Mineralogy, Mechanics and GIS appear to have adequate and in

some cases state-of-the-art equipment that seemed to be fully operational. However, students indicated that even in some of these laboratories, they did not have opportunity for experiential learning.

The IT Department of the University appears to provide adequate support for e-class and other IT needs.

The Administrative staff is composed of two individuals but it appears that only one of the two undertakes most of the responsibilities and workload of the department and its students. Students are satisfied with administrative staff accessibility and assistance.

The Department does not have its own library but students are served by the central library which is well-equipped with scientific material and many journals are readily available online.

There is a restaurant in the campus which serves all AUA students. Students were dissatisfied with the facilities and the quality of meals.

Public transportation to/from the campus from the city centre was considered satisfactory by students.

AUA does not have dormitory facilities. However AUA has housing agreements with other universities in Athens which allows a limited number of students to have access to dormitory accommodations.

Other support services such as sport facilities, student clubs and amenities for extracurricular activities are located on the AUA campus and available to NRMAE students.

Panel judgement

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

Panel Recommendations

1. Significant investment is needed to upgrade facilities and equipment.
2. Research and the research laboratories should be more actively integrated into the curriculum to provide students with state-of-the-art knowledge and experiential learning.
3. Staffing of the administration office with at least two more individuals should be considered.

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 an information system for managing and monitoring data of students, teaching staff and course structure that has been aligned with Key Performance Indicators. These data were used to prepare the Department's accreditation proposal and the presentation of the Department to the AP during the site visit. Information on student population profiles and student and staff satisfaction surveys was not adequately summarized. Raw data were presented as attachments to the report.

The procedures of how the available data are analyzed and used to improve performance are not clearly defined. In addition, how this information is communicated to faculty and staff is not clearly defined.

NRMAE alumni indicated that they do not have an active Alumni Association. Such an Association would prove useful in tracking the career of graduates, finding jobs for new graduates, and securing support when needed.

Panel judgement

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

Panel Recommendations

1. Establish an Alumni Association
2. Track career paths of alumni and keep them involved with the Department's students.
3. Procedures of how quality assurance data are analyzed and used to improve performance should be clearly communicated to faculty, staff, and students.
4. When key performance indicators are not met, mitigation plans should be developed and implemented.

Principle 8: Public Information

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

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

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

Study Programme compliance

The Department communicates its teaching and academic activities through its website. At the time of the site visit, the website was under construction and inadequate for meeting this goal. The English version of the website is minimal. Navigating the NRMAE curriculum online is cumbersome as all the courses are presented consecutively without summary information. There is no search feature.

There are no social media links on the website. Current and prospective students are more inclined to search for information on social medial platforms than the departmental website.

Students were pleased with the level of activities offered by the Department in cooperation with stakeholder groups such as meetings, conferences, and social engagement events.

The policy for Quality Assurance is available on line (Greek version) in HTML only.

Panel judgement

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

Panel Recommendations

1. The departmental website must be substantially reshaped and include additional information.
2. The English version of the website must mirror the Greek version.
3. Website development and maintenance should be contracted with a professional.

4. Important information such as the Policy for Quality Assurance must be available in downloadable form (PDF) from the Department's website. In addition, links within the Policy for Quality Assurance tab (see Principle 1 Recommendation 2a) should provide access to relevant information including internal evaluation reports.
5. Social media such as Facebook, Twitter, LinkedIn, and ResearchGate should be used to increase visibility and dissemination of information to peer institutions, policy makers, and stakeholders including the general public.

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

INSTITUTIONS SHOULD HAVE IN PLACE AN INTERNAL QUALITY ASSURANCE SYSTEM FOR THE AUDIT AND ANNUAL INTERNAL REVIEW OF THEIR PROGRAMMES, SO AS TO ACHIEVE THE OBJECTIVES SET FOR THEM, THROUGH MONITORING AND AMENDMENTS, WITH A VIEW TO CONTINUOUS IMPROVEMENT. ANY ACTIONS TAKEN IN THE ABOVE CONTEXT SHOULD BE COMMUNICATED TO ALL PARTIES CONCERNED.

Regular monitoring, review and revision of study programmes aim to maintain the level of educational provision and to create a supportive and effective learning environment for students.

The above comprise the evaluation of:

- *the content of the programme in the light of the latest research in the given discipline, thus ensuring that the programme is up to date;*
- *the changing needs of society;*
- *the students' workload, progression and completion;*
- *the effectiveness of the procedures for the assessment of students;*
- *the students' expectations, needs and satisfaction in relation to the programme;*
- *the learning environment, support services and their fitness for purpose for the programme*

Programmes are reviewed and revised regularly involving students and other stakeholders. The information collected is analysed and the programme is adapted to ensure that it is up-to-date. Revised programme specifications are published.

