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ΑΝΩΤΑΤΗΣ ΕΚΠΑΙΔΕΥΣΗΣ

HELLENIC REPUBLIC  
**H.Q.A.A.**  
HELLENIC QUALITY ASSURANCE AGENCY  
FOR HIGHER EDUCATION

## **EXTERNAL EVALUATION REPORT**

DEPARTMENT OF FISHERIES AND AQUACULTURE TECHNOLOGY

ALEXANDER TECHNOLOGICAL EDUCATIONAL INSTITUTE OF  
THESSALONIKI

May 2011

## TABLE OF CONTENTS

### **The External Evaluation Committee**

#### ***Introduction***

##### I. The External Evaluation Procedure

- Brief account of documents examined, of the Site Visit, meetings and facilities visited.

##### II. The Internal Evaluation Procedure

- Comments on the quality and completeness of the documentation provided and on the overall acceptance of and participation in the Quality Assurance procedures by the Department.

### ***A. Curriculum***

#### APPROACH

- Goals and objectives of the Curriculum, structure and content, intended learning outcomes.

#### IMPLEMENTATION

- Rationality, functionality, effectiveness of the Curriculum.

#### RESULTS

- Maximizing success and dealing with potential inhibiting factors.

#### IMPROVEMENT

- Planned improvements.

### ***B. Teaching***

#### APPROACH:

- Pedagogic policy and methodology, means and resources.

#### IMPLEMENTATION

- Quality and evaluation of teaching procedures, teaching materials and resources, mobility.

#### RESULTS

- Efficacy of teaching, understanding of positive or negative results.

#### IMPROVEMENT

- Proposed methods for improvement.

### ***C. Research***

#### APPROACH

- Research policy and main objectives.

#### IMPLEMENTATION

- Research promotion and assessment, quality of support and infrastructure.

#### RESULTS

- Research projects and collaborations, scientific publications and applied results.

#### IMPROVEMENT

- Proposed initiatives aiming at improvement.

**D. All Other Services**

## APPROACH

- Quality and effectiveness of services provided by the Department.

## IMPLEMENTATION

- Organization and infrastructure of the Department's administration (e.g. secretariat of the Department).

## RESULTS

- Adequateness and functionality of administrative and other services.

## IMPROVEMENTS

- Proposed initiatives aiming at improvement.

**Collaboration with social, cultural and production organizations****E. Strategic Planning, Perspectives for Improvement and Dealing with Potential Inhibiting Factors**

- Short-, medium- and long-term goals and plans of action proposed by the Department.

**F. Final Conclusions and recommendations of the EEC on:**

- The development and present situation of the Department, good practices and weaknesses identified through the External Evaluation process, recommendations for improvement.

### **External Evaluation Committee**

The Committee responsible for the External Evaluation of the Department of FISHERIES AND AQUACULTURE TECHNOLOGY of the ALEXANDER TECHNOLOGICAL EDUCATIONAL INSTITUTE OF THESSALONIKI consisted of the following five (5) expert evaluators drawn from the Registry constituted by the HQAA in accordance with Law 3374/2005 :

1. Professor Dr. Constantin Vamvakas  
Coordinator  
  
University of Ghent
  
2. Dr. Irene Kokkala  
  
North Georgia College & State University
  
3. Ms. Naouma Kourti  
  
European Commission
  
4. Dr. François René  
  
Directeur de Recherche, IFREMER, France, CAQ/GFCM/FAO
  
5. Professor Karim Erzini  
  
University of the Algarve

**N.B.** The structure of the “Template” proposed for the External Evaluation Report mirrors the requirements of Law 3374/2005 and corresponds overall to the structure of the Internal Evaluation Report submitted by the Department.

The length of text in each box is free. Questions included in each box are not exclusive nor should they always be answered separately; they are meant to provide a general outline of matters that should be addressed by the Committee when formulating its comments.

