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

## EXTERNAL EVALUATION REPORT

DEPARTMENT OF HUMAN NUTRITION AND DIETETICS

TEI OF CRETE -SITIA

Version 2.0

March 2010



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### External Evaluation Committee

The Committee responsible for the External Evaluation of the Department of Human Nutrition and Dietetics of Technical Institution of Crete in Sitia consisted of the following three (3) expert evaluators drawn from the Registry constituted by the HQAA in accordance with Law 3374/2005:

1. Prof. Constantin Genigeorgis (Chairman)  
University of California, Davis, California, USA
2. Prof Costas Ioannides  
University of Surrey, Guildford, Surrey, United Kingdom
3. Dr Nikos Mavroudis,  
Northumbria University, Newcastle-upon-Tyne, United Kingdom

***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.
- Whom did the Committee meet ?
- List of Reports, documents, other data examined by the Committee.
- Groups of teaching and administrative staff and students interviewed
- Facilities visited by the External Evaluation Committee.

### **Monday, 17th of June 2013**

The External Evaluation Committee (EEC) arrived at Heraklion, Crete on Monday 17th of June, 2013 and visited the rector`s office where they briefly met and had discussions with the following administrators:

Prof E. Kapetanakis (President of TEI Crete)

Prof. K. Savvakis, (Vice President of TEI Crete-Academic Affairs –Chair of MODIP).

Assoc. Prof. E. Tsiknakis (Vice president of Committee of Research )

Prof. I Vlachos (Academic Director and Coordinator of International Relations Office),

The EEC was thanked for their participation and contribution to the external evaluation process, which they wholeheartedly endorsed.

Prof Kapatenakis gave an overview of the position of TEI within the Greek educational system. TEI attained university status in 2001 although there are still issues that remain to be addressed. One of the principal issues is the perception of students that TEI as academic institutions are not equivalent to Universities. As consequence attraction and recruitment of talented students are hindered. Moreover, this perception has a negative influence on the motivation and performance of TEI-students during their studies. Based on their respective experience members of EEC responded that whatever the perception is within Greece, graduates of TEI when seek advanced education abroad are considered as having a university status diploma. Many of them excel and succeed in scoring the highest possible grades immediately from the first semester of their studies even in distinguished public and private universities of US (e.g., Cornell, Columbia and the University of California)

Prof Kapetanakis emphasized the research dimension of TEI as exemplified by their success in having approved of over 40 research projects funded by the Archimedes program. Furthermore, there were bilateral research programmes between Greece and Turkey.

Prof. Kapetanakis added that the mission of TEI is also to engage with the local community in technological development. He pointed to a number of successful interactions between the local communities and TEI such as green energy production and sustainability and waste reduction.

On the negative side it was emphasized, that the mission of TEI is handicapped by its fragmentation into a number of institutions spread widely in geographic locations within Crete. This not only increases the operational costs but also minimizes desirable interactions among faculty in related academic areas. This is particularly relevant for the department of Human Nutrition and Dietetics (HND) of TEI-Crete at Sitia. The central administration of TEI believes that it would be more beneficial if the department was located at the central campus in Heraklion. Prof Savvakis pointed out that an additional disadvantage of fragmentation is the difficulty this creates in recruiting highly talented and desirable academic staff who prefer institutional locations with more than one department, thus allowing greater interactions and accelerated academic growth.

Responding to a question from the EEC, Assoc. Prof Tsiknakis indicated that currently, of the

19 departments of TEI-Crete, TEI-Sitia contributes 10% to the annual research revenue of TEI-Crete.

A warm and constructive exchange of opinions continued also over lunch at the TEI restaurant after which the EEC was transported to the Sitia campus by Associate Professor George Fragkiadakis, Chair of the Department of HND.

On arrival at Sitia, EEC was met with members of academic staff Prof V. Zafiroopoulos, Assoc. Prof. G. Fragkiadakis and Dr Aspasia Spiridaki. The EEC visited the student restaurant and the department`s former facilities in the center of the town. Prof. Zafiroopoulos reviewed the department`s history emphasising the challenges and progress that have been achieved so far.

Over dinner a variety of issues, including the uncertainty of state funding to support part-time lecturers for the next academic year, were discussed. After dinner EEC members discussed briefly the events of the day.

