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HELLENIC REPUBLIC
H.Q.A.
HELLENIC QUALITY ASSURANCE AND ACCREDITATION AGENCY

EXTERNAL EVALUATION REPORT

DEPARTMENT CIVIL ENGINEERING

UNIVERSITY OF THRACE

October 2013

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External Evaluation Committee

The Committee responsible for the External Evaluation of the Department of Civil Engineering of the University of Thrace consisted of the following five (5) expert evaluators drawn from the Registry constituted by the HQAA in accordance with Law 3374/2005:

1. Prof. Fotis Sotiropoulos (President)
   Director, St. Anthony Falls Laboratory, James L. Record Professor, University of Minnesota, USA

2. Prof. George Frantziskonis
   Professor of Civil Engineering and Engineering Mechanics, University of Arizona, USA

3. Prof. Mike Kagioglou
   Head of the School of the Built Environment, Head of the Salford Centre for Research and Innovation, University of Salford, United Kingdom

4. Prof. Dimos Polyzois
   Professor and Associate Head (Research), Department of Civil Engineering, University of Manitoba, Canada

5. Prof. Nikiforos Stamatiadis
   Professor of Civil Engineering and Transportation, University of Kentucky,USA

Introduction

The External Evaluation Procedure

The external evaluation committee (EEC) visited the site of the Department of Civil Engineering of University of Thrace (Xanthi) during the period of October 21-23, 2013.

The EEC arrived in Alexandroupoli on the afternoon of October 21 and on the way to Xanthi, the team stopped at the University administrative headquarters in Komotini and met the rector, the vice rector for academic affairs and the Department Chair. A short meeting with several of the faculty members of the Department was held later on the same day. The EEC determined that it would be better to avoid a site visit of the Department facilities to avoid confrontation with students who had decided to occupy the facilities.

The second day of the visit started with a presentation by the Department Chair who gave an overview of the Department, its historical progress and current status with respect to students, faculty and staff. Afterwards, each Departmental Sector presented their activities and provided detailed material for review including student work, graduating theses and dissertations, and faculty publications and textbooks. The EEC requested to modify the program to include separate private meetings with students, untenured faculty and the Department leadership, i.e., the Department Chair and Sector directors. The Department Chair readily accommodated the request. The private meeting with the students was held in the first day.

The third day started with the remaining presentations from the Sectors and three additional meetings, i.e., with the Department's secretariat staff, a group of graduates from the Department, and the untenured faculty. A final meeting was held with the Department Chair and the heads of the Sectors to discuss the team's findings and use it as an exit interview of the process and to provide preliminary feedback of the findings.

At the end of each presentation, there was a discussion on related topics. During the presentations, several members of the Faculty were present and responded to questions by the EEC.

The EEC was not able to visit the facilities of the Department because students had occupied them from the first day of the visit. There was also a protest by a small number of students attempting to disrupt the review and presentations as a protest to the entire process.

The Department submitted an internal review conducted in 2012 and each Sector provided several types of material for review to the EEC. Each presentation made was provided to the EEC. The internal evaluation provided some of the required data for the review. The EEC however requested additional data regarding up to date publication data, citation indexes, sponsored research funding levels. Additional materials consisted of examples of student work, samples of diploma and PhD theses, textbooks and notes by faculty, and journal publications of faculty and students.

The EEC was impressed by the exemplary level of cooperation with the Chairman and all members of the Department. The EEC was especially impressed with the studnets, their attendance and collaboration and interest of the EEC review.

The Internal Evaluation Procedure

The members of the EEC felt that the Internal Evaluation report prepared by the Department was informative but required current information. The discrepancy between the report provided and the numbers presented was due to the difference in timing between the internal review conducted in October 2013 and the next updated Internal Evaluation report, which is due in November 2013. Some of the information available to the EEC was

incomplete/outdated including outdated faculty resumes and sparse research expenditure data. Requests by the EEC to the Department during the evaluation process to provide or update the information were partially but not satisfactorily addressed.