## **Introduction**

### I. The External Evaluation Procedure

- **Dates and brief account of the site visit.**
  - May 2-4, 2011
- **Whom did the Committee meet?**
  - Professor Spyros Amourgis, President of HQAA
  - Professor Yannis Oikonomou, member of HQAA
  - Prof. Panagiotis Tzionas, Vice president of TEI of Thessaloniki
  - Tenured faculty members
  - Visiting / part-time faculty
  - Secretarial staff
  - Library staff
  - Students
  - Sector professionals
    - Mr. Panagiotis Trazakis, owner of Trazakis S.A. (Fish Processing Industry)
    - Miss Sofia Paspala, sales director, Trazakis S.A.
    - Mr. Dimitrios Vlahakis, director of Centre for Water Quality Analysis of Halkidiki
  - Mr. Ioannis Giarenis, Chairman and CEO of ALIEIA S.A. (Fisheries & Aquaculture)
  - Alumni
- **List of Reports, documents, other data examined by the Committee.**
  - Guidelines of the process (Guidelines members EEC.pdf)
  - 1<sup>st</sup> and 2<sup>nd</sup> internal evaluation reports of FAT Department (Department of Fisheries & Aquaculture technology)
  - Study guide
  - CVs of tenured professors
  - Employment status of the Department of Fisheries and Aquaculture Technology Graduates
  - List of projects
  - List of publications
  - List of theses (in Greek)
  - Power point presentation based on 2<sup>nd</sup> internal evaluation report

- Web page of FAT ([www.aqua.teithe.gr](http://www.aqua.teithe.gr))

- ***Groups of teaching and administrative staff and students interviewed***

*Tenured faculty members:*

Sofia Galinou - Mitsoudi  
Associate Professor

Amalia Moriki  
Associate Professor

Pantelis Rigas  
Associate Professor

Yiannis Savvidis  
Associate Professor

Ourania Giannakou  
Assistant Professor

Anastasia Imsiridou  
Assistant Professor

George Minos  
Assistant Professor

Elisavet Vardaka  
Assistant Professor

Lambros Kokokiris  
Lecturer

George Skoufas  
Lecturer

*Visiting / part-time faculty:*

Alexandrou Maria  
Afrati Tereza  
Balianou Lemonia  
Bareltzis Patroklos  
Damianidis Panagiotis  
Karalazos Basilios  
Karidas Theofanis  
Kobiadou Aikaterini  
Mouroutis Panagiotis  
Papadimitriou Xrisi  
Papamichail Maria  
Pomakis Nektarios  
Tosounis Georgios

*Secretarial staff:*

Lalou Magnalini  
 Chatzipetrou Georgia  
 Chamamtzoglou Pantelis  
 Kalogianni Georgia

*Librarian*

Moutsaki Maria

*Students:*

Approximately 70 students, from 1 to 17 semesters

*Alumni:*

Four graduates

• ***Facilities visited by the External Evaluation Committee.***

*Laboratories*

Chemistry (1)  
 Genetics (1)  
 Analytical chemistry (1)  
 Ichthyology (1)  
 Oceanography (1)  
 Aquaculture (1)  
 Computer (1)

These laboratories are used both for teaching and research: Chemistry, Genetics and Genetic Engineering, Chemical Oceanography, Organic Chemistry & Biochemistry, Instrumental Analysis & Bio-toxins, Physiology & Farming of Aquatic Organisms, Biology of Fishes, Fish Farming, Shellfish, Physical Oceanography and Marine Biology, Hydraulics, Aquatic Pollution and Toxicology, Phytoplankton, Aquarium Science, Inland Water Ecosystems, Chemistry and Biotechnology of Aquatic Natural Products, Fish Quality Control and Technology and Pollution Control Chemistry and Technology. However, they share the same rooms and some are located within the offices of the professors.

*Library*

*Secretarial offices*

*Faculty offices*

*Classrooms (3/4)*

## **II. The Internal Evaluation Procedure**

Please comment on:

- ***Appropriateness of sources and documentation used***

The documentation received was quite comprehensive and adequate for evaluation purposes. Nevertheless, the second internal evaluation report was received only during the visit, due to technical problems that resulted in late submission from the central services of TEI in Thessaloniki to the appropriate authorities. Supplementary explanations were given to the EEC by the staff during the visit.

- ***Quality and completeness of evidence reviewed and provided***

The documentation received was quite comprehensive and adequate for evaluation purposes. The quality of the documentation was overall very good. However, some documents were only received in Greek or during of the visit.

- ***To what extent have the objectives of the internal evaluation process been met by the Department?***

The objectives of the internal evaluation process were generally met. However, some key and strategic issues were not addressed (see section E)



## **A. Curriculum**

*To be filled separately for each undergraduate, graduate and doctoral programme.*

### **APPROACH**

- ***What are the goals and objectives of the Curriculum? What is the plan for achieving them?***

According to the study guide, “Fisheries and aquaculture technology is an applied field, based on the scientific areas of biological, physical, and chemical sciences. Its aim is the development and improvement of the methodological protocols and technology for the improvement and development of aquatic ecosystems, fisheries, aquaculture and biotechnological applications of the products derived from aquatic environment. The mission of the Department of Fisheries, Aquaculture Technology is to provide education and prepare scientists with the technological aspects of the above areas.” The ultimate learning aim is to produce graduates that have the knowledge and skills to participate in every aspect of aquaculture, fisheries technology, marine products processing, quality control and trading.

