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ΣΤΗΝ ΑΝΩΤΑΤΗ ΕΚΠΑΙΔΕΥΣΗ

HELLENIC REPUBLIC

H.Q.A.

HELLENIC QUALITY ASSURANCE AND
ACCREDITATION AGENCY

EXTERNAL EVALUATION REPORT

DEPARTMENT of PHARMACY

ARISTOTLE UNIVERSITY of THESSALONIKI

JUNE 2013

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External Evaluation Committee

The Committee responsible for the External Evaluation of the **Department of PHARMACY (DoPh)** of the **ARISTOTLE University of THESSALONIKI (AUTH)** consisted of the following FOUR (4) expert evaluators drawn from the Registry constituted by the HQAA in accordance with Law 3374/2005:

1. PROFESSOR **POLIKANDRITOU LAMBROS MARIA**, Ph.D. (Coordinator)
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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 visit was carried out from Monday afternoon June 10th, 2013 until Wednesday afternoon June 12, 2013.

- *Whom did the Committee meet?*

Day 1, Monday, June 10, 2013

At the beginning of the evaluation process the External Evaluation Committee (EEC) members met with the Vice Rector, the secretariat of the Special accounts of funds and research, the Chairman of the Department of Pharmacy (DoPh) and the members of the Internal Evaluation Committees (IEC which in Greek is OMEA, MODIP Μονάδα Διασφάλισης της Ποιότητας, Unit of Quality Assurance). During that time, the committee attended a general presentation of the research and future perspectives of the Aristotle University of Thessaloniki (AUTH).

Specifically, the committee met with the following personnel:

The Vice-Rector responsible for Academic Research: S. Kouidou-Andreou;

The Chairman of the Department: Prof. E. K. Kokkalou;

The Secretary (Head of Secretariat) of the AUTH Committee of Research: Mrs. G. Petridou

The members of the internal evaluation committee (IEC): Prof. E. K. Kokkalou, Prof. I. Kountourellis, Prof. I. Niopas, Prof. Ch. Panagiotidis and Prof. D. Hadjipavlou-Litina (Chair of the IEC).

The EEC was offered the following presentations:

(i) Presentation of the AUTh by the Vice-Rector responsible for research: Prof. S. Kouidou-Andreou.

(ii) Presentation of the undergraduate program of studies by a member of OMEA (IEC) Prof. Ch. Panagiotidi.

(iii) Presentation of the postgraduate program of studies from the Director of the Postgraduate program, Prof. D. Hadjipavlou-Litina.

(iv) Presentation of the DoPh research funding by the Head of the Secretariat of the AUTh Committee for Research, Ms G. Petridou.

(v) Presentation of the history and activities of DoPh by the Chairman of the Department, Prof. E. K. Kokkalou.

(vi) Presentation of the ERASMUS exchange of students program from Prof. S. Malamataris.

(vii) Presentation of the research activities of members of teaching scientific personnel faculty (DEP) of the Department from Prof. D. Hadjipavlou-Litina.

The EEC members also met with a group of recent graduates of the DoPh without the presence of any member of the faculty staff. In total there were 9 graduates working in

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private pharmacy stores, in military pharmacy and government insurance sections.

Day 2, Tuesday, June 11, 2013

The EEC members met with members of the faculty who presented short overviews of their educational and research activities. The presentations/meetings were as follows:

Pharmaceutical Chemistry: Director Prof. A. Geronikaki (present 9 persons including 4 professors, 1 assistant professor, 1 emeritus professor 1 lecturer, 1clerk 1 ETEP).

Pharmacognosy–Pharmacology: Director Prof. I. Niopas, 2 Labs   (6 professors, 2 associate professors, 1 assistant professor, 7 PhDs and 3 post docs (research programs) and more than 20 postgraduate students);

> Note: During the visit in the sector of Pharmacognosy-Pharmacology the EEC felt appropriate to discuss directly with postgraduate students and kindly requested some time with them without the presence of faculty and staff.

Pharmaceutical Technology: Director Prof. S. Malamataris, 2 Labs (2 professors, 1 associate professor, 4 assistant professors, 1 lecturer, 1 member of EDIP II, pharmacist but technical education level)

The EEC members met with representatives of undergraduate students (~10 persons) and postgraduates (31 post grads out of which, 3 post docs and 7 PhDs from whom 3 are supported via 50% scholarship).

The EEC members met with the newest members of the faculty (DEP): Markopoulou K. (Pharmaceutical Analysis); Lazari D. (Pharmacognosy); Papagianopoulou D. (Pharmaceutical Chemistry); Panagopoulou A. (Pharmaceutical Technology); Nikolakakis G. (Pharmaceutical Technology); and Nikolaou I. (Pharmaceutical Chemistry).

Day 3, Wednesday, June 12, 2013

The EEC members met with:

> The secretariat and members of staff and technical support;

> All the professors and associate professors (individually). After having met with half of the faculty, the EEC was divided in two teams in order to complete the meetings on time.

- ***List of Reports, documents, other data examined by the Committee***.

The EEC members examined the recent Internal Evaluation Report (IER) and the Study Guide of the DoPh, as well as a recent student evaluation questionnaire.

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

The EEC members met with graduate students, undergraduate students, postgraduate students and, individually, with all professors and associate professors.

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

The EEC members were shown teaching classrooms, teaching labs and offices. The Pharmacy Department occupies three floors in a building shared with IT and Biology Departments. EEC also visited external areas of the DoPh and close-by spaces.

II. The Internal Evaluation Procedure

Please comment on:

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

The sources and documentation consisted of presentations of the results obtained from the internal evaluation report (IER), internal report 2005-2010 and the two yearly updates (for 2011 and 2012), books, CVs and publications.

