



ΕΛΛΗΝΙΚΗ ΔΗΜΟΚΡΑΤΙΑ

HELLENIC REPUBLIC

**Α.ΔΙ.Π.**

**H.Q.A.**

ΑΡΧΗ ΔΙΑΣΦΑΛΙΣΗΣ & ΠΙΣΤΟΠΟΙΗΣΗΣ  
ΤΗΣ ΠΟΙΟΤΗΤΑΣ ΣΤΗΝ ΑΝΩΤΑΤΗ ΕΚΠΑΙΔΕΥΣΗ

HELLENIC QUALITY ASSURANCE  
AND ACCREDITATION AGENCY

## EXTERNAL EVALUATION REPORT

DEPARTMENT OF MEDICAL LABORATORIES

TECHNOLOGICAL EDUCATION INSTITUTE OF LARISSA



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### **External Evaluation Committee**

The Committee responsible for the External Evaluation of the Department of Medical Laboratories of the Technological Educational Institute of Larissa consisted of the following four (4) expert evaluators drawn from the Registry constituted by the HQA in accordance with Law 3374/2005

1. Prof. Dr. Panagiotis Karanis (coordinator)  
University of Cologne, Germany
2. Prof. Dr. Nikolaos Venizelos  
University of Örebro, Sweden
3. Dr. Thomais Kakouli-Duarte  
Institute of Technology Carlow, Ireland
4. Evangelos Papafrangas, MD, PhD  
Former Director of the Department of Clinical Microbiology Sismanoglion General Hospital of Athens, Former President of the Hellenic Society for Microbiology, Greece

**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.

The External Evaluation Procedure (EEP) constituted by relevant site visits (Monday 25 June 2012 to Wednesday 27 June 2012) and by drafting of the associated External Evaluation Report (EER; Thursday 28 June 2012 to Saturday 30 June 2012). The External Evaluation Committee (EEC) visited the TEI in Larissa from Monday 25 June until Wednesday 27 June.

The Department was established in 1983. According to Law 2916/2001, all TEI departments are part of the official Greek tertiary education system. The TEI campus is situated in the suburb of Larissa near the Medical School of the University of Thessaly and the University General Hospital. Public transport by bus is available. During the visiting days the EEC had the opportunity to meet teaching staff and students, to inspect the departmental and campus facilities of TEI, and to visit the TEI teaching affiliated hospitals as the University General Hospital and the Public General Hospital of Larissa. Subsequently, the EEC met on Thursday 28 June 2012, at the designated meeting room at the Divani Acropolis Palace Hotel, with the staff of HQA for a short update and confirmation of the goals and expectations of the EEP. The evaluation process was discussed by the EEC members and the HQA officers.

- Whom did the Committee meet?

HQA:

- Prof. Kleomenis Oikonomou
- Ms. Ioanna Leraki

TEI Larissa:

- The Head of School of Health and Welfare Professions (SEYP) Prof. Kotrotsiou
- The Head of Department of Medical Laboratories, Assoc. Prof. Agelos Papaioannou
- All full time academic staff, several members of part time academic staff, technical and support staff
- Three student representatives from various semesters of the course

- Library staff
- Administrative staff from the Enterprise and Innovation Unit

#### University General Hospital

- The director of the Clinical Microbiology hospital laboratory unit
- Students on clinical practical training obtaining their work experience at the hospital
- Technical staff of the hospital laboratory units
- Lecturers of the Department supervising students on hospital placements

#### Public General Hospital of Larissa

- The director of the Hematology Laboratory

- List of reports, documents, other data examined by the Committee

- Guidelines for the Members of the EEC
- The Department Internal Evaluation Report (IER, 2012)
- Curriculum and course information (2007)
- The Department Study Guide (2012), including a range of administrative policy and procedures documents and various forms
- A selection of student final year degree projects (theses)
- A range of course text books, including those written and edited by academic staff members
- An examination paper in virology of the 4<sup>th</sup> semester

- Groups of teaching and administrative staff and students interviewed

#### TEI Larissa

- Academic staff (all full time staff and some part time staff)
- Administrative and support staff (library staff and technical staff)
- Three student representatives from various semesters

#### University General Hospital

- The Head of the Clinical Microbiology Laboratory Prof. Petinaki
- A member of the technical staff of the Immunology Laboratory
- Two students on the clinical practical training placements

- Facilities visited by the External Evaluation Committee.

