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ΑΝΩΤΑΤΗΣ ΕΚΠΑΙΔΕΥΣΗΣ

HELLENIC REPUBLIC

H.Q.A.A.

HELLENIC QUALITY ASSURANCE AGENCY
FOR HIGHER EDUCATION

EXTERNAL EVALUATION REPORT

DEPARTMENT OF COMPUTER SCIENCE AND BIOMEDICAL INFORMATICS

UNIVERSITY OF CENTRAL GREECE

October 30th – November 4th, 2011

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External Evaluation Committee

The Committee responsible for the External Evaluation of the Department of Computer Science and Biomedical Informatics of the University of Central Greece consisted of the following four (4) expert evaluators drawn from the Registry constituted by the HQAA in accordance with Law 3374/2005 :

1. Prof. Constantinos S. Pattichis (President)
   (Title)   (Name and Surname)

   University of Cyprus, Cyprus
   (Institution of origin)

2. Prof. Spyridon Agathos
   (Title)   (Name and Surname)

   University of Louvain, Belgium
   (Institution of origin)

3. Prof. Evripidis Bampis
   (Title)   (Name and Surname)

   University of Pierre et Marie Curie, France
   (Institution of origin)

4. Dr. Lampros Stergioulas, Reader
   (Title)   (Name and Surname)

   Brunel University, UK
   (Institution of origin)

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

The external committee, consisting of :

1. Prof. Constantinos S. Pattichis (President), University of Cyprus, Cyprus
2. Prof. Spyridon Agathos, University of Louvain, Belgium
3. Prof. Evripidis Bampis, University of Pierre et Marie Curie, France
4. Dr. Lampros Stergioulas, Reader, Brunel University, UK

visited the Department on Monday October 30th – Wednesday November 2nd, 2011. The visit consisted of attending presentations given by Department members mostly on research on Tuesday morning, and mostly on teaching on Tuesday afternoon and Wednesday morning. The committee had also the chance to speak to all faculty members, including the Chairman of the Department and the Chairman of the Internal Evaluation Unit, as well as the President of the University's Board of Directors, representatives of students, special teaching staff, technical support staff, the librarian, and one administrative staff member. In addition, on Wednesday morning, the committee visited students during lectures and had the chance to talk to them in private and without the presence of any Faculty members. The committee found these discussions extremely useful, as it had the chance to talk directly to students at their learning environment and not through their representatives only. The committee visited the one administrative secretary remaining after the very recent passing of the University General Secretary, visited the labs, the library, lecture rooms, the students refectory and canteen. On Tuesday morning, individual interviews with all 9 faculty members were conducted. On Wednesday morning the committee also spoke with 8 out of the 12 PhD candidates. The committee considers that all these formal and informal contacts allowed it to form a global view of the status of the Department, the morale of its staff and students and to gain an understanding of their problems, their strengths and their weaknesses as well as their aspirations.

In addition, the Department had made available to the Committee a large volume of data, including samples of lecture notes and other instruction material, course work, exam papers, final year project reports, CVs of faculty members, statistics of student performance, student status and student intake and graduating numbers, and strategic plan. In particular, the following documents were made available to the Committee:

➢ Internal Evaluation Report of the Department: for 2009-2010, 2010-2011
➢ Curriculum Vitae of the Faculty members
➢ Description of courses offered at the undergraduate level
➢ Timetable of courses offered and room allocation
➢ List of publications
➢ List of R&D projects
➢ Course Regulations

- ➢ Studies Guide
- ➢ Samples of final year projects.

II. The Internal Evaluation Procedure

The Committee felt that all resources made available to them for the execution of their work were very helpful and informative.

Overall, the Committee was able to perform its work effectively. It was felt that the targets and goals set by the Department in their Internal Report reflected well the reality and were supported by the evidence gathered. Overall, the Committee felt that this is an excellent Department, which deserves urgent support to be able to fulfil its promise in an important, innovative and forward looking subject area.

A. Curriculum - *Undergraduate Programme*
To be filled separately for each undergraduate, graduate and doctoral programme.