To achieve the objectives, a new syllabus was implemented in academic year 2009-2010. It consists of 39 courses distributed across three sectors of the department: surface waters, fisheries and aquaculture and biotechnological applications. The curriculum also includes practical training and a diploma thesis. The entire course is designed to be accomplished in 4 academic years (8 semesters).

- ***How were the objectives decided? Which factors were taken into account? Were they set against appropriate standards? Did the unit consult other stakeholders?***

The objectives are driven by the importance of aquaculture (Greece is the largest producer of sea bass and sea bream in the world and these two species represent the premiere export product of the country) and the need for rational exploitation of aquatic resources and protection of aquatic environment. A fundamental factor was the need for the establishment of a university unit that would serve uniquely and exclusively the above objectives. With regard to education and research standards the objectives are in line with the educational and research mission of other institutions that serve similar objectives. With regard to other stakeholders the EEC has no information.

- ***Is the curriculum consistent with the objectives of the Curriculum and the requirements of the society?***

The Curriculum is relevant to the objectives, but not complete. The EEC considers that key courses are not mandatory, specifically business administration and management, economics and marketing, legal and legislative issues, especially regarding EU, and management of human resources. The TEI should facilitate training in diving, obtaining skipper licenses, and languages (English). Moreover, the Curriculum should be designed to become more attractive by introducing more applied courses and reducing redundancy in courses such as chemistry, by merging courses. The EEC

strongly recommends the incorporation of invited lectures by stakeholder representatives (industry, research and administration), focusing on practical issues.

- ***How was the curriculum decided? Were all constituents of the Department, including students and other stakeholders, consulted ?***

The new Curriculum was proposed by the full-time professors to the assembly, including student representatives. However, the students felt that they did not have sufficient opportunity for input. Moreover, the new Curriculum was developed without consultation with other stakeholders.

- ***Has the unit set a procedure for the revision of the curriculum?***

According to plan, revision of the Curriculum takes place every two years.

## **IMPLEMENTATION**

- ***How effectively is the Department's goal implemented by the curriculum?***

The course load consists of 240 ECTS over 8 semesters, of which 210 ECTS are courses, 10 ECTS are practical training, and 20 ECTS are thesis.

In the opinion of the EEC, the Curriculum lacks balance between theoretical and practical training. Specifically, we feel that there should be significantly more credits for practical training, where the students have opportunities to gain experience working in fish farms and other relevant industries.

- ***How does the curriculum compare with appropriate, universally accepted standards for the specific area of study?***

The total number of ECTS is actually more than what is required for a first cycle Bologna degree (180 ECTS). The curriculum is in line with similar programmes in Aquaculture, Fisheries and Aquatic and Environmental Management offered at TEI and university levels.

- ***Is the structure of the curriculum rational and clearly articulated?***

The structure of the curriculum is rational and clearly articulated. However, the EEC has identified weaknesses relating to redundancy between chemistry courses, lack of emphasis on applied courses and practical training.

- ***Is the curriculum coherent and functional?***

The curriculum is coherent and functional. However, there is room for improvement (see comments above).

- ***Is the material for each course appropriate and the time offered sufficient?***

The material is appropriate. Nevertheless, the distribution of the class notes is often very delayed due to administrative procedures. For this reason, the EEC recommends the establishment of a digital archive and the systematic use of Blackboard, as well as

the improvement of internet access. The average contact time (lectures, labs., etc.) per week is 24 to 26 hours, plus 24 to 26 hours of personnel study, giving a total of 50 hours per week.

- ***Does the Department have the necessary resources and appropriately qualified and trained staff to implement the curriculum?***

The department has adequate human resources, with highly qualified professors, most having a PhD. Due to the large number of courses, the permanent staff can not cover all the teaching requirements. Therefore there is a disproportionate dependence on external, part-time staff. There is a total lack of technicians, which obliges the faculty members to perform technical tasks, at the expense of their regular duties.

The physical infrastructure is inadequate due to a serious lack of appropriate space, resulting in an unsafe environment, due to the multiple uses of labs and the repurposing of inappropriate spaces to develop laboratory space (e.g. gym to aquaculture laboratory). The lack of building space is extreme and has led to the utilization of containers for laboratory space and storage, and the use of toilets for storage of samples. Inadequate facilities for storage of samples and for handling chemicals/dangerous products (safety cabinets). Lack of space has led to underutilization of equipment and material.