The facilities inspected are detailed below:

#### Teaching

- Various classrooms
- Various laboratories
- The TEI library
- Staff offices

#### Research

- The virology research laboratory (demonstration lab)

Public General Hospital

- Admissions
- Heamatology

## II. The Internal Evaluation Procedure

Please comment on:

- Appropriateness of sources and documentation used

The EEC found that the sources and documentation provided were appropriate. These were the IER and the various teaching texts and materials, student information supplements and administrative documents and forms.

- Quality and completeness of evidence reviewed and provided

The evidence reviewed and provided was appropriate.

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

The EEC felt that the objectives of the internal evaluation process have been met at a satisfactory level by the Department.

## **A. Curriculum**

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

### APPROACH

- What are the goals and objectives of the Curriculum?

The goals and the objectives of the Curriculum are in agreement with those of the Department and appear to be in agreement with the associated Presidential Directive. The Department plans to update the Curriculum in accordance to legislative framework 4009, FEK195, 6-9-2011.

- What is the plan for achieving them?

The Department

- Upgraded the curriculum in 2007
- Recruits new qualified teaching staff
- Updates the teaching material, teaching texts and teaching tools

In addition

- Practical attendance is mandatory. Practical exercises coincide and keep up with theory teaching content via collaboration between academic and technical staff
- There is a six month clinical practical training in a collaborating organisations (e.g. hospitals)
- There is a final semester degree project based on a practical topic or/and a literature review
- Academic staff are encouraged to present at conferences and submit papers for publication with student participation

- How were the objectives decided?

The academic staff are involved in formulating departmental policy and the final programme objectives. However, the EEC noted a certain lack of consensus among the permanent academic staff in relation to academic matters.

- Which factors were taken into account?

These objectives were decided according to Law 1404/83 on the Professional Rights of the Department Graduates, the Ministry of Health, market needs, international standards and trends, and the internal policies and procedures of TEI of Larissa.

- Were they set against appropriate standards?

According to the IER (p 25) there is no evidence to comment on this.

- Did the unit consult other stakeholders?

According to the IER (p 24) the Department has partially consulted with stakeholders for this purpose. The IER does not contain clear reference to the participation of social stakeholders in the design of the programme.

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

➤ Upon completion of their studies the graduates of the Department are equipped with the necessary qualifications to enable them to work in all professions of the subject range of the Department.

➤ The continuous link with hospitals contributes towards gaining experience in relation to the teaching and training process manifested by the programme review in 2007. The Department also participates in EU/international programmes (e.g. ESPA, ERASMUS).

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

The curriculum was decided after consultation among academics.

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

There is no clear procedure for curriculum revision, however there is a clear indication that the Department intends to revise the curriculum.

#### IMPLEMENTATION

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

The curriculum corresponds to the departmental goals.

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

The curriculum is comparable with curricula of respective international programmes of study with which the EEC is familiar. This is also reaffirmed by the fact that some Department graduates have been accepted for postgraduate studies in highly reputable European institutions.

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

Yes, the curriculum is rational and clearly articulated. This is particularly reflected in the succession between the prerequisites and dependent courses.

- Is the curriculum coherent and functional?

Based on the above observations, the EEC finds the curriculum coherent and functional.

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

The material of each course is appropriate. Due to the large size of classes and the limited

infrastructure it is customary to divide teaching groups.

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

The Department has adequate resources. By international standards it seems to be that the permanent and the part time academic staff are well qualified in various disciplines, including biochemists, medical doctors and biologists. The EEC finds this to be a good basis for the development of further postgraduate education.

## RESULTS

- How well is the implementation achieving the Department's predefined goals and objectives?
  - The EEC recognise the enormous efforts of the teaching staff to fulfil the predefined goals and objectives of the programme in the current conditions.
  - Graduates are qualified to work as professional practitioners in Greece and in other European countries, as the programme is at EQF Level 6 ([http://ec.europa.eu/education/lifelong-learning-policy/doc44\\_en.htm](http://ec.europa.eu/education/lifelong-learning-policy/doc44_en.htm)). In addition, graduates are equipped to undertake postgraduate studies.
- Does the Department understand why and how it achieved or failed to achieve these results?