APPROACH - *Undergraduate Programme*

- What are the goals and objectives of the Curriculum? What is the plan for achieving them?
- How were the objectives decided? Which factors were taken into account? Were they set against appropriate standards? Did the unit consult other stakeholders?
- Is the curriculum consistent with the objectives of the Curriculum and the requirements of the society?
- How was the curriculum decided? Were all constituents of the Department, including students and other stakeholders, consulted?
- Has the unit set a procedure for the revision of the curriculum?

This particular programme of studies is innovative, and highly contemporary by international standards covering a fast growing interdisciplinary area with significant potential societal impact.

The curriculum was designed prior to hiring any faculty members. The curriculum was defined at that time by the Board of Directors, which is appointed by the Minister of Education, with tangential input from "faculty members in the process of hiring". It is based on a mix of 70% Computer and Information Sciences coursework and 30% Bio courses. The main aim of the curriculum is to prepare students for a professional career in the informatics and biomedical sector. For instance, potential career outlets include positions in hospital information systems, telemedicine systems, medical equipment support, bioinformatics, and academic research.

IMPLEMENTATION - *Undergraduate Programme*

- How effectively is the Department's goal implemented by the curriculum?
- How does the curriculum compare with appropriate, universally accepted standards for the specific area of study?
- Is the structure of the curriculum rational and clearly articulated?
- Is the curriculum coherent and functional?
- Is the material for each course appropriate and the time offered sufficient?
- Does the Department have the necessary resources and appropriately qualified and trained staff to implement the curriculum?

The curriculum is implemented with lectures and lab work. The Faculty has made substantial efforts to introduce labs for most of the applied coursework. In most cases the labs are obligatory and require a separate passing grade. Since only 9 permanent Faculty members are employed to date, a substantial percentage of the coursework is taught by temporary contractual instructors (Π.Δ. 407/80). During the current semester the Department has faced substantial problems due to a hiring freeze for temporary instructors. It is the view of this committee that the current situation is untenable and it is foreseen that it will be exacerbated in the next semester. The Committee would strongly urge the responsible authorities for immediate action to rectify this situation.

The Committee found that the standard of the courses offered in the curriculum are

comparable with similarly oriented undergraduate courses both in Europe and North America.

The curriculum follows a logical structure and is coherently functional, given the challenges faced in such interdisciplinary curricula.

The material for all the courses was found to be appropriate.

Although the current 4 year programme seems adequate for both students and Faculty members, the Committee feels that the current duration might be overly ambitious considering the breadth and depth of the material to be covered in this interdisciplinary programme. There might be a case for exploring an extension to 5 years with appropriate enrichment of the curriculum.

Given the available resources and Department staff, the Committee is impressed by the excellent quality and commitment to implementing the current curriculum. The committee, in this respect, would like to emphasize clearly the urgent need for more human and additional material resources.

The Department took the initiative to establish the role of Academic Advisor, which the Committee found that this is of significant benefit to the students.

RESULTS - *Undergraduate Programme*

- How well is the implementation achieving the Department's predefined goals and objectives?
- If not, why is it so? How is this problem dealt with?
- Does the Department understand why and how it achieved or failed to achieve these results?

The existing implementation achieves the goals and objectives of the Department despite the above mentioned resource limitations which are unacceptable and should be addressed as soon as possible. The Committee is pleased to note the improvement in the quality of the curriculum implementation observed in the last two years, mainly attributed to the arrival of the appointed Faculty members.

Both the students and the Faculty of the Department are aware of these resource limitations and are highly concerned for the future.

IMPROVEMENT - *Undergraduate Programme*

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

Although the current structure of the curriculum works reasonably well, there might be a case that an enriched curriculum delivered over a longer period of study might work even better for such an interdisciplinary subject. Both students and Faculty of the Department are also aware that the current programme is somewhat intense for an undergraduate degree and is potentially best suited for a 5 year degree.

In the wider context of Higher Education in Greece this programme too would certainly benefit from a stricter enforcement of the prerequisites concept. In addition, the number of courses required for attaining the degree need not be so high. It is also recommended to

more explicitly document the compliance to the ECTS system.

The Department is also keen to strengthen student mobility and plans to provide further encouragement to its students to participate in the Erasmus programme, which the Committee fully supports.