- *Quality and completeness of evidence reviewed and provided*

The evidence could be considered as of adequate quality and completeness. If there were document requested or questions to be answered there was a willingness and promptness to respond to the -request of EEC especially from the Chairman of the DoPh and the chairman and members of the OMEA (IEC).

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

The objectives of the Internal Evaluation have been met.

Summary: The Department of Pharmacy (DoPh) is a small but quite active department of the Aristotle University of Thessaloniki (AUTH). The members of the Internal Evaluation Committee (IEC) of this Department should be commended for organizing an efficient program for EEC that allowed meetings and discussions with the majority of the members of the faculty, staff, postdocs and students. The transparency of the meetings and the openness of the personnel and the students are worth mentioning, since they clearly demonstrate a special relationship and dedication to the DoPh by all those involved. An urgent need to further improve the DoPh, in particular in terms of undergraduate and postgraduate programs, was expressed by everyone. Access was given to all information; however, the time available to examine in details the documentation was not ideal. The meetings of faculty and students were performed in the absence of a supervisor or departmental director suggesting that the information received was unbiased. Overall, the EEC believes that the DoPh at the AUTH is a very good department and has the necessary potential to improve even further.

Abbreviations

AUTH: Aristotelian University of Thessaloniki

DoPh: Department of Pharmacy

IEC: Internal Evaluation Committee (=OMEA)

EEC: External Evaluation Committee

IER: Internal Evaluation Report

MODIP: Monada Diasfalisis tis Poiotitas

OMEA: Omada Eswterikis Aksiologisis

EDIP: Ergastiraiko Didaktiko Proswpiko

ETEP: Ergastiriako Tehniko Proswpiko

IDAX: Idiwtikou Dikaiou Aoristou Xronou

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

Undergraduate Curriculum (UGC)

APPROACH

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

According to the Greek laws (defined as FEK #A 226, 24-8-1955), the general goal of the Curriculum is to provide students with basic and applied knowledge in the science of pharmacy. This goal is very broadly defined and as such it remains appropriate. However, the specific objectives of both the Undergraduate and Postgraduate curricula need to be revised in order to reflect the current expectations of the society from a pharmacist as a scientist and health care provider. These objectives should be comparable to the modern European and International standards for the science of Pharmacy. To their credit, the Faculty members recognize that the goals and objectives of the curriculum need to be revised as they mention in sections 2.3.2.-2.3.5 of the Internal Evaluation Report 2005-2010 and section 3 of the 2011-2012 update (IER).

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

According to the IER, the Undergraduate Curriculum (UGC) was revised in 2008 and consists of a 5-year (10 semesters) program of classes and laboratories. During the first 4 years of studies, the students register in 50 required classes/laboratories. The last two semesters (9th and 10th) of the fifth year of the DoPh undergraduate curriculum are dedicated to a pharmacy/hospital practice (required by the licensing agency). The diploma thesis takes place during the 8th semester of the UGC; it is an elective course and it is equivalent (in terms of credits acquired) to two elective courses. Because the current UGC has a strong emphasis in chemistry, the EEC recommends revision of the UGC to include more disease, therapeutics and drug monitoring classes in order to harmonize with European and International Pharmacy Programs. **(see Recommendation #1)**.

Recommendation #1: We recommend the formation of an independent committee that will compare the European and national UGCs and harmonize the UGCs of all Pharmacy Departments in Greece. The committee should also suggest the appropriate number of incoming students/year based on the societal needs. Moreover, any issues related to the conversion of the 5-years study to an M.Sc. Degree should be evaluated by this committee and should be in full alignment with the International standards. This committee should be formed from 1-2 representative members of each Department of Pharmacy in Greece and selected members of Departments of Pharmacy from various European Universities and Institutes.

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

The last twenty-five years the science of Pharmacy on the international level (Europe and USA) has shifted towards a clinical/therapeutic emphasis. The DoPh has made a recent effort to modernize the UGC according to the International standards. Despite the latest revision of 2008, the UGC has not been modernized and seems to be a repetition of the

previous one. The current UGC emphasizes its traditional strength that is chemistry. More classes on principal, diseases, therapeutics, drug monitoring, clinical pharmacy and patient consulting must be added to reflect the current society expectations so that a recently graduated pharmacist is in line with the current European standards **(see Recommendation #1)**.

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

The DoPh has created an internal "Curriculum and Education Committee" that is composed of faculty members who represent in an equal manner all current divisions (Pharmaceutical Chemistry, Pharmaceutical Technology and Pharmacology-Pharmacognosy) as well as a student representative. The goal of this committee is to regularly evaluate and update all curricula. We commend the efforts of this committee to revise the previous credit system to the European Credit Transfer and Accumulation System (ECTS). However, the EEC believes that further changes and revisions are needed to the UGC. There is no evidence that the above committee has made significant changes to the pre-existing UGC (e.g. deletion or replacement of courses, decrease of course credit units etc) nor that it has consulted any major stakeholders (e.g. pharmaceutical industry, EOF, hospitals, alumni etc).

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

The most recent UGC revision was completed in 2008 based on the 2005/36/EC guidelines. It is noted that the EC guidelines are relatively broad and do not define the credits for each course. Thus, the core elements of the UGC have remained almost identical throughout the years. It is not clear whether there is a timetable for another revision and what such a procedure consists of **(see Recommendation #1)**.

IMPLEMENTATION

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

As stated above, the departmental goals are very broad and not well defined. The current UGC should be urgently revised in order to meet the society and current pharmacy market needs.

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

The current curriculum is very strong in chemistry. However more classes in therapeutics, diseases, clinical pharmacy, patient care are needed so that it follows the current Pharmacy trends and expectations **(see Recommendation #1)**.