Key laboratories are missing (e.g. wet laboratory) for fisheries and aquaculture work. The lack of dedicated laboratory space for research results in the limitation of research time to after regular hours (night time and weekends).

There is also a lack of classroom space and classroom technology (data shows, computers). Internet connectivity must be established in a reliable and consistent manner.

## **RESULTS**

- *How well is the implementation achieving the Department's predefined goals and objectives?*

The new curriculum is in the first year of implementation, so it is not possible to evaluate the consequences in terms of the Department's goals and objectives. However, data provided by the Department indicates that the average time to graduate over the past 6 years is 6.2 years, with an increasing trend over the past few years. This is the result of low student success rates in courses, with the majority of students having a back log. A consequence of this is the low student attendance of lectures.

Between 2005 and 2010, 124 students graduated, with 82% finding employment after graduation in the private and the public sector: 33% in fish farms and aquaculture enterprises, 15% in environmental consulting agencies, and 13% in fisheries and environment. A high percentage of the employment of graduates is in Aquaculture private sector and fisheries. According to the opinion of the EEC, by changing the title of the department, there is a danger of reducing the employability of graduates in main fields of successful employment, namely private industry in aquaculture and related fields. The EEC proposes a more focused title, such as:

**“Applied Aquatic Sciences: Aquaculture, Fisheries, Environment”.**

It should be noted that during the discussion with the students, although they supported the choice of the department’s new title they felt that the new <curriculum did not reflect accurately the new title. They also underlined the addition of what they believe to be irrelevant courses.

- ***If not, why is it so? How is this problem dealt with?***

N/A

- ***Does the Department understand why and how it achieved or failed to achieve these results?***

The problem of low student success rates in the courses is not being adequately addressed.

**IMPROVEMENT**

- ***Does the Department know how the Curriculum should be improved?***

The Department considers that the change in the Curriculum is an improvement in order to attract more students. However, the EEC considers that the Curriculum should be based on the employability and the market needs. In this case, it is clear that the focus should be on private sector employability in Aquaculture and associated fields. Therefore, as mentioned above, the curriculum should be better aligned with industry needs.

- ***Which improvements does the Department plan to introduce?***

The Department is monitoring its successes and failures and obtains valuable feedback through the regular implementation of Internal and External Evaluation Procedures and other sources.

## ***B. Teaching***

### **APPROACH:**

#### ***Does the Department have a defined pedagogic policy with regard to teaching approach and methodology?***

The course outlines are clear and complete, with information on the number of teaching hours by type (lectures, laboratory, etc.), the semester, the course type (mandatory or elective), course requirements, course aims, course description, and selected bibliography. However, learning competences are missing.

A system of prerequisites exists for some courses.

Please comment on :

- ***Teaching methods used***

Teaching of most subjects is usually done via lecturing, and laboratory sessions. The EEC noted that practical training in the relevant industry (e.g. commercial aquaculture enterprises) is very limited (once in the final year), due to Higher Technical Education Council guidelines.

Power point presentations are used in lectures. Lecture notes are provided to the students. Laboratory classes consist of a maximum of 15 students.

- ***Teaching staff/ student ratio***

The number of students registered in academic year 2010-2011 is 387. Based on the number of tenured and part-time faculty members, this gives a ratio of 1:11.4. However, the actual number of active students is considerably lower.

- ***Teacher/student collaboration***

Teacher/student collaboration could not be evaluated by the EEC.

- ***Adequacy of means and resources***

The library is lacking key periodical/professional publications, namely: Fish Farming International, Fishing News, Aquatic Living Resources, Seafood International, Global Fish (FAO), World Aquaculture Society Magazine and The European Aquaculture Society magazine. The EEC underlines the fact that insufficient funding is available for subscriptions to electronic or paper copy journals. However, there are many journals that are available free of charge (<http://free-scientific-journals.blogspot.com/2008/11/list-of-online-and-free-access-journals.html>) .

As mentioned above, laboratory, class room and storage space are insufficient.

There is insufficient funding for consumables for laboratory classes.

- ***Use of information technologies***

The advantageous use of a learning management system such as Blackboard (e.g. for electronic distribution of notes) exists.

Technical problems prohibit the full use of access to the internet and the utilization of e-technology.