A. Curriculum - *Doctoral Programme*
To be filled separately for each undergraduate, graduate and doctoral programme.

APPROACH - *Doctoral Programme*

- What are the goals and objectives of the Curriculum? What is the plan for achieving them?
- How were the objectives decided? Which factors were taken into account? Were they set against appropriate standards? Did the unit consult other stakeholders?
- Is the curriculum consistent with the objectives of the Curriculum and the requirements of the society?
- How was the curriculum decided? Were all constituents of the Department, including students and other stakeholders, consulted ?
- Has the unit set a procedure for the revision of the curriculum?

Although the existing plans that the Department has in place for a Masters' programme have not yet been implemented due to external bureaucratic constraints, the Department has a healthy PhD programme.

This programme has at present 12 PhD candidates, and it started in 2009. All the students are pursuing their PhD studies by research.

IMPLEMENTATION- *Doctoral Programme*

- How effectively is the Department's goal implemented by the curriculum?
- How does the curriculum compare with appropriate, universally accepted standards for the specific area of study?
- Is the structure of the curriculum rational and clearly articulated?
- Is the curriculum coherent and functional?
- Is the material for each course appropriate and the time offered sufficient?
- Does the Department have the necessary resources and appropriately qualified and trained staff to implement the curriculum?

The students are carrying out research work under the supervision of usually one Faculty member.
The students are also involved in teaching, and in all aspects of the Departmental life.

RESULTS - *Doctoral Programme*

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

- If not, why is it so? How is this problem dealt with?
- Does the Department understand why and how it achieved or failed to achieve these results?

Most of the students have already presented their research work in international conferences and/or published their results in journals. The level of the publications is of high quality.

IMPROVEMENT- *Doctoral Programme*

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

There is a serious limitation for PhD students in carrying out experimental research work given the lack of appropriate infrastructure and the lack of interaction with medical and biological professionals and/or research units. At present, this is partially overcome by close collaboration with other research centers, mainly in Athens.

The doctoral programme of the department would benefit from a resident series of research seminars. Also, the mobility of students via the Erasmus or other programmes, and the participation in thematic summer schools could be further encouraged.

B. Teaching

APPROACH:

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

Please comment on :
- Teaching methods used
- Teaching staff/ student ratio
- Teacher/student collaboration
- Adequacy of means and resources
- Use of information technologies
- Examination system

A variety of teaching methods are used which are appropriate, across the programme of studies. The Department's electronic learning management system seems to work effectively, with good usage and acceptance by students.

Depending on the particular course, labs are used as a means to enhance learning. In an effort to bring students in the classroom most Faculty members link tightly the labs (which are obligatory) to the theory presented in the classroom (for which attendance is not mandatory). A Bachelor's diploma project is mandatory for all students and aims to show that the student can work independently on a specific problem.

The teacher - student collaboration is exceptional.
The current student to Faculty members ratio is too high (for 2010-2011: 285/9).
A variety of exam systems are used by the Faculty members that seem to be appropriate.

IMPLEMENTATION

Please comment on:
- Quality of teaching procedures
- Quality and adequacy of teaching materials and resources.
- Quality of course material. Is it brought up to date?
- Linking of research with teaching
- Mobility of academic staff and students
- Evaluation by the students of (a) the teaching and (b) the course content and study material/resources

The Faculty uses an electronic platform to communicate with the students. New equipment was purchased within the last year for the Electronics, Microcomputers, Biology and Robotics labs. In some cases the lectures are recorded and are available to the students via an electronic platform.

Laboratories are mandatory for obtaining a passing grade. In many cases, the labs have their own exams. In a pilot mode, classes have been taught as a single theory/lab session in order to attract students and a variety of assessment methods have been applied throughout the semester.

The Bachelor's diploma project is not only mandatory but also based in many cases on research projects. The quality of these projects is also attested by publications originating from them. The project's defense is public in front of the entire Department in order to

assure transparency.

Due to lack of funding during the winter semester of 2011, major problems have been experienced in the teaching process. In particular 6 elective courses are not taught and 7 others are taught by unpaid volunteers. The Committee feels that this is unacceptable, and should be corrected as soon as possible.

RESULTS

Please comment on:
- Efficacy of teaching.
- Discrepancies in the success/failure percentage between courses and how they are justified.
- Differences between students in (a) the time to graduation, and (b) final degree grades.
- Whether the Department understands the reasons of such positive or negative results?