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

The academic personnel is very qualified, well trained and motivated. It is likely that the recommended revisions of the UGC will require additional resources in terms of academic personnel, staff and laboratory space **(see recommendations #2, 3).**

Recommendation #2: Given the current financial situation, at the very least one technical personnel (ETEP) per division (tomeas) should be appointed.

Recommendation #3: The academic personnel that is expected to retire within the next few years must be immediately and pre-emptively replaced.

RESULTS

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

The Department has significant difficulties to implement the proposed UGC due to the lack of funding and shortage of academic personnel and staff. There is no doubt that the current economic crisis has a negative impact on the implementation of the UGC. Nonetheless, the EEC has noted that the academic personnel and staff are working above and beyond their call of duty to implement the UGC and they should be commended for their heroic efforts.

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

Due to the limited resources in personnel and lab space the number of lab exercises has been reduced. Because each lab can only accommodate a small number of students the faculty has to teach the same lab numerous times. As a result, the faculty is in constant stress and physically exhausted. Another important point is the severe shortage of funds to run the teaching labs. There is an urgent need for money, personnel and space. **(see Recommendation #4)**.

Recommendation #4: The immediate departmental space needs must be addressed by the AUTH. In long-term, the EEC recommends the planning of a new Pharmacy building that will address the space and teaching needs.

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

In its IER, the Department has clearly identified the problems that confront it. The State and the University (Office of the Rector) have to support and not inhibit the educational mission of the Department.

IMPROVEMENT

- *Does the Department know how the Curriculum should be improved? Which improvements does the Department plan to introduce?*

The Department claims to have made significant efforts to improve the UGC and, furthermore, suggests the following changes/actions: (a) Increase of the academic, staff and administrative personnel; (b) Increase the available space for labs and library; (c) Enhance teaching and research funding; (d) Identify collaborations with national and international institutes and funding agencies; (e) Secure funding for research programs and student internships; (f) Reduce and stabilize the number of incoming students; (g) Implement a revised UGC that includes two different pharmacy career orientations (i.e., industrial and clinical/community practice) with new coursework; (h) Make mandatory the experimental diploma thesis; (i) Redefine the current five-year UGC as M.Sc. in place of the current B.Sc.; (j) Implement a seminar series by academic personnel and graduate students to enhance the research and career horizons of the future pharmacists.

Note: In general, the EEC supports and strongly recommends the proposed changes **(see Recommendations #1-7).** However, the ECC does not support the demand for extra library space, since at the near future most books/journal will be available electronically **(Recommendation #7)**. The EEC members are also hesitant to recommend the conversion of the 5-years B.Sc. program to a M.Sc. program. The latter should be considered ONLY by

an independent committee that will harmonize simultaneously all UGC Programs of the Greek Pharmacy departments **(see Recommendation #1)**.

Recommendation #5: The DoPh should implement a regular seminar program (weekly or biweekly) and invite faculty members, senior graduate students and postdoctoral associates as well as scientists from abroad to participate as speakers. Such seminars will enhance the scientific knowledge of all personnel, will facilitate student mobility and will help the development of scientific collaborations.

Recommendation #6: The DoPh should increase its efforts to collaborate internally, as well as with other scientists nationally and Internationally. This effort will lead to participation in more collaborative grants and secure research funding from national and International agencies. This funding should be used for support of graduate students.

Recommendation #7: The EEC recommends against identification of additional space for library, since it foresees that in the near future all journals and books will be available electronically. Instead, the EEC recommends that each division (tomeas) (a) uploads any relevant scientific material (e.g. books, journals, student Theses, class material) to a secure server for use by the personnel/students of the DoPh; and (b) identifies a small place within its own space as a "study room".

PostGraduate Curriculum (PGC)

APPROACH

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

The PGC was first established in 2002 and consists of the following directions: (a) pharmaceutical chemistry; (b) pharmaceutical technology; (c) biotechnology and molecular diagnostics; (d) pharmacology and therapeutics; and (e) pharmacognosy and natural products.

Since its foundation, the postgraduate program has accepted 147 students, out of which 74 have completed their education, 24 have left the program and 49 are currently enrolled. It is unambiguous that creation of the PGC has significantly increased the research activity and productivity of the faculty members, as evidenced by the increase in the number of publication and citations since 2002. Thus, the PGC has been successful.

- *Implementation of the PGC*

As described in section 3.2.1. of the IER, the large number of students who apply for admission to the PGC program in combination with the limited number of available positions (15) is an indication of the success of this program. The EEC met with postgraduate students (at the Master's and Ph.D. level) and felt that the PGC program is adequate. However, the students expressed their concern regarding the following: (a) Despite the fact that the M.Sc. program was designed to be completed within two years, in reality it requires three years; (b) Limited number of fellowships or assistantships are available; (c) Grading procedures are unfair; (d) Overlapping lecture materials with the undergraduate curriculum; (e) Lack or outdated textbooks; (f) Lack of research space, teaching personnel, cleaning (janitorial) personnel (students along with faculty have to clean labs, corridors, bathrooms and other facilities!); and (g) Creation of an internal regulation or quality control system for the coursework of the PGC.

EEC Recommendations:

Recommendation #8: The EEC recommends that M.Sc. students graduate within two years. This can be accomplished if within the first trimester of their studies, each professor provides the students with a list of research topics to choose from. Within six months of the topic selection, the students must finish their literature search, formulate a research plan and submit this plan to the professor for approval. Thus, the students can start their thesis research part immediately after the completion of the first year. In this way they will have one full year to finish their experimentation and writing of their thesis.