- ***Examination system***

Multiple methods of assessing students in intermediate evaluations include written tests, projects, seminars, exercises, observations collections and artistic collection. Students are required to attend at least 80% of laboratory exercises. A two week evaluation period follows each semester. Students that fail can retake exams the following semester. After three failures, students may appeal for re-examination. However, the EEC recommends greater transparency and consistency in the grading of all students.

## **IMPLEMENTATION**

Please comment on:

- ***Quality of teaching procedures***

Based on the experience of the teaching staff, the teaching methods seem mostly appropriate,.

- ***Quality and adequacy of teaching materials and resources.***

As mentioned above, laboratory, laboratory consumables, class room, library and storage space require improvement.

- ***Quality of course material. Is it brought up to date?***

Class notes are continuously updated and provided to the students as study materials. Good collections of fish and molluscs are available for laboratory studies.

- ***Linking of research with teaching***

Most of the equipment is used for teaching and research. Thesis research is integrated in research projects and makes use of project resources.

- ***Mobility of academic staff and students***

There is limited Erasmus mobility of both students and teachers, with only 5 bilateral agreements with other educational institutions. In the past 5 years 10 students undertook Erasmus mobility exchanges, while 5 students were received, and 4 Professors undertook Erasmus mobility exchanges. The EEC believes that the Department would benefit from stronger participation in mobility programmes.

- ***Evaluation by the students of (a) the teaching and (b) the course content and study material/resources***

A comprehensive questionnaire (64 questions) was used in the evaluation of teaching by the students. Evaluations of teaching involved 75% of the students. Some 72% of the students felt that the course contents, presentation and organization was very good or satisfactory. 73% thought that of the knowledge of the teachers was adequate for the lectures was very good or satisfactory. For the laboratories, 68% of the students found the knowledge of the teacher very good or satisfactory. The general opinion was confirmed by the students in discussions with the EEC. However, detailed analysis of the results of the student questionnaires was not available.

## **RESULTS**

Please comment on:

- ***Efficacy of teaching.***

The low success rate of the students in some courses, combined with the time required to graduate, and the decreasing trend in GPA is indicative of low efficacy in teaching and a problem of recruitment of students with an adequate background in mathematics, biology, chemistry and physics.

- ***Discrepancies in the success/failure percentage between courses and how they are justified.***

Success rates range from approximately 23% to 100% for individual courses, with an overall success rate of 57% for the 2009-2010 academic year, while for 2008-2009, the success rate was 64%. According to the staff, this improvement could be related to the new curriculum. According to the faculty, the low success rates can be largely attributed to the lack of adequate background/preparation of the entering students in subjects such as chemistry and mathematics.

- ***Differences between students in (a) the time to graduation, and (b) final degree grades.***

Time to graduation has increased from an average of 6.5 to 7.5 from 2008-2009 to 2009-2010, while GPA dropped from approximately 7.3 to 6.2 over the past 5 years.

- ***Whether the Department understands the reasons of such positive or negative results?***

The Department recognizes that the trends are common to other departments and are related to the drop of the minimum threshold of 10 for entrance to higher educational institutions, along with entrance of students with poor backgrounds in science and mathematics. With the reinstatement of the threshold, there is the expectation of improvement of student performance and decrease of the number of years to graduation.

## IMPROVEMENT

- ***Does the Department propose methods and ways for improvement?***

Yes, the Department believes that the new curriculum fits the scope of the Department better. The Department has already taken initiatives to improve facilities and to build new space in a field that was given by the municipality of Nea Moudania next to the existing building; all plans and building permits have been approved, but will expire in 2011.

The Department also proposes increasing its educational offer up to the PhD degree. However, the EEC considers that the actual situations of the Aquaculture and Fisheries sectors in Greece cannot absorb post-graduate or PhD graduates. Instead, the rapid development of the Aquaculture sector and the leader position of Greece, justifies BSc level graduates.

The EEC disagrees with new Curriculum, as mentioned above, but fully agrees with the necessity of extension and improvement of the installations, which are required for academic, research and safety purposes. Funding for the new facilities should be a priority of the authorities. The latter should be considered under the general framework foreseen for the restructuring of national academic institutions.

- ***What initiatives does it take in this direction?***

As mentioned above, the Department has undertaken a restructuring of the Curriculum, proposed a change in name, and taken initiatives to increase and improve installations.

The EEC proposes greater involvement of the sector in the teaching and training, with reciprocal collaboration of faculty and all stakeholders of the aquaculture sector, including the professional organizations.