Yes, the department understands why and how it achieved or failed to achieve these results by monitoring the distribution of graduates in the job market (e.g. in hospitals and private practices) and their level of entry into postgraduate programmes of national and international universities. In addition, they periodically consult with staff of public and private medical laboratories. The Department periodically surveys the views of past graduates working in medical laboratories with the aim to improve the curriculum and enrich it with topics to be included in lifelong learning programs. Finally, it was noted by the teaching staff that they are aware that the diverse educational background of first year students is an inhibiting factor in achieving the goals of the curriculum.

## IMPROVEMENT

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

Yes, the Department staff are fully aware of the needs for improvement and how to achieve this. The current curriculum is relatively new and it is the by-product of internal evaluations and consultations with academic staff. The EEC noted obvious conflicts in industrial relations among certain academic staff members and this should be resolved. Resolution will terminate this counterproductive environment and will improve the delivery of the curriculum.

- Which improvements does the Department plan to introduce?

There are continuous efforts to cover any identified knowledge gaps in the curriculum.

## ***B. Teaching***

### APPROACH:

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

The EEC could not identify a defined and specific pedagogic policy or framework with regards to the teaching approach and methodology in the TEI Larissa. The EEC recommend the introduction of pedagogical models compatible to the Bologna requirements.

Please comment on :

- Teaching methods used
  - Classical cathedral teaching method is mostly used
  - Seminars
  - Presentations
  - Practical sessions

- Teaching staff/ student ratio

1/34 (8/274) – the figures used include permanent teaching staff while the student number is the one representing students entering in the academic year 2011-2012. The EEC found this not to be a good ratio for effective teaching. On the other hand, there is an excessive number of non-permanent teaching staff (59).

- Teacher/student collaboration

Based on staff and student interviews by the EEC, it became evident that there is an apparent division of views regarding collaboration of students with the teaching staff. There appear to be certain academic staff members that students perceive as cooperative. At the same time there is another group of academic staff members that students find non cooperative. This phenomenon of lack of cooperation with students was also reported by some academics, mostly due to the diverse educational background of the incoming students. The diversity of students' background is an inhibiting factor for staff/student cooperation.

- Adequacy of means and resources

- Students are taught by well qualified teachers.
- The facilities are adequate according to international standard with basic equipment.
- The library is well equipped with a plethora of text books and online access of electronic databases (e.g. Science Direct, Heal Link, Web of Knowledge, Springer, Elsevier, etc.). In addition, on entry each student receives a library information pack updating them on library facilities and guiding them appropriately on referencing systems. The EEC recommend that particular emphasis should be given to train students to avoid plagiarism. The library facilities and services provided were found to be of an excellent standard. This is especially realized by the presence of committed and enthusiastic librarians.

- Use of information technologies
  - Students have readily available internet access
  - The major part of communication of students with academics happens via email
  - Use of Power Point presentations
  - Various library resources
- Examination system
  - Most modules (even the theoretical ones) involve submission of assignments or exercise applications.
  - Written exams at the end of each semester for theory and laboratory subjects
  - Obligatory written examinations and continuous assessment in laboratory subjects
  - Submission and assessment of laboratory work books
  - The EEC feels that the students are over assessed under these practices
  - The BSc diploma thesis examination is carried out by a three member committee with relevant expertise. The committee members read the thesis, attend the relevant presentation, and assign a final mark.

The EEC had the opportunity to look at copies of dissertations. The existence of assessment criteria does not reflect the quality of the dissertations. This is an issue that staff members need to rethink and improve. Sample dissertations reviewed by the EEC members lacked critical analysis and were found to be inadequate of Level 6 standard.

Assessments and exams create a significant workload to the faculty staff and at times it seems unmanageable. This is an area that requires more effective management and additional personnel must be involved with it.

## IMPLEMENTATION

Please comment on:

- Quality of teaching procedures

There are a large number of cathedral lectures, which might not be helpful to enhance the lifelong learning skills and abilities of the students. On the other hand, the implementation of seminars, presentations and laboratory exercises constitutes a good quality approach to develop the learners' strengths. The EEC feels that, overall, students are satisfied with the teaching procedures.

- Quality and adequacy of teaching materials and resources.

The EEC visited the library of the Technological Educational Institute of Larissa and found the resources to be excellent, with electronic access to a large number of journals. The above have been found to be adequate and of excellent quality. The EU DOXOS system is available to the students, as it facilitates the process of obtaining books more quickly and gives them the opportunity to select their preferred titles. Software for detecting plagiarism is missing. Concerning teaching facilities, all the teaching rooms were equipped with projectors for using Power Point presentations or other visual teaching efficiency material. The laboratories for practical classes were found to be old but functional. Vital consumables for practical classes were missing in some cases.