The EEC received insufficient and out of date information about the Department in some areas. During the visit the EEC requested supplementary material however only part of it was provided by the time the report was completed.

A. Curriculum

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

APPROACH

The Departmental curriculum goal and objective is to provide an in-depth Civil Engineering education. The plan for achieving this goal is to offer a diverse and in-depth number of courses in all Sectors of the Department.

Undergraduate curriculum: A total (in all Sectors) of over 120 undergraduate courses are offered. From those, undergraduate students are required to take 66 courses for graduation. There is a basic core of required courses and several elective courses for each area of specialization.

Graduate curriculum: A total (in all Sectors) of over 100 graduate courses are offered. From those, graduate students are required to take 11 courses for graduation. All graduate courses are elective, offered from Departmental Sectors.

No courses are offered for doctoral students who are not required to take courses for their doctoral degree.

The Department has formed a (required by law) studies committee that reviews both the undergraduate and graduate curriculum every year. The committee collects the curriculum proposals from each Sector, from faculty members, and from students. Based on this input, the committee decides whether to revise the curriculum. At the end of each academic year, the committee submits a proposal to the Department for discussion and decision-making. This committee also examines the material offered in each course. The needs of the industry and national and international trends in Civil Engineering programs are considerd as criteria for revision of the curriculum and course material.

IMPLEMENTATION

The curriculum in each Sector is extensive and the material covered in each course goes in great depth. Often, undergraduate courses reach the depth of coverage one would anticipate in a graduate level course. The curriculum meets and exceeds the requirments to satisfy the Departmental goal for providing in-depth Civil Engineering education. The curriculum is rational and the material provided in terms of recommended books, notes, electronic web pages, etc., is appropriate and adequate. Compared to standards of most universities internationally in the Civil Engineering area, the number of courses and their depth of coverage are unusually extensive.

The offered number of graduate courses is also rather extensive, but the number of courses required for graduation aligns with international standards.

There are no prerequisites, which presents a challenge since students can take higher level courses without having demonstarted that they have aquired the necessary background.

The large number of courses offered requires extensive time commitement by the faculty. In some Sectors the number of faculty is adequate to meet such heavy teaching load, but in others it is not. This, together with the uncertainty regarding the number of faculty in each Sector (due to retirements, lack of new positions, etc.) and the lack of graders could overburden faculty with teaching responsibilities at the expense of research and scholarship. Nevertheless, the existing faculty has the proper training to offer the courses effectively.

The EEC feels that the course load for the students each semester is heavy and could impact other aspects of their performance and education.

RESULTS

While the Department is able to achieve its goals and objectives with respect to teaching, this is done at the expense of excessive teaching load to faculty. This is particularly

problematic for junior faculty that seek to develop an effective research program and establish themselves as researchers and scholars.

The Department recognizes the aforementioned challenges. If the current curriculum is to remain, additional lines will be needed to achieve a more balanced workload and enable more faculty to expand their research.

IMPROVEMENT

The EEC finds that, in accordance to international standards and trends in Civil Engineering education:

- The number of courses offered at both the undergraduate and graduate levels is excessive, and this is true at the Department level as a whole and for each Sector in particular. The breadth of the education is satisfactory but the depth needs to be adjusted to achieve a measurable reduction in the number of courses. Such undertaking should be in consultation with professional organizations to ensure that it does not undermine the ability of the students to become effective engineers.

- The EEC recommends that the Department undertakes a critical look at the curriculum and develops a strategic plan to determine the best way to implement these changes.

- While the number of courses required for obtaining a graduate degree (11 courses) aligns with international standards, the course content needs to be reviewed within the context of the strategic plan.