## **C. Research**

*For each particular matter, please distinguish between under- and post-graduate level, if necessary.*

### **APPROACH**

- ***What is the Department's policy and main objective in research?***

It is difficult to identify a clear Department research policy. According to the Department Internal Review Report, the research policy is defined primarily by the research interests of the faculty, within the framework of the three main fields of the department: surface waters, fisheries and aquaculture and biotechnological applications. Research focuses on: water quality and environmental monitoring, fisheries biology and population dynamics, marine ecology, biotoxin analysis and fish/shell safety and aquaculture.

- ***Has the Department set internal standards for assessing research?***

There are no internal standards for assessing research.

### **IMPLEMENTATION**

- ***How does the Department promote and support research?***

Although internal standards are not clearly identified, the EEC's understanding is that the research record of a faculty member is a decisive factor for tenure and promotion considerations.

- ***Quality and adequacy of research infrastructure and support.***

There is a good background in terms of human resources and equipment. Nevertheless, due to the lack of space and time, research potential cannot be developed adequately. In particular, the EEC identified a lack of laboratories and research space for aquaculture research.

- ***Scientific publications.***

For 2003-2009, the full time faculty published 47 peer reviews, SCI publications and 89 peer reviewed conference proceedings, while the part-time faculty members published 45 papers and 86 peer reviewed conference proceedings. Given the available research facilities and the amount of time devoted to teaching and administrative tasks, the publication levels of the faculty members are quite satisfactory.

- ***Research projects.***

The faculty is actively involved in submitting proposals for obtaining competitive research projects and funds.

- ***Research collaborations.***

The faculty members are collaborating with other institutions, both national and

international, in research projects.

## RESULTS

- ***How successfully were the Department's research objectives implemented?***

The EEC cannot judge this point since there are no explicit Department research objectives.

- ***Scientific publications.***

The publication and citation records of the faculty members are quite good. For 2003-2009, the full time faculty published 47 peer reviewed, SCI publications and 89 peer reviewed conference proceedings, while the part-time faculty members published 45 papers and 86 peer reviewed conference proceedings.

- ***Research projects.***

There is a lack of participation in European Framework projects and Networks. The permanent faculty members are currently involved in 11 ongoing research projects that are mainly national.

- ***Research collaborations.***

Research collaborations are mainly with other national partners, but also include international partnerships with scientists from countries such as Israel, Spain, Sweden, and others.

- ***Efficacy of research work. Applied results. Patents etc.***

No patents were awarded to faculty members. Since the links to industry are limited, there does not seem to be much effective applied research.

- ***Is the Department's research acknowledged and visible outside the Department? Rewards and awards.***

The Faculty members publish in specialized scientific journal, and their publications are cited. The faculty members and the students attend national and international scientific symposia, where their research is presented both orally and in posters, and published in symposia proceedings. Five intra-departmental awards were reported.

## IMPROVEMENT

- ***Improvements in research proposed by the Department, if necessary.***

The Department would like to improve its research capabilities. A key issue is the lack of space and infrastructure for research. Furthermore, the Department believes that by being allowed to offer PhDs, the research potential and capability will be enhanced. However, the EEC feels that given the current setup, future possibilities and needs of the industry, emphasis should be given to closer dialogue and collaboration with other stakeholders. The EEC recommends the development of a clear research policy and a

identification and definition of proper objectives.

- ***Initiatives in this direction undertaken by the Department.***

The Department has proposed a change in name, and has modified the curriculum, broadening the research horizon. The Department also has undertaken initiatives to increase space and infrastructure by building a new wing next to the existing building, on land given by the municipality.

The EEC fully agrees with the necessity of extension and improvement of the installations, which are required for academic, research and safety purposes. Funding for the new facilities should be a priority of the authorities. The latter should be considered under the general framework foreseen for the restructuring of national academic institutions.

However, in the opinion of the EEC, by changing the title and the curriculum of the department, there is a danger of reducing the employability of graduates in main fields of successful employment, namely private industry in aquaculture and related fields.

## **D. All Other Services**

*For each particular matter, please distinguish between under- and post-graduate level, if necessary.*

### **APPROACH**

- ***How does the Department view the various services provided to the members of the academic community (teaching staff, students).***

There is no technical staff for helping with maintenance of the laboratories and the equipment.

There is a lack of some services for the students, such as photocopying and printing facilities.

Internet access is inconsistent and slow.

There is a lack of space for stocking scientific material, technical and administrative materials, and no conference room or meeting rooms.

Insufficient office space for the permanent faculty members and no office space for the part-time faculty members.