- Quality of course material. Is it brought up to date?  
The curriculum has last been updated in 2007 and the relevant text books could be improved further. Some laboratory instruments were up-to-date.
- Linking of research with teaching  
It is not excluded that there is a linkage between research and teaching, and there is some output in the form of original papers.
- Mobility of academic staff and students  
There is no strategic planning in the Department in relation to staff mobility (pp. IER 40). However, there is minimum provision under the ERASMUS framework of TEI Larissa in cooperation with French institutions for the mobility of students from the Department. This has received full recognition by the Department.
- Evaluation by the students of (a) the teaching and (b) the course content and study material/resources
  - The academic staff are regularly surveying student opinions with relevant questionnaires.
  - During their meeting with the three student class representatives EEC received a divided view as to the efficiency of the academic staff in their teaching duties. According to the students, a number of the teaching staff members are experienced and cooperative, while another part of the academic staff members behave differently.

## RESULTS

Please comment on:

- Efficacy of teaching.

From the text books provided and interviews with staff and student class representatives it was evident that the teaching is efficient. The EEC concluded that academic staff are effective teachers in theory and practice. This was documented in the evaluative surveys of courses and staff.

- The graduates upon their exit are well prepared to commence professional practice in their field of learning. This was also confirmed by the hospital staff met by the EEC.
- Discrepancies in the success/failure percentage between courses and how they are justified.  
There are discrepancies in the success rates between subjects. After consultation with the academic staff, the EEC felt that the discrepancies were due to (1) large student numbers and (2) diverse student educational background on entry to the Programme of study. Other reasons may be: (1) poor theory class attendance, (2) students' work for financial support, (3) the current economic crisis in the country.
- Differences between students in (a) the time to graduation, and (b) final degree grades.
  - Completion time should be a minimum of 4 years. According to the Department Identification Document approximately 40% of students complete their studies in time. The rest of the students are graduating within a period of up to five years after the normal study time (IER, Appendix, Table 11-6.2). The reasons for these delays seem to be directly linked with the factors detailed above.

- The majority of final degree grades were distributed in the ranges of 6.0-6.9, followed by the ranges of 7.0-8.4, 8.5-10.0 and 5.0-5.9 (IER, Appendix, Table 11-6.1). This was observed for the years 2006 to 2010.

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

Yes. The Department understands the reasons of variable results. The current legislation allows students to remain registered at all higher education institutions (e.g. TEI and Universities) beyond the minimum required time of study.

#### IMPROVEMENT

- Does the Department propose methods and ways for improvement?

Yes. The academic staff strive to uphold the current teaching standard. This will provide students with greater flexibility in their learning and could improve student participation in theory learning.

- What initiatives does it take in this direction?

- Internal Evaluation Report
- Institutional Review
- Student evaluation questionnaires of staff and subjects
- Organising relevant workshops
- Cooperation with European Higher Education institutions
- Promotion of the ERASMUS programme to staff and students
- Teacher mobility and exchange

## 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?
  - The department staff are involved in research activities based on individual or collaborative efforts. The TEI is also recipient of external research funding and the Department members avail from this. This funding is originated from national and European sources.
  - The majority of research projects are applied in their nature. Very few projects are on basic research.
  - Between 2007 and 2011 the academic staff have contributed 18 monographs, 24 peer reviewed papers in national and international journals, 5 non peer reviewed papers and 53 conference proceedings. The EEC would like to recognise the individual staff efforts to pursue research in medical technology and health related areas.
  - The Department has received two awards for research outcomes
  
- Has the Department set internal standards for assessing research?
 

There is no evidence for the existence of internal standards for assessing research performance.

### IMPLEMENTATION

- How does the Department promote and support research?
  - The Department has limited resources for research consumables.
  - There is direct update of the academic staff in relation to research funding opportunities, as they become available, via establishing collaborations with national and international research groups

There are possibilities for international employment opportunities and networking regarding students and graduates.

- Quality and adequacy of research infrastructure and support.
 

Research support is limited due to current lack of personnel and consumables' funding.
  
- Scientific publications.
 