Recommendation #9: In the first trimester, the M.Sc. students must also rotate among the different labs and during this time the professor must provide them with a list of possible research topics. At the end of all rotations professors and students must mutually agree and commit to their project of interest.

Recommendation #10: Funding of the graduate students should become the Department's and Professor's priority **(see also Recommendation #6).**

Recommendation #11: Faculty must make an effort to reduce the unnecessary duplication of coursework between the graduate and the undergraduate program. A graduate affairs committee must be formed to regularly evaluate the prerequisites needed for enrolment to the M.Sc. Degree and, based on the prerequisites, recommend specific coursework for each student.

B. Teaching

APPROACH:

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

Please comment on :
- *Teaching methods used*

In general, conventional methods such as lecture-based-learning are used. Several faculty members are using modern and internationally accepted web-based software (i.e. eClass, Blackboard) during teaching. Unfortunately, two out of three lecture rooms that are available for teaching are not equipped with projectors and computers. Therefore, the teaching methods are limited due to the lack of support facilities from AUTH and the current financial restrictions **(see Recommendation #12**).

Recommendation #12: All lecture rooms and teaching areas should be equipped with wireless internet and projectors.

- *Teaching staff/student ratio*

The limited number of teaching personnel (23) in combination with the large number of students (845) leads to a staff/student ratio 1/35. As compared to the international standard of staff/student ratio (1/9), the observed ratio is very high and creates a big problem for the accomplishment of the educational goals **(see Recommendation #3)**.

- *Teacher/student collaboration*

The current curriculum includes an optional Diploma thesis that facilitates the collaboration between the teachers and students. The current number of such collaborations is not known. Atypical collaborations are fostered in the undergraduate teaching labs and by the student advisory system. However, the students do not take full advantage of this system.

- *Adequacy of means and resources*

Human resources: The EEC's finding is that the human resources are minimal to non-existent. For example, the lack of teaching assistants, lab technicians and other supportive staff forces the faculty to prepare the laboratory experiments, maintain inventory, dispense chemicals to the students, supervise students, evaluate the reports etc. In addition, the lack of janitorial services forces faculty and staff to clean the common areas (rooms, hallways, bathrooms) making a non-appropriate use of their time, resulting in lowering of the moral of the faculty, staff and students. All of the above create an environment that is not conducive to good education **(see Recommendation #2).**

Financial resources: The funds to support teaching labs are so minimal that the evaluation committee considers them as non-existent.

- *Use of information technologies*

In general, the University IT facilities for the whole campus are appropriate (e.g. free use of secure Wi-Fi). Literature search is performed through the HEAL link. However, the classrooms are not equipped with modern IT facilities and stolen equipment has not been replaced due to perpetual theft and/or financial reasons **(see Recommendations #12,13)**.

Recommendation #13: The AUTH should provide the needed security for the campus wealth and its employees. Campus-wide policies and regulations should be adopted for those who harass personnel or misuse/destroy University property.

- *Examination system*

The traditional examination system that includes finals is used for most classes. Some faculty members have introduced the midterms in addition to the finals. The committee recommends that all classes adapt the midterm system. However, the midterm system needs to be coordinated to minimize conflicts between other classes and examinations **(see Recommendation #14)**.

Recommendation #14: All classes should adapt the midterm system in addition, or instead of the finals. The midterm system should be coordinated to avoid conflicts between concurrent classes and examinations.

IMPLEMENTATION

Please comment on:

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

Some of the teaching materials and resources need updating. In addition, alternative books and materials, even in English language, should be recommended. Teaching in English at PGC and the use of English language in Doctoral thesis should be allowed and even encouraged **(see Recommendation #15)**.

Recommendation #15: Update all teaching material and encourage the use of books that are in English. At the PGC level, teaching in English should be strongly encouraged Any laws limiting the use of English at the graduate level should be relaxed, since this will facilitate the mobility of graduate and postdoctoral students.

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

According to the faculty, the current financial crisis restricts the improvement of teaching materials and the updating of resources.

- *Linking of research with teaching*

At the undergraduate level, the linking of research with teaching could be further enhanced. At the postgraduate level, research and teaching have been integrated.

- *Mobility of academic staff and students*

Programs, such as ERASMUS, greatly facilitate the mobility of students and academic staff. The present financial conditions limit the number of students who can travel abroad. However, the number of foreign students who travel to the University of Thessaloniki has increased. In turn, this has a positive effect on the local students.

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

a. Teaching: The evaluation of the teachers by the students was initiated a few years ago. Unfortunately, it is not clear whether the results of such evaluations are having an effect on the faculty. This Committee feels that the faculty has not utilized this tool to improve their teaching and the faculty-student communication.

b. Course content: The committee met with representative members of current and recently graduated students. The general view of the students was that the content of the classes should be re-evaluated in order to avoid duplication of materials and improve and upgrade class notes. In addition, the alumni noted that the curriculum is not representative of the current knowledge that is required to foster the career of a contemporary pharmacist. The

EEC agrees with these observations **(see Recommendations #1, 11)**.

RESULTS

Please comment on:
- *Efficacy of teaching.*

Data directly demonstrating the efficacy of teaching are not available. The efficacy of teaching can be judged by the number of students who actively attend the class and the grading of students in the exams. Both numbers are low, which does not allow to draw conclusions on the outcome of the efficiency. It was observed that only a small number of registered students (less than 50%) pass the class at the end of the semester. Furthermore, during the meeting of the EEC with the students, the students complained that, in certain classes, the teachers were not making the topics interesting and the materials were not related to the current practice of pharmacy (in all the various sections of the profession). On the other hand, it must be noted that the teachers claimed that the students did not care about the course since attendance is not mandatory and there is no limit in the number of times that they can be examined for a particular subject **(see Recommendation #16)**.