The HQAA standard forms for obtaining feedback from the students were used according to the HQAA guidelines. These results are included in the Internal Evaluation Report of the Department. We clearly see that during final exams the results are not what should be anticipated based on the efforts of the Faculty and the students. One of the responses of the students suggests that little time is spent on a weekly basis for studying on their own especially in the first year. This may partly explain the problem. Another possible reason may stem from the differences in students' pre-university education background (technological versus science). Also, the Faculty is aware that some students expect to receive a passing grade with as little as 5 to 20 hours of collective studying for a course. We also see a declining educational background in basic knowledge in newly admitted students.

The Department has recently adopted a clear policy against plagiarism and violations of code of ethics.

IMPROVEMENT
- Does the Department propose methods and ways for improvement?
- What initiatives does it take in this direction?

The Committee is pleased to note that the Faculty is determined to keep the teaching and examination standards high even though this may result in fewer students getting a passing grade. Several Faculty members have been trying to guide the students towards teamwork through group projects which is commendable and should be further developed.

Furthermore, the Department is committed to enforcing a strict code of ethics within the limits of the existing framework law.

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

The Department has set as its main objective the production of high quality research and its publication in international peer research fora. Also, the Department aims to establish long term research collaborations with well recognised institutions in the areas of biology, medicine, engineering and informatics.

Although there is no official Departmental direction for research there are emerging areas of strength, evidence by research collaborations among Faculty members. The infrastructure in the Department is limited for all aspects of the Faculty's research, most notably in experimental areas. No startup funding is provided for newly hired Faculty thus creating difficulties especially for junior faculty. Adaptation to existing conditions has led at least three faculty members to use infrastructure of other institutions for advancing their research goals.

IMPLEMENTATION
- How does the Department promote and support research?
- Quality and adequacy of research infrastructure and support.
- Scientific publications.
- Research projects.
- Research collaborations.

The overall climate in the Department is very supportive of research efforts. Joint Faculty collaborations are encouraged within the Department and with outside organizations especially due to the so far isolated nature of this Department, geographically as well as administratively.

The Department has two new labs, a Biology lab and a Robotics lab, as well as a well organised library. These infrastructures, although vital for the conduct of competitive research, suffer from inadequate funding and space. Although more than one would expect for a newly established Department, the lab facilities are quite limited and in need of further investment.

The publications records even for newly hired Faculty at entry ranks are commendably strong.

Numerous proposals for research funding have been submitted by Faculty at National and European level with some success. This presents particular challenges considering the high competition in this popular interdisciplinary area, the limited available research facilities, and the lack of an established visibility as an institution.

RESULTS
- How successfully were the Department's research objectives implemented?
- Scientific publications.
- Research projects.
- Research collaborations.

- Efficacy of research work. Applied results. Patents etc.
- Is the Department's research acknowledged and visible outside the Department? Rewards and awards.

The research output of the Faculty members in terms of the number of publications, citation index and impact factors is impressive and praiseworthy, and certainly comparable to that of well established recognized international Departments. The published work, sometimes representing research conducted prior to joining the Department for newly appointed members of staff, gives an excellent indication for high level future achievements. Moreover, the publications record of the Department constitutes a good basis for attracting new research funding.

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

The Department is internally underfunded for research. Obviously, the existing labs can be used for conducting research in the near future. However, funding for graduate students and post-doctoral fellows is currently non-existent. Efforts should be made to reverse this situation. Infrastructure to support research should be financially supported further. Improved infrastructure will enable the Department to successfully seek further research collaborations with local, national and international partners.

A proposal for internal funding of an advanced research imaging lab is in process. Computer equipment for faculty is under review for upgrade. The Committee was astonished to be informed that a donation by the National Institutes of Health (US Government) of a 5 million euro 7 Tesla magnetic Resonance Imaging clinical scanner was not accepted by the Regional Hospital in Lamia despite the explicit support of the Ministry of Health, and the University's Board of Directors. Needless to say, such phenomena should not be repeated.

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).
- Does the Department have a policy to simplify administrative procedures? Are most procedures processed electronically?
- Does the Department have a policy to increase student presence on Campus?