Between 2007 and 2011 the academic staff have contributed 18 monographs, 24 peer reviewed papers in national and international journals, 5 non peer reviewed papers and 53 conference proceedings. The quantity of publications is partially adequate for the individual academic staff. The quality of part of these papers is comparable to those of other institutions nationally and abroad. There is an inconsistency in the publication output among academic staff members; this contradicts the statement of the department on research priority (IER, pp. 42).
  
- Research projects.
 

According to IER pp. 47-48 between 2004 and 2012, 26 research projects have been awarded and completed. Between 2009 and 2012 the Department has secured a total of 1,915,261 euro in research funding and it spends an average of 250,000 euro per annum in research projects. Despite the considerable number of projects and the

funding secured some projects were of low impact for shaping departmental policy; some of this funding has been awarded by Ministries in Greece, the European Commission, or other important national bodies. The EEC would have expected to see a more complete account of the effective use of the above mentioned funds.

- Research collaborations.

The Department has established research collaborations with the University of Patras and University of Thessaly, at national level, and with the University of Bensacon (France) and University of Sofia Medical Academy of Bulgaria, at international level. In addition, there are collaborations with local authorities, NGOs and with the Department of Nursing, under the postgraduate studies programme of SEYP of the TEI in Larissa. Finally, there is research collaboration with the University of Bensacon under the ERASMUS-SOCRATES programme.

## RESULTS

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

The Department has an established research group in the area of Health and Environment (IER, pp. 43). The aims of the group are to develop research activities in the areas of Biochemistry, Biotechnology and Quality Assurance. Despite the considerable funding secured the Department has achieved little and this is also acknowledged in the IER (pp. 43).

- Scientific publications.

The quantity of publications is partially adequate; these have been produced by part of the academic staff members. The quality of part of these papers is comparable to those of other institutions nationally and abroad.

- Research projects.

Between 2004 and 2012, 26 research projects have been awarded. The EEC feels that this is more than satisfactory performance in terms of research projects. However, the EEC would have expected to see a more complete account of the effective use of the above mentioned funds.

- Research collaborations.

The research collaborations established by the Department are limited and not substantial. However, there is an ascending tendency to develop further collaborations.

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

There is no evidence so far of any industrial applications or patents that arose from the departmental research activities, although, there is a scope to develop this aspect via a recently awarded ESPA project on the quality of rural medical laboratories nationwide.

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

The academic staff are presenting project results in conferences. The departmental presentations have been recognized twice with awards at national level. There are 344 citations of the departmental publications. The academic staff members have: participated in five conference organising committees, have participated in the editorial board of five scientific journals, have been invited in three guest presentations, have been reviewers in five scientific journals, and have reviewed contributions in five scientific congresses.

**IMPROVEMENT**

- Improvements in research proposed by the Department, if necessary.  
The EEC and the Department recognize the urgent need to develop a strategic research plan with short-, medium- and long-term goals.
- Initiatives in this direction undertaken by the Department.  
There has been a recently awarded a considerable research project, the funding of which will advance further the Department's research aims.

***D. All Other Services***

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

As "other services" are considered the following (IER pp. 58-61):

1. The administrative and technical services
2. Student welfare services
3. Career guidance
4. Exploitation of new technologies by the Department
5. Transparency and efficiency in infrastructure and equipment use
6. Transparency and efficiency of financial resources

**APPROACH**

- How does the Department view the various services provided to the members of the academic community (teaching staff, students).  
The views of the Department in relation to these services are partly satisfactory and are detailed in the IER (pp. 58-60). The main points are:
  - The Department is supported by the Career Guidance Office, the Work Placement Office, the Commercialization Office etc.
  - The Department Administrative Office provides moderate services due to lack of personnel and to the large number of students. Lately the situation has somewhat improved via the establishment of a "Student Registry".
  - There is no administrative support to the academic staff that have administrative duties (Head of Department, Stream Supervisors).
  - The Department is well supported by the information technology services of TEI; these services include the evaluation system of the non-permanent staff members, the system of the central secretariat, the student evaluation system etc.
  - There is good support and access of multimedia by the teaching staff
  - There is no student welfare to working students and to those who have not completed their studies in time
  - There are no scholarships provided to excelling students or to students in special categories
  - There is no support to foreign students
  - The infrastructures used by the department are found to be unsatisfactory (IER, pp. 60)
  - The new technologies are used by the academic staff at a satisfactory level (IER, pp. 60)