B. Teaching

APPROACH

The Department exhibits a high standard of teaching both at the undergraduate and graduate level as it became apparent from the Sector presentations and the discussions with the students and graduates. The EEC feels that the Department has been overall successful in delivering its academic programs to its students. Teaching is based on traditional lectures supplemented by tutorial and laboratory sessions, the number and duration of which vary from course to course. Several of the courses have projects as part of the course along with homework assignments and a final exam. Students have the option of a short practicum or internship but this is not widely utilized due to a variety of reasons. All students complete a diploma thesis for graduation that is supervised by faculty from each Sector. All these components contribute to the delivery of sound academic programs and the EEC feels that the Department should be commended for it.

The total number of registered students for the 2013 academic year is 1,461 and approximately one-half of them are registered for the first five years. The number of incoming students, which is determined by the ministry of education, is considered high with respect to the number of faculty and resources. The teaching staff to student ratio exceeds the threshold defined by the Department.

Excellent teacher/student collaboration was documented through the discussions with current students and graduates that reflect very positively in the efforts of the faculty to educate students beyond the classroom. The EEC was convinced that teaching staff is well respected by the students, who feel that their instructors are available for consultation and very responsive to their issues. This cooperation is more pronounced for the regular full-time teaching staff.

The types and means for lecture delivery were not documented due to lack of access to the facilities. The information provided for the labs support the notion for adequate software and means for delivery of the material but this was not observed on site.

The examination system is an issue that needs to be addressed, since the allowance for a student to retake the exam a large number of times could create a significant backlog for graduation and workload for the faculty that could pose problems in exam grading efficiency. In most universities abroad, allowance to take the exam for the same course more than twice requires special circumstances and permission by a university academic committee.

IMPLEMENTATION

Based on the course evaluation results provided in the Department's internal report and the input the EEC received from students, as well as the course material the Department made available to the EEC, the quality of teaching procedures is quite satisfactory. The quality of teaching material and resources is also comparable with that in similar academic programs in Greece. The course material is generally brought up-to-date, however not at a very fast pace and it would benefit from a quicker renewal of concepts, practices, textbooks and other teaching aids. Moreover, there should be a more uniform curriculum update process throughout the Department.

The EEC appreciated the linkage between faculty research and teaching through the diploma theses. Such projects expose students to research and open possibilities for graduate studies and further research.

One of the issues noted is utilization and effectiveness of the practical training due to the brevity of the length and the timing within the education system. Moreover, there is very low mobility of academic staff and students (exchanges) and is mainly based on personal efforts and connections. Several courses have as a component technical site visits which was an activity that students and graduates commented favorably both on the value and experience

gained. The need for more site visits was also mentioned as a future activity. The EEC agrees with this suggestion and feels that its implementation would enhance the quality of the program. Furthermore, a review of the practical training regarding the timing and length should be undertaken to ensure that this activity becomes meaningful and more comprehensive for the students.

RESULTS

The EEC found out that course evaluations take place for most courses (and the EEC recommends that this practice be implemented for all courses) through a questionnaire that is then scanned for electronic storage. However, these evaluations should be summarized and provide as a feedback to the faculty as it is the case for most universities abroad. The EEC was not able to review the individual course evaluations and this is something that should be provided in the next internal report of the Department. This approach will also be a feedback to faculty for course delivery improvements.

In addition to the enhancements to the quality of teaching, the course evaluations will provide a metric that can be used in faculty evaluation for promotion and tenure.

The grade average for several courses seems significantly low. There are courses where the average grade is around 3/10 indicating that a significant number of students does not grasp the material and performs poorly in the exams. This could be attributed to among others inappropriateness of the exam method, number of courses that students take in a semester and inappropriate preparation for the exam.

Notwithstanding these comments, the grade distribution of graduating students seems reasonable, contrary to the time it takes for students to graduate. A recently established legislation regarding the establishment of a maximum duration of studies should address the issue.

Current grade distribution could diminish students' ability to compete effectively to secure financial support at international institutions for graduate studies.

IMPROVEMENT

The Department has considered the need for mandatory attendance in lectures. This could contribute to the ability of students for more in depth comprehension of the material.