Given the small size of the Department and the commitments of the Faculty members, the teaching instructors, the librarian, the technical and administrative personnel, a very warm collaborative atmosphere, and strongly interactive spirit exists.

The Department is supportive of all administrative initiatives that promote research and teaching. Most Departmental procedures are processed electronically.

The Department via the University offers free meals (both lunch and dinner) to almost all students, thus maximizing the students presence on campus.

Contrary, to what it seems to be the norm for most University buildings in Greece, the building housing of the Department was clean and well maintained, and this is highly respected by the students.

IMPLEMENTATION
- Organization and infrastructure of the Department's administration (e.g. secretariat of the Department).
- Form and function of academic services and infrastructure for students (e.g. library, PCs and free internet access, student counseling, athletic- cultural activity etc.).

The Departmental administrative secretary, while still awaiting her appointment and offering her services voluntarily, manages to run smoothly all administrative aspects despite the shortage of human resources and the increasing demands of such tasks. After the recent passing of the University's secretary there is no other administrative support centrally from the University. The process to appoint new administrative members of staff takes very long which makes things even more difficult.

The Department has an active student IEEE branch, which takes part in international competitions and organises meetings. Practical training has been implemented as part of the curriculum in order to establish ties with industry. Professors from Universities outside of Greece have been invited to present their work.

The library, although recently established, fulfills the needs of both students and Faculty members; however, the lack of space and staff limits its operation to working hours during the week.

Open access computer labs and wireless access are available.

Academic advising is available and it seems to be working very effectively.

Although the gym is available and well equipped, the lack of gym training personnel renders this facility unavailable to the students.

Also, a cinema club has recently been established.

RESULTS
- Are administrative and other services adequate and functional?
- How does the Department view the particular results.

The administrative and other services are offered with professionalism and commitment despite the lack of resources.

Students have been actively involved within the framework of their IEEE branch and they recently received the distinction of the best student branch in Region 8. The first group of students who participated in the practical training program has reported that it was overall a good experience. Similarly positive was the feedback from the practical training partners. Ties with particular educational establishments in Fthiotida were also strengthened.

IMPROVEMENTS
- Has the Department identified ways and methods to improve the services provided?
- Initiatives undertaken in this direction.

The Department demonstrated that it is willing and open to continue its extroversion efforts. While locally, little interest has been shown until now, the efforts will continue with a national and international focus.

Collaboration with social, cultural and production organizations

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

Faculty members have provided outreach services for the Prefecture of Fthiotida.

However, it seems that the Department's interaction with the local community can be enhanced even further. The response by local stakeholders should be sought with new initiatives including information days, public lectures, visits at schools (including demos), etc.

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

Potential Inhibiting Factors

Institutional Level

Due to the complexity of Greek law and bureaucracy in the public sector all financial matters require extremely long time frames to materialize. This is a major issue for every institution and particularly for a new Department in a new University.

The dependence of the Department on contractual instructors is evident: hiring restrictions for contractual instructors were recently applied to the Department, thus resulting in major difficulties for delivering the curriculum. It is clear that the Department is in great need for either additional tenure track Faculty members or, in the short term, more contractual teaching staff.

While located centrally within Greece, the University is isolated from other research facilities. The University does not currently have a School of Engineering, a Medical School nor a Biology Department that would act synergistically to the goals of the Department. Furthermore, there is no locally situated research institute with which collaborations could be established.

Academic Unit Level

The Department does not have financial autonomy and the administrative decisions finally reside with the Board of Directors. Hiring of Faculty members has been very slow both at the institution and Ministry levels. Already elected Faculty members have not yet been appointed, and this drags on for more than a year. The Department has not yet officially appointed secretarial personnel. Space is needed for lab and library expansion, and also for PhD candidates' desk space. The construction works currently under way are moving slowly. There has been limited success to engage the local medical community with the Department's activities.

Perspectives for Improvement

Mission

The mission of the Department is clearly defined in the Law as published in the Government Gazette: 1) to provide the core of computer science knowledge and 2) to provide specialized knowledge in a) the field of information systems with emphasis in medicine and b) in the field of medical and bioinformatics applications. The Department would like to extend its mission to incorporate as a target the biomedical engineering field which is currently not

represented in the undergraduate curricula of any University within Greece.