Concerning student care services, there are no dormitories and no on campus sport facilities.

Secretarial staff is very competent and helpful, providing support to new students, including assistance with housing.

- ***Does the Department have a policy to simplify administrative procedures? Are most procedures processed electronically?***

The Department web site is informative and provides operational support to the students (certifications, etc.).

The registration system (PITHIA) is inadequate in terms of speed and capacity, and is available to the students for short periods of time during registration, which creates problems.

The EEC recommends the development of video conference capability, to facilitate collaboration with researchers and remote teaching.

- ***Does the Department have a policy to increase student presence on Campus?***

No information is available. However, it should be noted that due to the lack of classrooms, teaching often takes place throughout the day until 21:00. Given that approximately half the students live in Thessaloniki, this creates some logistic problems.

### **IMPLEMENTATION**

- ***Organization and infrastructure of the Department's administration (e.g. secretariat of the Department).***

The Department's administration is well organized and supported by a effective and competent secretarial staff.

- ***Form and function of academic services and infrastructure for students (e.g. library, PCs and free internet access, student counseling, athletic-cultural activity etc.).***

The library has limited resources in terms of subscriptions, book collections and consumables (print cartridges).

Online access to journals needs to be improved.

There are no student counseling services available.

There is no on site athletic facilities, although the Department has arrangements with municipality to provide access to sports facilities.

The students have access to meals in dining facilities located in town.

#### **RESULTS**

- ***Are administrative and other services adequate and functional?***

There is a lack of technical staff.

Due to a lack of space, storage and infrastructure, some services are limited.

Administrative staff is competent, efficient and helpful.

- ***How does the Department view the particular results.***

The Department is aware of the limitations in term of services provided to the students and staff, but recognizes the funding challenges, and do their best to maintain reasonable levels of activities.

#### **IMPROVEMENTS**

- ***Has the Department identified ways and methods to improve the services provided?***

The Department is doing its best, given the current restrictions. However, some solutions are clearly unsatisfactory, and require alternatives.

- ***Initiatives undertaken in this direction.***

Continuous efforts are being made to improve infrastructure and facilities.

#### **Collaboration with social, cultural and production organizations**

Please, comment on quality, originality and significance of the Department's initiatives.

The EEC underlines the importance of the location of the Department, where it plays

an important role in the social life in the small town of Nea Moudania.

The EEC highlights the fact that dialogue and collaboration with the professional sector and all the stakeholders is fundamental for the future development of the Department, and for the final product, which is the employability of the students. Additionally, it was brought to the attention of the EEC that the Department is facing difficulties in placing its students for practical training and/or research due to the unwillingness of the industry to accommodate them.

The EEC recommends the Department hold “open-house” functions during which the stakeholders, the general public and high school students witness the department’s activities.

The department has undertaken an effort to advertise its undergraduate program in high-schools in an attempt to attract students. This effort must be maintained and intensified

### ***E. Strategic Planning, Perspectives for Improvement and Dealing with Potential Inhibiting Factors***

*For each particular matter, please distinguish between under- and post-graduate level, if necessary.*

Please, comment on the Department's:

- ***Potential inhibiting factors at State, Institutional and Departmental level, and proposals on ways to overcome them.***

The EEC considers the following to be the major inhibiting factors:

- Lack of interaction with the industry stakeholders
- Lack of a clear strategic plan and implementation of goals
- The Department does not have a clear research policy
- Excessive dependence on the Ministry of Education
- Delays in the procedures of hiring and promoting on the part of the Ministry of Education
- Lack of technical staff
- Low mobility of academic staff and students
- Need for more laboratory spaces (e.g. wet lab and aquaculture labs)
- Insufficient funding from the regular budget
- Low preference among high school graduates
- Low scores obtained by the majority of under-graduate students entering the Department

Another inhibiting factor is the selection process of entering students, resulting in prolonged time to complete the course and the lowering of the teaching and research effectiveness of the Department. Students with more suitable educational backgrounds should be admitted (e.g. students who have had chemistry in high school).

According to the Department, the inhibiting factors at the Institutional level are the lack of professors, particularly for the specialized courses of the new syllabus. Also, some technicians and an appropriate budget are required for the functioning of the equipment for research and didactic activities.

- ***Short-, medium- and long-term goals.***

Short-term goals:

- Improve PITHIA performance
- Improve the implementation of the new curriculum
- Complete the process of recognition of the new name
- Initiate MSc and PhD programmes

The EEC agrees only with the first short-term goal, for the reasons mentioned above.