The notion of academic advisors for students is another area for future implementation for first year students in order to assist them in the transitional period between high school and university education. This will also ensure the need for changing study habits between the two institutions and emphasize the need for critical thinking in the university environment.

The EEC recommends that faculty review their approach for assessing student performance in each course. Rather than utilizing only a final exam, other performance metrics could also be incorporated.

The EEC has recommended that the curriculum should be revised to reduce the number of courses in order to improve ability of students to properly comprehend the material.

C. Research

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

The Department is actively involved in seven research areas :

a) Architectural Engineering and Building Materials
b) Geotechnical Engineering
c) Structural Engineering
d) Mathematics, Programming, and General Sciences
e) Engineering Mechanics
f) Transportation Engineering
g) Hydraulics

Most of these research areas have impressive testing facilities which, unfortunately, the EEC was not able to visit. However, the EEC was able to form a favourable opinion of the quality of these facilities as presented by the Sector heads.

APPROACH

The Department has set as a key objective to develop state-of-the-art testing facilities and promote its faculty nationally and internationally as leaders in their fields of expertise. Noteworthy is the construction of the new facilities in Structural and Geotechnical Engineering.

While many faculty members strive for excellence, as demonstrated by the Sector Heads during their presentation, the EEC noticed a lack of concise data to support this claim. More specifically, the individual CVs provided to the EEC were outdated. The EEC was also not able to form a general impression of the level of the current research funding, since no such data were provided for the entire Department. It became obvious, however, that some Sectors and individuals are more aggressive than others in seeking research funding and producing high quality scholarly publications.

IMPLEMENTATION

The Department's role is to facilitate the pursuit of excellence in research and to provide support to the various Sectors to accomplish their research objectives. However, the EEC felt that each individual Sector acts as an independent unit where the common link is mostly the courses offered to undergraduate students. However, the quality of research carried out by a number of faculty is outstanding, as evidenced by the number of publications, the number of citations, and the impact factor.

The EEC also noted the low level of gradute training and research activity in the Geotechnical Sector over the last few years. The situation will hopefully imporve dramatiacally once the new Geotechnical Testing Facility becomes operational in the coming months.

The EEC also noted the exceptional collaboration between individual faculty and faculty from other Universities in Greece and abroad. However, the level of collaboration varied among Sectors as well as between the faculty and the private sector.

The new facilities present an excellent opportunity for the Department to reinvigoarte its research activities by establishing partnerships with industry and academic and research institutions. Such partnerships are vital for contributing to the economic developemtn of the region and the country and bringing much needed funding to the univerity to maintian and expand research facilities and activities and augment the impact of its scholarship and prestige. The EEC was pleased that this view was also shared by many Sector Heads and the Department Chair.

RESULTS

Excellence in research is also measured through the number of graduate students enrolled in the program, the level of research funding and the number of publications.

Since 2008, faculty has published 280 refereed journal papers and conference proceedings (according to Scopus). Considering that there are approximately, 43 Faculty members, this corresponds to approximately 1.3 journal and conference papers per faculty per year, which, on the basis of international standards is modest. The EEC also noted that between 2008 and 2012 there were 5,420 citations of the published work and that faculty were members in 112 national and international professional and scientific committees.

The level of research activity can also be measured by the number of graduate students in the Department. Between 2009 and 2012, there were 447 MSc and 344 PhD students enrolled in the Department. These numbers represent 9.5% and 7.5% of the total student population in the Department, respectively.

The EEC had no information on the current level of research funding to draw any meaningful conclusions regarding the extend of research activities at this time.

IMPROVEMENT

The Department Chair, and generally all faculty, expressed considerable pride regarding their research accomplishments to date and spoke with enthusiasm about the future of the Department as a major research player on an international scale. They also expressed a sense of optimism, grounded on the state-of-the-art research facilities in Structural Engineering, Hydraulics, Geotechnical Engineering, and Engineering Mechanics as well as world renowned researchers among the faculty.