Policies

The Department advances its mission by encouraging extroversion and promoting procedural transparency. One such example is the way of selecting Faculty members, and contractual instructors.

Short, Medium and Long term Goals and Strategies

The Department has recently faced problems in identifying concrete medium and long term strategies due to the anticipated framework law for Higher Education. The Department would like to be able to advance its curriculum to a 5-year engineering program and be able to offer a Master level courses and postgraduate studies. To achieve these goals, support from a Medical School, a Biology Department, and an Engineering School would be required.

Improvement Processes

The Department has assigned committees for continuously reviewing its operations. However, given the problems described earlier, it is difficult at this time to bring to fruition any of the proposals. For example, the curriculum cannot be updated at this time if radical changes will occur based on the new framework law.

F. Final Conclusions and recommendations of the EEC
For each particular matter, please distinguish between under- and post-graduate level, if necessary.

Conclusions and recommendations of the EEC on:

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

The Department covers an interdisciplinary field that is fast growing with significant potential societal impact. Based on the hiring of excellent young Faculty members who are committed to high quality research and teaching, the Department has demonstrated that it could implement successfully both the programme of studies as well as carry out world class research. Although it is very positive to see that recent recruitment of academic staff has progressed and 9 Faculty members are now in place, this number is well below the required level to provide the critical mass for delivering the curriculum in a sustainable way to fulfill the promise of this demanding field. Moreover, the teacher - student collaboration is exceptional, and overall, a very warm collaborative atmosphere, and strongly interactive spirit exists within the University community.

The main shortcoming of the Department in its present state is that it is scientifically, administratively and geographically isolated. This impacts adversely its potential for growth, which in the view of the Committee is considerable.

First and foremost, an immediate clarification of the current status and future prospects of the Department is needed. The Committee believes that this Department deserves a viable future trajectory. The Committee can foresee a number of different scenarios. The Department would be able to thrive in an environment of a fully functional University, where synergies with other Schools and Departments, in particular medical and biological sciences, or engineering, would be possible. This of course would be feasible in Lamia if an expansion of the University of Central Greece were envisaged in the very near future. Failing that, the Committee believes that the Department would be able to fulfill its aspirations as a unit in another University where it could both offer its unique expertise and profile and could benefit from local synergies and complementarities (for example, taking into account existing collaborations, this would work well with the National Technical University of Athens. Other options include the Aristotle University of Thessaloniki, University of Athens, or University of Thessaly). The incorporation of the Department in a School of Engineering would imply the transformation of the curriculum towards a 5 year programme of studies. Of course in all these scenarios, care should be taken for the smooth transition and incorporation of the student body.

A number of additional constructive interventions have been proposed in the corresponding previous sections. These can be briefly summarised as follows:

- The current structure of the curriculum works reasonably well, but a longer period of study would be desirable (5 year degree).
- A stricter enforcement of the prerequisites concept and a more explicit documentation of the compliance to the ECTS system are recommended.

- The mobility of students (both undergraduate and PhD candidates) via the Erasmus or other programmes, and the participation in thematic summer schools is further encouraged.

- The establishment of a postgraduate programme to capitalize on individual research strengths of Faculty members would enhance the visibility and provide an impetus of research capacity.

- Collaborative learning is already introduced and should be further developed. Similarly, the further development of audio visual teaching should be fostered.

- An immediate solution to the problem of insufficient number of Faculty members, and/or contractual instructors must be found. The same applies to present needs for specialized teaching support and other administrative and technical staff.

- The Department is internally underfunded for research. Efforts should be made for providing funding to PhD students and post-doctoral fellows as well as start up funds for new Faculty. Improved infrastructure will enable the Department to successfully seek further research collaborations with local, national and international partners.

- The Department would benefit from the increasing visibility of biomedical technology to further attract funding from alternative sources.

- Strong and concerted efforts to minimise bureaucratic administrative procedures in purchasing, hiring, and other administrative aspects are urgently needed.

The Members of the Committee

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UNIVERSITY OF CENTRAL GREECE

DEPARTMENT OF COMPUTER SCIENCE &

BIOMEDICAL INFORMATICS

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