In addition the EEC recommends the initiation of contacts and constructive dialogue with industry stakeholders.

Medium-term goals:

- Improvement of space and infrastructure
- Improve strategic planning
- Improve mobility of faculty and students
- Increase the number of permanent faculty members
- Hiring of new staff and promoting existing faculty members
- Development of new methodologies of e-learning

The EEC is in full support of all the medium-term goals. In addition, the EEC recommends as a goal that the Department expand the scale of collaboration with industry stakeholders, specifically with regards to practical training of undergraduate students. The Department should also develop a focused research plan.

There are no long-term goals proposed by the Department. In the long-term, the Department should enhance its status and visibility as a leader in aquaculture education and research at the international level.

• ***Plan and actions for improvement by the Department/Academic Unit***

There is no concrete plan of action proposed by the Department.



## ***F. Final Conclusions and recommendations of the EEC***

*For each particular matter, please distinguish between under- and post-graduate level, if necessary.*

### ***Conclusions and recommendations of the EEC on:***

- the development of the Department to this date and its present situation, including explicit comments on good practices and weaknesses identified through the External Evaluation process and recommendations for improvement
- the Department's readiness and capability to change/improve
- the Department's quality assurance.

### ***The main positive aspects identified are:***

- the Committee underlines the importance of the location of this Department in this area of Greece, where there is the most important fishing port in northern Greece, aquaculture (fish and bivalves), and important and diversified aquatic ecosystems. The Department provides teaching, expertise, research and training in an area of strategic economic importance for Greece;
- in general, the staff, the equipment, the teaching methods, the communication between teachers and students, and the catering services are of high quality;
- the social dimension of the Department and its interactions with local communities is very important;
- the evaluation of the students during the interview was very positive in all aspects
- the faculty members are productive, with a good numbers of publications and presentations of their research;
- the students are motivated and engaged in their studies and the program in general;
- the employment rate of the graduates is high and mainly in aquaculture, fisheries and related areas;
- the students are united in the pursuit of their goals.

### ***The main weaknesses identified are:***

- the effect of the reduction in the number of students in recent years and the lowering of their educational background at entrance, is still evident;
- the time to graduation has been increasing, while the Grade Point Average (GPA) has been declining;
- there is a heavy dependence on part-time faculty members;
- the fiscal regulations inhibit the good functioning of the Department;
- the lack of collaboration with the industry at a local and international level;
- the lack of a clear strategic plan, implementation of goals and of a clear research policy
- an excessive dependence on the Ministry of Education, and lack of funding for research;
- delays in the procedures of hiring and promoting on the part of the Ministry of Education
- lack of technical staff and adequate laboratory spaces (e.g. wet lab and aquaculture labs)

- low mobility of academic staff and students
- low preference among high school graduates and low scores obtained by the majority of under-graduate students entering the Department

***The EEC recommends:***

**General recommendations:**

- A. to identify the most important stakeholders and engage them in constructive dialogue;
- B. to formulate a long-term vision for the Department and a strategic plan;
- C. to define the long-term, medium-term and short-term objectives and develop the road map to achieve them, while involving the key stakeholders;
- D. to develop a clear research policy and research objectives;
- E. to adopt a more focused Departmental title, such as “**Applied Aquatic Sciences: Aquaculture, Fisheries, Environment**”;
- F. to ensure that staff and policy makers are fully aware, supportive and involved in the implementation of the strategic plan;
- G. to improve the visibility and the promotion of the Department and of the degree through appropriate methods;

**Curriculum related recommendations:**

- H. to align the curriculum to the strategic plan, including more practical experiences, and meaningful interaction with the sector;
- I. to enhance the curriculum through introduction of experiential learning;
- J. to reduce the redundancy between chemistry courses;

**Teaching related recommendations:**

- K. to establish a digital archive and the systematic use of Blackboard, as well as the improvement of internet access;
- L. to improve online access to journals;
- M. to develop video conference capability, to facilitate collaboration with researchers and remote teaching;
- N. to improve transparency and consistency in the grading of all students;
- O. to make every effort to increase stakeholder participation in teaching (e.g. invited seminars);
- P. to improve student and faculty mobility;

**Research and service related recommendations:**

- Q. to increase international research collaboration;
- R. to improve the participation in applications for international project funding, taking into account the limited access to the national funds;
- S. to make every effort to secure funding for infrastructure improvement through the ministry and the private sector;
- T. to make every effort to increase the critical mass of the research capabilities through the addition of compatible department at the same location

The Members of the Committee

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