The EEC felt that there should be a Departmental expectation for doctoral students of at least 2 papers submitted to international refrerred journals. In adiditon, to demonstarte originality and a novel contribution to the knowlegde it is expected that the PhD candidate would be the first author of the papers.

D. All Other Services

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

Administrative Staff

A six-member secretariat staff is supporting the administrative function of the Department. The staff is organized in four sub-groups based on their function: 1) Undergraduate affairs; 2) Graduate affairs; 3) Faculty promotion and tenure affairs; and 4) Official records and document filing. The chief administrator who reports to the Department Chair coordinates the staff.

Many secretariat functions are supported electronically through online services. The overall level of services provided by the secretariat was deemed satisfactory although some issues to improve efficiency were identified.

New undergraduate student enrollment requires the students to submit paperwork in person but enrollment in subsequent semesters, ordering of books, checking of grades, and overall progress toward the degree are all functions that can be done by the student online.

The secretariat has an open door policy. While this system appears to work well for the students, a more structured system with set office hours for the students could help increase the efficiency and reduce the workload of the secretarial staff.

Faculty members submit their grades electronically. While overall the system works satisfactorily, non-timely submission of grades by some faculty was identified as an issue. This needs to be improved to enhance the overall efficiency of the online system.

Graduate student enrollment and progress tracking is still done in the traditional, paper-based approach. This needs to be improved to bring the handling of graduate affairs to par with the online system used for undergraduate affairs. The Department did communicate, however, that a full online system to support graduate affairs is currently under development and is to be implemented soon.

There is one person of the secretarial staff that coordinates the files and the process for the promotion and tenure cases. This person collects the application packages submitted by candidates, either electronically or in paper, and coordinates with the Department Chair to facilitate the timely scheduling of the various steps of the process.

The system for official record keeping and document filling is in transition to a full electronic implementation. During this transitional period, paper-based records, digitized records, and electronic submission of documents are used. Data are being backed-up weekly at a university server. This practice was identified as a weakness that needs to be improved in the future to enhance data security as soon as record keeping transitions to a fully electronic system.

The University Research Committee handles sponsored project administration centrally for all Departments. While this structure may be adequate for the current modest levels of sponsored research activity, proposal preparation assistance and project administration accounting support at the Department level will be needed in the future should sponsored research activity is to increase. This may be essential as the Department expressed their desire to increase their sponsored research activities and interactions with industry leveraging the impressive new Structures and Geotechnical research laboratories.

Secretariat staff are hard working but it is clearly over-worked. Morale is quite low given the general economic situation in Greece but in spite of all this the staff should be commented for their hard work to support the Department functions. The committee was impressed by the dedication, commitment and work ethic of the staff.

The University provides IT support centrally. The turnaround time when IT issues arise is quick and most issues are usually handled over the phone or within the day.

Technical staff needed for maintaining and supporting Department laboratories is minimal. This is a significant challenge given the new and extensive laboratory facilities of the Department.

Resources to repair laboratory equipment are limited and some arenot available for a long time, delaying both research and educational projects.

Decisions about staffing needs at the University level and do not appear to be coordinated strategically based on the teaching and research needs of individual Departments.

Space and Buildings
Even though the EEC did not visit the Departmental facilities, extensive presentation of future building plans and new laboratory facilities made it clear that the Department will soon have many excellent facilities and quite adequate space to support its teaching and research mission.

The construction of a new, state-of-the-art Civil Engineering building is under way. A brand new, world-class Structural and Earthquake Engineering laboratory has already been built and is fully operational. A brand new Geotechnical Engineering laboratory has just been constructed and will soon be operational. In addition, existing laboratory facilities of other Sectors, such as the Hydraulics and Mechanics Sectors, are quite adequate and impressive.

The Hydraulics Sector identified the lack of digital imaging equipment for high-resolution fluid mechanics measurements as an important limitation. In some instances, the lack of such instrumentation hamper's the Sector's ability to conduct experimental research at the depth required to publish research in quality academic journals.