Recommendation #16: Since class attendance is not mandatory (by Greek laws), the professors should make an extra effort to modernize the class material and methods of teaching in order to attract more students in the classrooms.

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

The students claim that the faculty members are unfair in grading the exams. In fact, they refer to the common practice of a professor who fails the students if they answer all but one question in the exams. In addition, according to the Table 11.6.1 (IER), from 2005-2010 no students received a grade higher than 8.4 (except in 2006-2007 where 0.9% of the students taking the exam received a grade of 8.4). The faculty gave a number of reasons for this phenomenon. However, this committee feels that the low grading (one student with a grade higher than 8.5 every 5 years) is NOT JUSTIFIED and is NOT APPROPRIATE by the widely accepted methods of grading. This puts a brake in the professional development of a student. In addition, the undergraduate and graduate students complained about the unfair grading despite their high participation and attendance in the classroom **(see Recommendations #17,18).**

Recommendation #17: The professors should use the entire scale (1-10) or the passing grading scale (i.e. from 5-10) and make an effort to curve all exams in a way that provides a passing grade for at least 40-50% of the entire class. The professors should understand that low grades indicate low quality of teaching and poor effort on their behalf to understand the students' level and career development.

Recommendation #18: The professors should upload regularly examples of past exams, including their correct answers and the grading scale used, on the web. This will minimize the number of students who go to the exams simply to obtain a copy of the examination questions.

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

We did not observe any indication that there is a relation between the time of graduation and the final degree. On the average only about 10-15% of students graduated within the first 5 years and about 65-70% graduated within eleven (11) years. This number is too low and

should be increased **(see Recommendation #17)**.

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

Certain faculty claim that low grading is due to the low student attendance in the class. The Committee is of the opinion that there is a universal tendency for the faculty to use low grades. This opinion is justified by the observation that even the students attending regularly the class do not receive high grades and is further supported by the grades shown in Table 11.6.1 **(see Recommendations #16-18)**.

IMPROVEMENT

- *What initiatives does the department take in this direction?*

Certain faculty members have taken into consideration the observation of the low average grade and the consequences thereof.

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 objective of the Department's research is to advance pharmaceutical and biomedical knowledge. The EEC noted that all faculty members showed enthusiasm, perseverance, and excellence in research. Importantly, several faculty members had collaborative projects and significant funding from national and international agencies.

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

In general, the research quality and productivity can be assessed by considering various factors such as: the h-factor, the number of publications, the Impact Factor of the journals in which the publication has appeared and the quantity of funding that has been allocated for each project. The Department uses these factors to evaluate the quality of research. In addition, the Department takes into consideration factors such as the faculty participation in symposia and meetings, the faculty service as scientific advisors in companies, organizations, journal, active collaborations etc.

IMPLEMENTATION

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

The Department encourages research by making available online the calls for proposals and by providing space to the laboratory that has funded projects.

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

The Department does not have any resources available to maintain core facilities and infrastructure that is available to research. In addition, the EEC received some complains regarding the lack of modern core facilities **(see Recommendation #19)**.

==Recommendation #19:== We recommend that the faculty designate certain widely-used instruments as a «core facility» and devise a plan to support, maintain and upgrade such instruments. Along these lines, lab-specific instruments could be converted to a core facility for the whole of the Department, if they are used by several faculty members and if the Principle Investigator in charge can no longer support their maintenance. In general, the maintenance of core facility instruments should be efficiently supported by implementing paid research assistantships and a fee-per-service process.

- *Scientific publications.*

As indicated in the IER, the number of publications by the faculty members has significantly increased over the past 10 years. It is encouraging to see that despite the financial problems, the number and quality of publications has not been significantly affected.

- *Research projects and research collaborations.*

As indicated in the IER, about 70% of the faculty members have participated in collaborative proposals during the 2008-2012 period. This participation is comparable to that of other research-heavy departments but it is, nonetheless, not sufficient and should be increased. **(see Recommendation #6)**.

RESULTS
- *How successfully were the Department's research objectives implemented?*
- *Scientific publications. See above*
- *Research projects. See above*
- *Research collaborations. See above*
- *Efficacy of research work. Applied results. Patents etc.*

The EEC noted that several faculty members have submitted patent disclosures for protection of their intellectual properties. Such activities are commendable and should be highly encouraged.

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

This has not been identified **(see Recommendation #20**).

IMPROVEMENT
- *Improvements in research proposed by the Department, if necessary.*
- *Initiatives in this direction undertaken by the Department.*

Recommendation #20: The Department should recognize and advertise recent research accomplishments of its faculty members and students (publications, patents, posters, symposia organizations etc). Such recognition can be accomplished by creating: a "Science News", a "Scientist of the Month" and a "Student of the Month" information on its departmental website.

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).*

The current economic crisis has led the AUTH, and especially the DoPh in a very difficult situation. With the exception of the praiseworthy services provided by the Departmental Secretary and her staff to the students and Department, the rest of the services are nonexistent. The committee noticed the following:

(a) There is no janitorial (cleaning) service for the department. Specifically, the EEC noticed that faculty, staff, graduate students and postdocs contribute to cleaning the halls, offices, labs and toilets of the Department.

(b) Classroom and laboratory spaces are not adequate. The existing classrooms are not in good working condition (see below).

(c) There is an extreme shortage of faculty and staff (permanent and/or temporary) to support the educational activities of the department.

(d) The web-based access to the books and scientific journals should be improved in terms of financial support in order to expand the collection and there are no interruptions.

(e) Although currently, the IT department offers reasonably satisfactory services, these services should be further improved and expanded to include digital online access to all academic and student activities.