<ul style="list-style-type: none"> <li>• Does the Department have a policy to simplify administrative procedures? Are most procedures processed electronically? Yes. Many of the administrative procedures have been simplified recently and now include electronic processing but there is still room for continuous quality improvement.</li> <li>• Does the Department have a policy to increase student presence on Campus? The EEC cannot comment on this, due to lack of information.</li> </ul>
<p><b>IMPLEMENTATION</b></p> <ul style="list-style-type: none"> <li>• Organization and infrastructure of the Department's administration (e.g. secretariat of the Department). The Department considers the acquisition of additional administrative staff vital for the efficient operation of the secretariat.</li> <li>• Form and function of academic services and infrastructure for students (e.g. library, PCs and free internet access, student counseling, athletic- cultural activity etc.). <ul style="list-style-type: none"> <li>➤ The overall student support services are functioning at a satisfactory level with scope for improvement</li> <li>➤ According to the IER the facilities for extracurricular activities are satisfactory</li> </ul> </li> </ul>
<p><b>RESULTS</b></p> <ul style="list-style-type: none"> <li>• Are administrative and other services adequate and functional? According to IER (pp. 59) the administrative services are not adequate due to the large number of students and limited personnel. Other services are adequate and functional with some exceptions (IER, pp. 59-60).</li> <li>• How does the Department view the particular results? The Department considers these satisfactory.</li> </ul>
<p><b>IMPROVEMENTS</b></p> <ul style="list-style-type: none"> <li>• Has the Department identified ways and methods to improve the services provided? Yes. The Department elaborates on this in the IER and this was also articulated during meetings with the EEC. The administrative staff is making efforts to improve all the processes under the financial and law restrictions present.</li> <li>• Initiatives undertaken in this direction. <ul style="list-style-type: none"> <li>➤ The Department aim to improve the infrastructure in order to maintain safe and good working conditions. A new School (SEYP) building is under construction and it will be functional in three years.</li> <li>➤ The Department aim to acquire new equipment and facilities for laboratory work and teaching efficiency related to the new building planned.</li> <li>➤ In order to overcome current difficulties in teaching, due to large number of students, the Department utilises classrooms with large capacity.</li> <li>➤ The academic staff is willing to organise workshops in the greater area of Larissa, where undergraduates will present their project work and external experts, e.g. from the University of Thessaly, the affiliated hospitals or other educational and industry organisations, will be invited.</li> </ul> </li> </ul>

### **Collaboration with social, cultural and production (SCP) organizations**

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

The Department of Medical Laboratories maintains close links with governance at local and prefectural level, specifically with local municipalities, the General Secretariat of Thessaly etc. Similar links have been established with the University Hospital, the General Prefectural Hospital of Larissa, the Centre of Technological Research of Thessaly, the Public Water and Sewage Service of Larissa, the Veterinary Service of Larissa, the Larissa Prefecture, the Municipality of Larissa, the Prefectural Committee of Public Education of Larissa etc.

These collaborations are a significant factor for the successful integration of the Department in the local community. At the same time they offer opportunities for student work practice as well as sources for final year dissertation projects, employment, studies etc.

The Department does not possess accredited laboratories for research and service provision due to inhibiting legislation. However, all infrastructure of the Department (apart from those dedicated to its basic function) are available for the realisation of research programmes and collaborations with local SCPs. The academic staff are recognised scientists at national and international levels, as manifested by their track record (publications, conference presentations and their research projects and collaborations).

The Department participates in SCP events for information purposes, and it is involved in congress organisation activities. However, it has not solely undertaken the organisation of a conference thus far, but it plans to host and organise the 4<sup>th</sup> PanHellenic Congress of Medical Technologists in 2014.

In relation to the cooperation with SCPs, there have been a few visits by the students of the Department to local SCP organisations for mutual information and exchange of ideas. In addition members of the non-permanent staff members are also workers in such organisations. Members of the academic staff have been invited as guest speakers in congresses, participated as trainers of international organisations in Greece and abroad or have participated as coordinators of thematic sessions in scientific congresses.

The contribution of the Department to the local, prefectural and national development is significant due to its specific scientific programmes and due to the competence its academic staff (IER, pp. 54). A notable societal contribution of the Department was their work in educating the local Roma community in public hygiene issues.