A major challenge for the future is with regard to the technical support staff that will be needed to maintain and support these laboratory facilities. Another challenge stems from the need to set in place strategic plan to identify research opportunities that can leverage these impressive facilities and launch an aggressive effort to market them to the industry and national/international academic collaborators.

Students identified inadequate heating of the classrooms and laboratories during winter months as a major concern. Poor insulation of the older buildings and budget cuts were identified as potential culprits. Hopefully the new buildings that will soon come online will help alleviate this problem.

Untenured Faculty Support Services and Promotion and Tenure Procedures
While untenured faculty do receive informal feedback from their colleagues, a formal mentoring process does not exist. The EEC recommends that a formal mentoring process is established to provide written feedback about the progress of young faculty on, at least, annual basis. This will align the process with international promotion and tenure practices.

There is no document articulating general guidelines and Departmental and University expectations for promotion and tenure. Such document needs to be developed as it is critical to clearly communicate expectations to young faculty as soon as they are hired.

The Department makes no provision to support junior faculty to launch their research career. Such support could include a preferential allocation of Departmental financial resources to early career faculty in the form of travel support or seed funding for research support, reduced teaching loads, and excluding junior faculty from Departmental committees.

Collaboration with social, cultural and production organizations
There was clear evidence of the Department working with local, regional and national agencies in key infrastructure projects such as road construction, earthquake mitigation strategies, testing of damaged built infrastructure, etc. Many of the faculty are involved in a number of external organizations, which benefit the placement of students, the acquisition of industrial practice, and ultimately enabling a better absorption of graduates. There was evidence that the faculty contributed significantly in the remaking of the City of Xanthi and the restoration of the old City of Xanthi. Department faculty systematically mentors students to participate in prestigious international competitions in mathematics and students have won many medals in those competitions. There are several alumni that return to the Department for testing and consulting services. Department faculty also participate in the licensing exams of the TEE.

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.

Strategic Planning and its importance in defining a direction for any institution is paramount. However, the context within which such planning takes place changes according to the differing circumstances and practices of governance. For example, public institutions are likely to have different forms of governance than private ones. As a consequence of this, operation plans can also differ. The EEC was cognizant of the 'ATHENA' plan and also the subsequent legal modifications made. Although the EEC did not delve into the detail of such changes, it was very clear that the shift of power and responsibility, as well as accountability, have developed a terrain, which in itself defines the way strategic and operational planning takes place.

Generally speaking, in an academic environment the strategic planning considers where the institution wants and needs to be in relation to internal and external factors. As such it identifies areas of excellence, areas that need further development and ways of exploiting opportunities. In turn, the operational plan identifies considered actions that need to be implemented in order to realize the strategic plan.

The EEC observed and has taken into consideration the following governance and operational circumstances:

- Student number control takes place at central government in consultation with the University – it was noted that although the Department consistently identified a much smaller number of entrants i.e. circa 80 they recruit more than 120 per year.
- Financial budgeting is defined and controlled centrally with very little, if any, discretion from Schools and Departments. The shift from Schools to Departments and Vice-Versa is yet to be clarified. Consequently, new positions and vacancy control takes place centrally with virtually no replacements in staff since 2010.
- Infrastructure and research funding is mainly sourced through additional agencies such as ESPA, TSMEDE, etc.
- There is very little evidence and/or legal frameworks for faculty appraisals and direct line management in relation to performance evaluation.
- Promotion of faculty takes place within firm legal frameworks.

The development plan for the Department was submitted through the Internal Evaluation report. It noted the following points:

- During the last decade and excluding 2004, the Department has an average of around 130 graduates per year and in total it has around 2,900 graduates since its establishment
- The targets and aspirations of the Department are defined in relation to its academic content and in relation its subject area
- Around 2/3 of students graduate within 7 years of study
- The programs of study compare well with the equivalent ones in other institutions, such as NTUA
- The point is made that in comparison on absolute staff numbers the Department has less staff than other equivalent Departments
- The action plan offers a number of improvements that need to be made across the board and those are considered within the different sub-sections of this report.