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

The department should be commended for its efforts to upload online most of the administrative procedures that relate to students (e.g. grading, student transcripts, announcement of seminars, etc). This online service should be adopted by all members of the department, especially in relation to: (a) class syllabus, lecture notes, representative previous years exams, and examinations for all classes and laboratories; (b) centralized purchasing of chemicals, books, journals; (c) interdepartmental announcements; and (d) information on upcoming calls for grants, scholarships and contracts **(see Recommendations #18,20)**.

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

There is not such a policy. However, the Department has a student clubroom to prompt student presence on Campus. EEC recommends improvement of the clubroom facilities to include computers for student use, vending machines etc **(see Recommendation #16, 21)**.

Recommendation #21: Student presence in the Campus can be increased by improving teaching materials/methods (see Recommendation #16) and by improving the student clubroom facilities (add vending machines, computers, wireless internet, video capabilities etc). Security personnel should be hired and campus-wide regulations/policies should be implemented for those who misuse or destroy such facilities **(see Recommendation # 13)**.

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

The Committee was impressed by the organizational skills of the administrative personnel at the Department Secretariat, especially in regard to student services (student course enrolment, grading and students' requests for transcripts).

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

Classrooms: The number and size of classrooms is inadequate for the number of students currently in the program. The few amphitheaters of the campus are controlled by other departments and this makes classroom scheduling for the Department of Pharmacy extremely difficult. There is need for: (a) More classrooms/amphitheaters; (b) Computer and Projectors in amphitheaters (presumably some lecture rooms had a projector that was stolen); (c) University Security service should be established to patrol and protect the property of the University; (d) the DoPh should have its own building with all the facilities; (e) Alternatively, a central service should be established at the University level that will control and schedule the use of amphitheaters **(see Recommendations #4, 12, 13**).

Lab space: The number of labs and lab size for student training is inadequate. This has a negative effect on the student training and optimal use of the time of the teaching personnel (faculty and staff).

Lab training: Due to the shortage of personnel, the number of teaching labs offered is limited. Most importantly, funds available for the teaching labs are so minimal that EEC considers the teaching lab funding to be non-existent. The University administration should re-evaluate the situation and make a priority to increase funding of teaching labs at a respectable level **(see Recommendation #22)**.

Recommendation #22: The AUTH should make it its priority to increase funding for teaching labs of the DoPh.

Library: The department has a designated librarian. Each of the three divisions (TOMEIS) of the Department has a small library. There is also electronic access to international journals that often is interrupted due to the current economic crisis. The EEC notes that the Department has asked for a designated library space to replace the three small library rooms currently available **(see Recommendation #7)**.

Internet: There is secure internet access, which is provided without charge to faculty and students; Class materials such as lecture slides and announcements are placed on e-class or Blackboard web sites; Recently the course evaluation is done electronically by the students. In the past the evaluation was done on paper.

Student Counselling: At the university level there is Ombudsman/Legal Services (SYNIGOROS TOU FOITITI) offered to the students to provide mediation or solve simple legal problems that a student may have. At the Department level there is the Student Advisor where each student is assigned to a specific member of Faculty and is mentored by him/her.

Security: There is an urgent need to enhance security services inside and outside buildings and in campus in general. EEC was informed about vandalism of the University property and witnessed graffiti. There must be a service at the university level to clean the graffiti because their presence distracts from the academic goals and creates an environment of disrespect **(see Recommendation #13)**.

RESULTS

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

The EEC found that some University services are not adequate. The University should take fast and decisive actions that are dearly needed under the current economic crisis. For instance, the University should provide:

(a) Cleaning services inside and outside the buildings **(see Recommendation #23)**.

(b) Security services (e.g. initiate patrolling, ensure campus-wide security of personnel and goods) **(see Recommendation #13)**.

(c) Maintenance of the buildings (e.g. replacement of broken material, regular painting, graffiti removal service) **(see Recommendation #24)**.

(d) A mechanism to recognize individual achievement and excellence in service. This can be achieved by defining the job descriptions of all staff members and identify, via regular evaluations, those whose contributions are «clearly above expectation» **(see Recommendation #25)**.

In addition, the AUTH should regularly provide training seminars for those employees who wish to improve their knowledge and technical skills on a subject of mutual benefit to the employee, the Department and the Campus **(see Recommendation #26)**.

Recommendation #23: The AUTH should provide regular cleaning services and janitorial support inside and outside all campus buildings. The cleaning services are NOT the responsibility of the faculty members and the staff.

Recommendation #24: The AUTH should provide services for the maintenance of all campus areas including replacements of broken materials, graffiti removal service, regular painting of the buildings.

Recommendation #25: The AUTH should identify ways to recognize individual achievement and excellence in service. This can be achieved by defining the job descriptions of all staff members and identify, via regular evaluations, those whose contributions are «clearly above expectation». Ways to reward the employees include: yearly reception of its staff, presentation of «awards» to certain members etc.

Recommendation #26: The AUTH should provide training seminars to its staff members who are interested to improve their knowledge and skills on a subject of mutual interest to the employee, the Department and the Campus.

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

The Department has noted the following: (a) The lecture rooms are not sufficient and the projector and related facilities are not satisfactory; (b) The laboratory space is not sufficient and inadequate. In addition, the removal of the old temporary structure at the parking lot of the Chemistry building should not proceed without a plan for <u>immediate</u> replacement of its space elsewhere; (c) There is severe shortage of faculty and staff; (d) There is no designated space for Departmental library.

The EEC agrees with all items proposed above except the one related to library space (item (d)). The lack of the above mentioned services inhibit the achievement of the educational and research goals of the Department. All Faculty, Staff and Students of the Pharmacy Department feel distressed by the lack of the University services

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

The department has identified the problems and has requested financial support for renovation of classrooms, teaching lab space and library facilities as well as funds to support staff and other services.