### **Tuesday, 18th of June 2013**

On Tuesday from 9:00 till 18:30 (with a short break for lunch) the EEC met first with the permanent academic staff, Assoc. Prof. G. Fragkiadakis, Dr Anastasia Markaki, Dr Aspasia Spiridaki, and Prof V. Zafiroopoulos in one of the lecture rooms.

Dr Fragkiadakis, as the first speaker, gave a presentation that covered the departmental curriculum, student development, employment prospects and research activities of the department. He was followed by Dr, Anastasia Markaki who discussed specifically the teaching components of the curriculum pertinent to the area of dietetics. She highlighted the availability and use of specialised computer-based programmes in dietetics, including a home developed one that allows synthesis and analysis of diets, taking into account a variety of specific Greek food products as well as the individual requirements of the person.

Subsequently, the EEC met with 5 of the 25 part-time lecturers: Vassiliki Hatzi, Niki Koufaki, Nikos Thalassinos, Nikolaos Lapidakis, and Petros Dimitropoulos. Subsequently the committee met with 14 students at different stages of their studies. Next the EEC visited the laboratories of Body Composition Analysis, Chemistry, Biochemistry, Microbiology, Dietary Analysis and Information Technology. Appropriate presentations/demonstrations were made by staff members. The tour ended with a visit to the library where the librarian outlined the facilities and services available to the students. A selection of Diploma Theses submitted by students was made available to EEC. The day`s program ended with a presentation by Prof Zafiroopoulos on teaching and activities in the area of Body Composition.

Over dinner the EEC continued its interaction with staff, in the presence of the Mayor of Sitia Mr. Theodoros Paterakis. In the evening EEC members reviewed the events of the day.

### **Wednesday, 19th of June 2013**

On Wednesday from 9:00 till 16:00 the EEC first attended presentations by the following lecturers:

Petros Dimitropoulakis gave 2 presentations, one concerning the Computer-Based Models for diet programs and a second on a study monitoring the evolution of student opinions about a course and instructor performance throughout the semester, and its use in the feedback process leading to corrective actions.

Nikolaos Lapidakis gave a presentation on quality aspects of xygalo a local spreadable cheese. This was a case study demonstrating the value of cooperation between the institute and the local food industry in new product development and marketing.

Subsequently EEC met the following local stakeholders: current Mayor of Sitia, Mr.Theodoros Paterakis (a chemist), Past Mayor of Sitia, Mr. Nikos Petrakis (Special advisor and board member of Institute for the Promotion of Sitian economy), Past Mayor of Sitia,

Mr. Ioannis Drakakis, (representing the Farmers Association) and Manos Tsimitakis, (Technical Director, Agricultural Cooperative Union of Sitia). The discussions explored effective interactions and mutually beneficial support between the department and the local civic authorities and agro-food businesses.

Next the EEC met with 3 graduates of the department through tele-conference and 2 in person to explore the impact of their studies at TEI-Sitia on their careers. Finally the EEC met briefly with the 2 members of the administrative support personnel and the 1 member responsible for facility maintenance. The EEC members together with Assoc. Prof. G. Fragkiadakis and Prof V. Zafiropoulos visited also the student dormitories. EEC members were shown rooms by 3 student-residents, and listened to their concerns. Finally in the presence of all departmental staff each member of the committee gave a short overall assessment of the visit.

At 16:00 the committee left for Heraklion airport and then on to Athens, arriving at the Hotel at 21:45.

### **List of reports, documents and other data examined by the committee**

Extensive documentation files were forwarded to the EEC in electronic form. The files included the Internal Evaluation Report (IER), raw data on questionnaires, raw data on per cent of student success/failure in the offered courses over time, student guide, personnel CVs, publications, graduate employment records, model course exam questions, the power point presentations of the staff during the EEC visit, curriculum details, list of research grants, detailed content of 5 courses, etc.

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

To the following template questions the EEC response has as follows:

- Appropriateness of sources and documentation used

A copy of the IER as well as extensive documentation, in electronic and hard copy forms, covering all aspects of the evaluation was provided to the EEC members as mentioned earlier. In addition any request from the EEC for additional information was provided rapidly and with enthusiasm.

- Quality and completeness of evidence reviewed and provided

All documents provided were highly informative and beneficial to the EEC mission. Raw data, e.g., success rates in various courses representing over 2300 examinations and student responses to questionnaires were not subjected to any statistical analysis to identify trends and weakness in the system and appropriate discussions with students. Virtually no discussion, was made also in the IER of the included tables presenting significant data. The EEC had “difficulty in trying to read between the lines” and had limited time to proceed with a meaningful statistical analysis and make valid comments in this report.