### ***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 inhibiting factors and makes the following recommendations:

- Lack of sustained funding
  - a) The Department needs to become more persistent in its funding pursuing strategy, as there was a period without financial support since 2009. The EEC recommends participation in European Framework Programme funding applications as a way to overcome this.
  - b) The Department should seek external funding from benefactors, sponsors, should liaise with the health/pharmaceutical industry and integrate in collaborative projects.
- Excessive student numbers; the Department must reduce its student intake.
- Short-, medium- and long-term goals.
  - Short term
    - The Department will upgrade its infrastructure
    - Reduction of student intake
    - There are six permanent academic staff positions pending
  - Medium term
    - A new School (SEYP) building will be completed in the next three years
    - The Department plans to establish good research infrastructures
    - Collaborations with the University of Thessaly
  - Long term
    - The Department strives to establish their own 2-year Master programme. This first requires approval by the Ministry of Education

The Department is involved in a postgraduate programme (MSc Level) by the University of Thessaly and in collaboration with the Department of Medical Laboratories of TEI Athens.

- The Department wishes to establish the capacity to deliver PhD programmes
- The Department is focused on maintaining the forefront of knowledge in its areas of expertise. However, it is difficult to implement long term planning mainly due to current obstacles in Higher Education reform, coupled with the economic situation of the State and subsequent lack of national funding.
- Plan and actions for improvement by the Department/Academic Unit
  - The Department engages in efforts to secure additional departmental space, which will be available when the new School building will be completed
  - The Department staff members wish to strengthen collaborations with the University of Thessaly

## ***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 EEC would like to highlight the following positive aspects:

The academic staff of the Department are of high standard as demonstrated by their academic qualifications and professional experiences.

They have clear and specific targets and this is complemented by the competency of part time teaching staff.

The EEC feels that further improvements are needed in the following areas and they recommend:

- The Department fulfils all the requirements for its goals and for maintaining the BSc requirements (Level 6 status). However, the practical aspects of the student training are affected due to the excessive number of students.
- Provision of MSc programmes by research seems to be difficult due to the current industrial relation conditions. Upon resolution of this situation, the EEC will be willing to re-evaluate and recommend the Department for the provision of Level 7 (MSc level by research) qualifications.
- The background of the students entering the Department each year is very diverse and it is an inhibiting factor for good student progress. The EEC strongly recommends that more appropriately qualified students should be admitted to the Department. Alternatively, in the case that the State does not take this recommendation into account, the EEC strongly recommends that such students be admitted to a preparatory course so that they are brought to a level appropriate for study in the Department.
- The number of the students entering the Department each year is excessive and it is an inhibiting factor for good student progress. The EEC strongly recommends that a suitable number of students are admitted each year.
- Some of the academic staff members have first author publications among the published papers. The reasons, as to why the rest of the academic members do not have publications, are not clear and there is a need to change this situation. The Department is not well equipped for this particular professional mission; further improvements will enhance the good work of the Department.
- The Department strives to expand its research capacity, and acquire Level 7 (by research) status. It is therefore imperative that bilateral formal research agreements are made with relevant internationally reputable research organisations in Greece and abroad. Capital funding should also be sought as the limited current research infrastructure does not support the accumulation of a critical research mass for the provision of Level 7 (by research) programmes.
- The EEC recommend that the Department should provide courses to academic staff on postgraduate student supervision. By reducing the student intake in each semester the Department could focus into delivering better quality courses and this will also positively influence the delivery of its post graduate programme. This will also enhance better use of facilities and infrastructure including teaching and research laboratories.
- A Standard Operation Procedures Manual Book should be compiled for all procedures involving departmental equipment and facilities. This book must be kept

in a commonly accessible place (e.g. the Secretariat) to be consulted by all technical and research staff and be updated when required.