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

EEC has not become aware of any initiatives. With this in mind, EEC urges the University and Government to support the Pharmacy Department in its efforts.

Collaboration with social, cultural and production organizations

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

The Department has a long collaboration with several local associations of pharmacists and has organized educational seminars in the past to support their members. Several faculty of the department have applied to the Greek Pharmaceutical Industry to obtain grants and contracts, however this type of collaboration is limited since the majority of the Pharmaceutical Industry is located near Athens and is far from Thessaloniki. Faculty have also answered calls from social and multimedia to explain and educate the public regarding pharmaceutical issues

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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.***

Inhibiting factors at the State level:
    a. The main inhibiting factor is the current financial crisis
    b. State laws change very fast and they are not implemented properly.
    c. The Department can only teach 80 students per year. However, due to various reasons the number of students inflates to 140.
    d. The law does not allow the replacement of professors who retire (The law allows only a 10:1 retirement: replacement ratio). In three years the department will have only 15 faculty members and will be unable to perform its basic functions. EEC is deeply concerned about this prospect.

Inhibiting factors at the University level:
    a. The University bylaws are not followed.

b. There is a need for creative and fast solutions to address the current difficult economy.
c. Fair distribution of state funds within departments.
d. University does not provide reasonable funds for the department to run its teaching labs.
e. University does not offer vital services such as:
   e1. Cleaning Services
   e2. Security Services
   e3. Service to coordinate the use of classrooms among the departments.
.

Inhibiting factors at the Department level:
a. Lack of Departmental bylaws
b. Lack of differentiations of the current Department goals to address short and long-term needs. A plan of action must be written and strictly followed.
c. Lack of auditoriums/classrooms
d. Lack of teaching lab spaces
e. Lack of funds to run labs
f. The student to faculty ratio is very high 35:1 and soon is expected to increase to about 60:1.

- ***Short-, medium- and long-term goals.***
 - ***Plan and actions for improvement by the Department/Academic Unit:***

The Department has proposed the following actions that will enhance its operations:
a. Increase the number of faculty and staff
b. Increase the Departmental number and size of auditoriums and lab space.
c. Increase the submission of proposals for research and teaching.
d. Increase the submission of proposals for fellowships and student awards
e. Stabilize the number of students to a level that the Department can train. The number of the incoming students will be based on the number of faculty and staff and lab space available.
f. Collaboration with local, national and international labs, universities and pharmaceutical industries.
g. Mandatory diploma thesis for the basic pharmacy degree.
h. Development of a new five-year program of studies with MSc as the basic degree.
i. Creation of a continuous education program to keep alumni and society abreast of the new developments in pharmacy.

- **Long-term actions proposed by the Department.**
Given the current affairs of the state, the Department is in no position to propose long-term actions.

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.*

Although at this moment the number of academic personnel (DEP) of this unit is capable and willing to implement the needed changes, it will be difficult to impossible, due to the retirement, lack of personnel resources and space limitations to say a few. The EEC is alarmed that within the next 5 years the number of DEP will decrease from about 23 to about 15, which will increase the ratio of student/faculty to 60/1. This will result in inability to perform the research and teaching functions of the school and will ultimately lead to the collapse of the entire Department. It is a "must" for the School and the University administration that the retired DEP members be immediately replaced by new and dynamic faculty members. The EEC cannot comprehend that a major University does not provide cleaning services to its Departments.

Considering the number and the magnitude of the problems of the Department of Pharmacy, it is astonishing that not only it survives but it also has such a progress. This is certainly due to the heroic efforts of the faculty, staff and students, who work above and beyond their call of duty to maintain and improve the educational and research activities of the Department.

However, there are a number of weaknesses that the EEC mentions below and expects that they be improved:

1. Lack of financial resources;
2. Lack of space;
3. Absence of cleaning personnel;
4. Absence of supporting personnel;
5. Small number of teaching personnel (DEP);
6. The majority of M.Sc. and Ph.D. students are working without financial assistance;
7. The grading system across all curricula;
8. Adaptation of the curriculum according to the international standards of the modern pharmacist (the EEC recommends reduction of credits for existing disciplines and replacement of certain classes with pharmacotherapy, clinical pharmacy, pathophysiology, anatomy as a required course, and other clinical pharmacy courses) **(see Recommendation #1)**;
9. Lack of alumni association;
10. Lack of comprehensive and continuing education programs;
11. Total abandonment by the University administration.

Strengths:

1. Dedicated and faculty who love their profession
2. Faculty with strong scientific background as is evidenced by their research, publications, grants and studies.
3. Students selected via rigorous examination procedures who are thirsty for education.

Based on the above, the EEC recognizes the outstanding efforts by all members of the Department of Pharmacy of the Aristotelian University of Thessaloniki and strongly supports its demands, identified by the Internal Evaluation Committee, and summarized above. The EEC commends all members of the Department, including faculty, staff and students, for their dedication to teaching and research and their heroic efforts to maintain high standards. In addition, the EEC members are grateful to the Department Chair and the members of the Internal Evaluation Committee (OMEA) for providing the necessary information.

RECOMMENDATIONS FOR THE CENTRAL ADMINISTRATION OF THE ARISTOTLE UNIVERSITY OF THESSALONIKI, STATE AND MINISTRY OF NATIONAL EDUCATION AND RELIGION.

Recommendation #2: Given the current financial situation, at the very least one technical personnel (ETEP) per division (tomeas) should be appointed.

Recommendation #3: The academic personnel that is expected to retire within the next few years must be immediately and pre-emptively replaced.