The findings of the EEC committee include the following:

- The current legal framework is too rigid and is not conducive in building a strategic capacity in terms of faculty hiring and succession planning.
- There has been a significant improvement in substance and cohesiveness in the 2012 report in comparison to 2010. In particular, the EEC notes that the 2012 plan identifies the challenges and opportunities that the new legal framework presents.
- The EEC feels that although the need of strategic planning is paramount for every Higher Education Institution, the means by which an effective implementation can

take place are restricted due to the legal framework that allows little flexibility at the Department level. The EEC appreciates the challenges that the Department will face in this transitional phase.

- There has been significant investment in lab infrastructure, which will become available in the next two years. From what the EEC has been told and seen in pictures we believe this investment would be a significant addition and will allow the Department to compete internationally. The EEC however fears that the investment in infrastructure is not in tandem with additional and necessary maintenance and operational investment. This situation can be understood within the current economic environment. However, the EEC has identified a significant disconnect between the strategic and operational planning and the means by which they can be executed.
- The EEC explored the structure and function of the various Sectors within the Department and identified that there are differences in staffing and resources, which are not allocated according to the educational and research needs. This was also identified in the 2012 Internal Evaluation report.
- The strategic plan and overall planning cycle did not have pre-specified implementation timelines and therefore plans appear to be ad-hoc and opportunistic rather than deliberate and strategic. The EEC does not discount the significance of opportunistic investment and development.
- Much of the investment in infrastructure and research is dependent on availability of funds from a number of sources, most of which are controlled by the government.
- Although the 2012 strategic plan identifies required future faculty needs in terms of skills it does not indicate how such faculty can be hired. More specifically, the EEC appreciates that the legal framework for promotion and tenure of academic staff severely hampers the ability for renewal and targeted strategic program expansions as done in most international institutions.
- As part of the promotion and tenure process a 7-member committee is established. This committee must include at least 1 and no more that 3 members from within the Department. The requirements for selecting members of the committee as established by the law prohibit selecting relatives of the candidates and individuals with documented (i.e., law suit) conflict of interest. However, while this provides some guidelines for having an objective and unbiased review process of the candidate, the process needs to become stricter.

The EEC has arrived at a number of recommendations in relation to the strategic planning cycle. It is important to note that all members of the EEC work within institutions that receive little, if any, support from government. The EEC also realizes that as resources become scarce at a global level and that competition increases, strategic planning and investement of resources are vital for the survival and growth of academic institutions.

- Resources need to be strategically allocated based on teaching needs and research productivity. The legal framework needs to allow flexibility at the academic unit level to develop and implement strategic plans, establish total budgeting, allocate resources and ensure quality.
- Ensure that there is a clear action plan progress check in every Internal Evaluation period. Progress checking is fundamental to success.
- The Department needs to consider the development of a continuously evolving action plan that follows through and accesses the effectiveness of actions annually and provides the basis for the next evaluation.
- The Department should develop a cohesive set of Key Performance Indicators (KPIs), which can be used to access the effectiveness of current departmental structures and faculty performance. These KPIs should cut across Teaching and Learning, Research and Innovation, Engagement and Impact and Infrastructure and Services (including financial).
- The Department should take ownership and assume responsibility for the effective implementation of its own strategic and operational plans at every level of the University.
- With respect to promotion and tenure, the EEC recommends that what constitutes conflict of interest should be expanded to include academic conflicts, such as the candidate's PhD supervisors, research collaborators, co-authors of papers, co-

editors of journals, etc. This is an internationally accepted practice.

The EEC recognizes that many of the above recommendations are in conflict witht present legal framework . Nevertheless, they are needed for the Department to evolve to a modern research and teaching unit that can compete effectively locally, nationaly and globally.