Study Programme compliance

Interviews with students, alumni and stakeholders indicated that the NRMAE curriculum is unique by its nature and offers significant knowledge, skills and competencies that allows them to have rewarding careers. Nevertheless, the curriculum requires regular revision to ensure that graduates have the skills and knowledge to meet the demands of a rapidly changing marketplace.

Faculty appear to be fully aware of the importance of monitoring and updating the curriculum with minor changes taking place annually and major revamping every few years. Faculty are also aware that the curriculum should be revised, using the recommendations provided under Principle 2.

Panel judgement

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

Panel Recommendations

1. OMEA members must ensure that annual reports and draft reports are provided in a timely fashion to the faculty for recommendations and amendments prior to final approval.
2. An internal evaluation report (self-assessment) of the undergraduate programme should be prepared annually and publicly released through Departmental website.
3. The availability of the internal evaluation report should also be publicized through the Department's social media platforms.
4. Regular feedback from students, alumni and other stakeholders is necessary for optimal revision of the NRMAE curriculum.
5. Metrics used to meet KPIs should be realistic but also ambitious. This is particularly important regarding the number of student graduating within 5 years.

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 administrating 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.

Study Programme compliance

The Department is currently undergoing its first undergraduate programme accreditation review. The Department has made significant changes guided by the external evaluation report during the academic year 2010-2011. Based on the documentation provided and the on-site visit, the AP determined that the Department NRMAE has to a large extent implemented the recommendations of the external evaluation report regarding the undergraduate program.

Panel judgement

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

Panel Recommendations

1. The Department should fully implement the relevant and still valid recommendations of the 2011 External Evaluation Report.
2. The Department should develop a strategic plan with detailed action plans and implementation timelines providing the roadmap for future accreditations/evaluations.

PART C: CONCLUSIONS

I. Features of Good Practice

- A unique undergraduate program with high recognition among employers
- Satisfactory cooperation between students and teaching staff
- Excellent research capacity in several laboratories
- Links between research and teaching for certain programs
- Sincere commitment of the majority of the staff to enhance the quality of the NRMAE programme
- Satisfaction of alumni with the professional benefits offered by the programme
- Increasing number activities/events linking students to stakeholders
- Available event spaces (museum, outdoor areas, etc.)

II. Areas of Weakness

- Policy for Quality Assurance is not widely publicized
- Lack of annual self-evaluation reports
- Lack of enforced course prerequisites
- Limited adoption of student-centered teaching methods
- High student to teacher ratios
- Limited student and staff incoming/outgoing mobility
- Limited contact with alumni
- Quality and duration of internships
- Department website requires improvement
- Links between research and teaching are not consistent
- Modest research outputs from some research laboratories
- Facilities require renovation and some equipment requires updating
- Neglected common spaces with graffiti (hallways, exterior areas)
- Limited amenities such as study areas for students within the Department's facilities

III. Recommendations for Follow-up Actions

- Fully implement the relevant recommendations of the 2011 External Evaluation Committee.
- A re-examination/re-assessment of ECTS units credited to each course
- Strengthen networking opportunities with academics and stakeholders
- Allow students to pursue their interests by reducing the number of required courses and increasing the number of electives
- Use more effective and student centred-teaching methods
- Establish an Academic Advisor
- Promote student and staff mobility
- Involve alumni, external stakeholders and other partners in revisions of the undergraduate study programme in a structured way.

- Engage a professional to design and maintain the Department's website
- Access and implement approaches to recognize excellence in teaching and research
- Access and implement approaches to guide and support underperforming teaching and research staff
- Amend internship duration and overall approach
- Increase incoming Erasmus students by providing some courses that can be supported both in Greek and in English
- Encourage opportunities for thesis writing in English
- Continue and expand efforts to assess and ensure high quality of the awarded degree.
- The Department should establish a strong presence in social media in line with current worldwide trends
- Career paths of graduates should be documented and used for the benefit of the Department and its students

IV. Summary & Overall Assessment

The Principles where full compliance has been achieved are: 10

The Principles where substantial compliance has been achieved are: 3, 4, 5, 6, 9

The Principles where partial compliance has been achieved are: 1, 2, 7, 8

The Principles where failure of compliance was identified are: none

Overall Judgement	
Fully compliant	
Substantially compliant	X
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	

The members of the Accreditation Panel for the UGP (Integrated Master) of Natural Resources Management & Agricultural Engineering of the Agricultural University of Athens

Name and Surname

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