Recommendation 4: The immediate departmental space needs must be addressed by the AUTH. In long-term, the EEC recommends the planning of a new Pharmacy building that will address the space and teaching needs.

Recommendation #12: All lecture rooms and teaching areas should be equipped with wireless internet and projectors.

Recommendation #13: The AUTH should provide the needed security for the campus wealth and its employees. Campus-wide policies and regulations should be adopted for those who harass personnel or misuse/destroy University property.

Recommendation #21: Student presence in the Campus can be increased by improving teaching materials/methods **(see Recommendation #16)** and by improving the student clubroom facilities (add vending machines, computers, wireless internet, video capabilities etc). Security personnel should be hired and campus-wide regulations/policies should be implemented for those who misuse or destroy such facilities **(see Recommendation # 13)**.

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Recommendation #26: The AUTH should provide training seminars to its staff members who are interested to improve their knowledge and skills on a subject of mutual interest to the employee, the Department and the Campus.

SUMMARY OF RECOMMENDATIONS:

In summary, this External Evaluation Committee has the following recommendations that need to be urgently and fully implemented:

Recommendation #1: We recommend the formation of an independent committee that will compare the European and national UGCs and harmonize the UGCs of all Pharmacy Departments in Greece. The committee should also suggest the appropriate number of incoming students/year based on the societal needs. Moreover, any issues related to the conversion of the 5-years study to an M.Sc. Degree should be evaluated by this committee and should be in full alignment with the International standards. This committee should be formed from 1-2 representative members of each Department of Pharmacy in Greece and selected members of Departments of Pharmacy from various European Universities and Institutes.

Recommendation #2: Given the current financial situation, at the very least one technical personnel (ETEP) per division (tomeas) should be appointed.

Recommendation #3: The academic personnel that is expected to retire within the next few years must be immediately and pre-emptively replaced.

Recommendation 4: The immediate departmental space needs must be addressed by the AUTH. In long-term, the EEC recommends the planning of a new Pharmacy building that will address the space and teaching needs.

Recommendation 5: The DoPh should implement a regular seminar program (weekly or biweekly) and invite faculty members, senior graduate students and postdoctoral associates as well as scientists from abroad to participate as speakers. Such seminars will enhance the scientific knowledge of all personnel, will facilitate student mobility and will help the development of scientific collaborations.

Recommendation 6: The DoPh should increase its efforts to collaborate internally, as well as with other scientists nationally and Internationally. This effort will lead to participation in more collaborative grants and secure research funding from national and International agencies. This funding should be used for support of graduate students.

Recommendation 7: The EEC recommends against identification of additional space for library, since it foresees that in the near future all journals and books will be available electronically. Instead, the EEC recommends that each division (tomeas) (a) uploads any relevant scientific material (e.g. books, journals, student Theses, class material) to a secure server for use by the personnel/students of the DoPh; and (b) identifies a small place within its own space as a "study room".

Recommendation 8: The EEC recommends that M.Sc. students graduate within two years. This can be accomplished if within the first trimester of their studies, each professor provides the students with a list of research topics to choose from. Within six months of the topic selection, the students must finish their literature search, formulate a research plan and submit this plan to the professor for approval. Thus, the students can start their thesis research part immediately after the completion of the first year. In this way they will have one full year to finish their experimentation and writing of their thesis.

Recommendation 9: In the first trimester, the M.Sc. students must also rotate among

the different labs and during this time the professor must provide them with a list of possible research topics. At the end of all rotations professors and students must mutually agree and commit to their project of interest.

Recommendation 10: Funding of the graduate students should become the Department's and Professor's priority **(see also recommendation #6)**.

Recommendation 11: Faculty must make an effort to reduce the unnecessary duplication of coursework between the graduate and the undergraduate program. A graduate affairs committee must be formed to regularly evaluate the prerequisites needed for enrolment to the M.Sc. Degree and, based on the prerequisites, recommend specific coursework for each student.

Recommendation #12: All lecture rooms and teaching areas should be equipped with wireless internet and projectors.

Recommendation #13: The AUTH should provide the needed security for the campus wealth and its employees. Campus-wide policies and regulations should be adopted for those who harass personnel or misuse/destroy University property.

Recommendation #14: All classes should adapt the midterm system in addition, or instead of the finals. The midterm system should be coordinated to avoid conflicts between concurrent classes and examinations.

Recommendation #15: Update all teaching material and encourage the use of books that are in English. At the PGC level, teaching in English should be strongly encouraged Any laws limiting the use of English at the graduate level should be relaxed, since this will facilitate the mobility of graduate and postdoctoral students.

Recommendation #16: Since class attendance is not mandatory (by Greek laws), the professors should make an extra effort to modernize the class material and methods of teaching in order to attract more students in the classrooms.

Recommendation #17: The professors should use the entire passing grading scale (i.e. from 5-10) and they should curve all exams in a way that provides a passing grade for at least 40-50% of the entire class. The professors should understand that low grading indicates low quality of teaching and poor effort on their behalf to understand the students' level and career development.

Recommendation #18: The professors should upload regularly all exams, including the correct answers of the exams and the grading scale used, on the web. This will minimize the number of students who go to the exams simply to obtain a copy of the examination.

Recommendation #19: We recommend that the faculty designate certain widely-used instruments as a «core facility» and devise a plan to support, maintain and upgrade such instruments. Along these lines, lab-specific instruments could be converted to a core facility for the whole of the Department, if they are used by several faculty members and if the Principle Investigator in charge can no longer support their maintenance. In general, the maintenance of core facility instruments should be efficiently supported by implementing paid research assistantships and a fee-per-service process.

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The Members of the Committee

Name and Surname   Signature

1. _____

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