F. Final Conclusions and recommendations of the EEC

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

While the EEC determined that many Department functions are adequate, especially within the current resource and legal constraints, a number of significant improvements need to be implemented. The EEC was impressed by the faculty commitment and dedication to the educational mission of the Department. The technical competency of the students produced is very good and it is on par with any other Greek universities. The EEC was also impressed by the quality of research conducted in some areas.

GENERAL RECOMMENDATIONS

A major issue that regional universities have to deal with is the notion of remoteness from the center of activity and large Greek cities. This leads to a large number of transfer students in the first year that reduces the total student body. The positive aspect in this is the fact that all faculty members of the Department are local residents. However, a large number of the faculty are graduates of the program and thus familiar with the area. It is vital for the future of the Department to renew itself by attracting faculty talent from other institutions.

The Department needs to critically examine the structure of the Sectors and reconsider the existing segmentation. This may help mitigate the variability the EEC identified in faculty teaching loads, resource allocation and overall productivity among Sectors. Moreover, such reorganization will identify new crosscutting areas that could improve collaboration among Sectors, serve as opportunities for major research initiative and eliminate duplication of efforts.

The Department should identify and support emerging (niche) areas in Civil Engineering and other crosscutting disciplines that are important for the society locally and globally. This effort should be undertaken as part of the strategic planning process and guide the programmatic development of the educational and research programs, as well as resource allocation within the Department.

CURRICULUM AND TEACHING

The Department needs to reconsider the undergraduate course offerings. While the breadth is satisfactory, the depth tends to be disproportionate even within a 5-year undergraduate degree. The currently required 66 courses are considered excessive in comparison with most universities abroad. The EEC recommends that the total number of courses should be reduced.

The EEC is not concerned with the length of study but is concerned with the apparent comprehension of the material as evidenced by the performance of undergraduate students in most courses. Streamlining the curriculum while maintaining a 5-year degree will provide more opportunities for practical training and better prepare the students to integrate in the profession.

Developing an integrated (capstone) design course that brings together multiple disciplines within Civil Engineering could further enhance the practical experience of students. Such course will provide additional opportunity for students to interact with engineering professionals. Such capstone design courses exist in most international universities and bring together students to work on a real world project that requires industry participation and integration across all Civil Engineering areas.

The lack of course prerequisites prohibits comprehension of the material and undermines the effectiveness of the curriculum. This issue will become especially challenging with the new legal framework that limits the number of study years. The implementation of prerequisites will help the students better comprehend the material and graduate in a timely manner.

RESEARCH AND GRADUATE PROGRAMS

The EEC recommends that the Department consider the reorganization of the current research laboratories into larger units associated with the Department thrust areas, which could lead to enhanced research collaborations and more efficient utilization of limited resources.

Research collaborations among faculty are being pursued to a limited extent. The EEC encourages further research collaborations through joint proposals, joint supervision of PhD students, faculty and student exchanges, and other means.

The EEC recommends that the requirements of PhD candidates should be uniform across Sectors and include a minimum number of peer-reviewed publications (published or submitted) in quality international journals with the candidate as the lead author.

FACULTY DEVELOPMENT

The promotion and tenure process is inadequate and requires detailed guidelines by the Department so that junior faculty members have specific guidance to develop their career path. Furthermore, the quality of teaching will be safeguarded when the course evaluation results from all courses, along with other material relevant to the development, updating and teaching of courses, receive due consideration in the promotion and tenure process.

The EEC recommends that new faculty members be supported through start-up funds as in most reputable universities. The current practice of using the TSMEDE funds equitably among the faculty, while commendable, should be revised to include adjustments that favor junior faculty. This relatively small investment could be very critical for nurturing early career faculty and help them launch successful careers, which could return dividends to the Department.

The EEC recommends that junior faculty be given lighter teaching load and be exempt from administrative duties during the first two years of their career.

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