- Basic laboratory safety and disinfection facilities must be installed in all laboratories, such as eye wash facilities and hand washing facilities, and one shower facility at departmental level.
  - The EEC recommend that a biosafety/biosecurity and chemical usage protocol must be adopted in the Department practices. Clear policy and procedures in this context must be written and implemented in the relevant work areas.
  - The EEC does not have a clear view concerning the TEI administration efforts in relation to providing remote access facilities to students (e.g. BLACKBOARD etc).
  - The EEC were not provided any information in relation to the student graduation procedures. It is recommended that the way that graduates receive their BSc certificates should also offer the possibility of awards in *absentia*, in line with current international practices.
  - The EEC strongly recommend that the quality of BSc level theses should improve according to the Bologna requirements. The criteria for the examination of such theses should agree with the Bologna marks and standards.
  - The EEC strongly recommend increase of student mobility in relation to their work placement in Greece and abroad. The current practice involves hospitals in the greater area of Larissa but students should also be encouraged to work in hospitals in other Greek cities as well. It is also recommended that students should undertake work placement in hospitals and evaluated laboratories of other European countries. This will provide a qualified human resource to the hospitals, with benefits to the students, who will also enhance their maturity and appreciation of diverse cultures.
  - Due to the nature and to the extent of contributions to the current education and practical work provided and carried out in the Department, the EEC recommend that the departmental name could be re-placed with the name 'Department of Biomedical Laboratories'.
- the Department's readiness and capability to change/improve  
The Department has demonstrated the capacity and willingness to change/improve and this can be seen in the following areas:
    - There is a provision for a new School (SEYP) building that will be completed in three years
    - Until this time, overall improvement in building and space infrastructure for the establishment of safer and more efficient working conditions for staff and students are required, with a minimum of investment and cost efficiency
    - The Department is in urgent need to resolve the current industrial relations difficulties it faces in order to improve the quality of its work
    - During discussions with the Head of Department it became apparent that currently the Department is undergoing some changes in the context of the SEYP reorganisation. It is expected that this change will somewhat ease the industrial relations difficulties mentioned above.
    - Electronic services have been improved and reached a good level
    - The Department actively seeks external competitive research funding

- The Department's quality assurance.
- The most obvious mechanisms of quality assurance observed by the EEC are the IER and EER systems. The EEC recommend that the final semester Theses should be examined by an examination committee constituted by the same members. They also recommend that external evaluators can be used to assess the good quality of examination practices. In addition, undergraduate exam scripts should be corrected by student code numbers and not names.
- The EEC strongly recommend that the Department observes strict guidelines for the preparation of the examination work by graduate students.
- The final year BSc Theses follow theoretical formats, solely based on a literature review. As the Department has a very large number of students and lacks the existence of active research groups, the final year Theses topics and formats should be adapted to this situation. This should be accompanied by clear assessment criteria and guidelines so that the examination of the Theses can confirm the competence of the students in absence of experimental projects. Although there are no reasons to doubt the good work of the Department, the EEC wishes to advise the staff to give particular emphasis in adopting the Bologna criteria for the Theses examination. The students must be taught about the importance of avoiding internet copy transfer and plagiarism, as well as effective and ethical usage of literature and referencing of sources.
- The Department needs to approve and adopt a more clear and systematic overall quality assurance protocol.
- The EEC recommend that external evaluations may be carried out in short notice as a quality check in order to confirm that recommendations of past EEPs have been met to the possible maximum.

### **Concluding Remarks**

Having completed this review and given due consideration to the findings, the EEC recommend the following for the attention and action of the Ministry of Education and the Ministry of Health:

The EEC acknowledges the work of the academic staff on the compilation of the IER. Taken into consideration all the departmental endeavours, efforts, and activities, the overall infrastructure and the education programme, and the wide choice of social and sport activities, the Department of Medical Laboratories in TEI Larissa is a unit for the provision of higher education programmes to Level 6 according to the Bologna Process. The Department has potential for further improvements, while at the same time it has an obligation to provide the best education to its students. The main disadvantage of the Department is the industrial relations difficulties it currently faces, which are arising due to the lack of clear direction by current legislation. This legislative deficiency inhibits the easy resolution of the current industrial relations conflict. In addition, the Department is greatly disadvantaged by the entry of excessive number of students with diverse and unsuitable educational backgrounds. The advantages of the Department are (1) the expertise of the teaching staff, (2) the availability of a large number of students and (3) the education opportunities it provides.

The EEC urgently recommend that the Ministry of Education support the TEI Larissa either by reducing the number of students admitted every year or via providing appropriate resources (funding and personnel) in order to deal with the excessive student numbers via the annual budget. In addition, as a great portion of these students come from unsuitable educational backgrounds to the Department programme, an additional support budget is required so that the Department can train these students in pre-session courses in order to integrate them successfully in the academic programme.

### The Members of the Committee

Name and Surname	Signature
1.	_____
2.	_____
3.	_____
4.	_____
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