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

The EEC believes that the objectives of the internal evaluation process were met by the written and oral information provided to a highly satisfactory degree, despite the comments made above. Furthermore as it is obvious the IE Committee in its report responded to specific questions posed by ADIP. The EEC believes that effort should be made in the future so that responses as much as possible are based on facts rather than guesses. Furthermore during the EEC meeting with 14 students all of them indicated that they were not made aware what happened with the collected questionnaires. Moreover they were surprised to hear about the existence of the IER as clearly they were not informed.

## **A. Curriculum**

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

### **APPROACH**

The EEC responded to the following template questions.

- 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?

A single program entitled “Nutrition and Dietetics” is offered in TEI Sitia. Currently there are no post-graduate studies programs.

The mission of the department is the acquisition and knowledge transfer in the field of human nutrition and dietetics so that the graduates become competent in advancing and utilising modern methods in this field.

More specifically the curriculum offers 53 courses spread in 7 clusters as follows:

- a). Cluster of 8 Basic Science courses
- b). Cluster of 7 Food Manufacture course
- c). Cluster of 8 Human Biology, Nutrition and Medicine courses
- d). Cluster of 10 Human Nutrition and Life Cycle courses
- e). Cluster of 5 Clinical Nutrition and Dietetics courses
- f). Cluster of 3 Sport & Exercise Nutrition courses
- g). Cluster of 12 Optional courses

For graduation a student is required to successfully complete 40 courses, including one semester of practical experience and submission of a diploma thesis.

This is accomplished through an educational process of 7 semester of theoretical and laboratory courses, 1 semester of field work experience and submission of diploma thesis for a total workload equivalent to 240 ECTS.

The practical training is obligatory and can be undertaken as soon as the student has completed 2/3 of the required course work including all specialty courses. With respect to the diploma thesis a committee of three faculty members guides the student in subject selection and execution of the project and assigns the final grade.

From semester 1 to semester 7 the contact hours range from 26-27 hours per week. Each semester includes 13 weeks of course attendance followed by 2 weeks of examinations.

### **IMPLEMENTATION**

The EEC responded to the following template questions:

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

The responsibility of fulfilling the teaching mission of the department is met through the



contribution of 4 full time permanent staff members assisted by 25 hourly paid lecturers. Despite the limited number of permanent staff the EEC believes that the goals of the department are reasonably implemented.

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

The curriculum is split into an initial cluster of courses focusing on basic sciences that is aiming to build students' understanding of fundamental concepts. This is in clear parity with widely accepted academic practices and enables the student to comprehend the more specialised courses provided in subsequent years. This is of paramount importance bearing in mind that more than half of the students attending these courses do not have the appropriate background in science and mathematics. Generally the courses offer a balanced approach of theoretical and laboratory based teaching, a ratio of 60 to 40, which is in line with other similar institutions.

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

The structure of the curriculum is clearly defined in the curriculum program which is also readily accessible from the institution's website. During discussions with the staff it emerged that the annual progression of courses was rational.

- Is the curriculum coherent and functional?

The material of each course was deemed appropriate according to the experience of the committee members. However the students expressed their strongly-held view that the number of teaching hours was not sufficient to meet their needs. The EEC believes that this is an inevitable consequence of the inadequate background in Mathematics and Science that many of the students have as they originate from high schools with different academic preparations and missions. Furthermore, the reduction in teaching hours led to larger classes in practical exercises so that there were 6 students per group, which often resulted in only one or two of the students gaining hands on experience.

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

The committee believes that there is an urgent need to appoint more permanent staff so that the dependence on hourly paid lecturers is minimised to ensure continuity and better long-term planning. The ratio of permanent personnel to hourly paid lecturers is unacceptable. It has a serious adverse impact on current and long term teaching goals. Furthermore, in an environment where funding of 25/29 teaching staff is decided on an annual basis, there is a high risk that funding restrictions may compromise the effective delivery of the curriculum. The present state of affairs will inevitably demoralise the part-time personnel and challenge their dedication. Furthermore, there is a high risk that the highly educated and talented part-time staff, with proven competence and experience, will seek employment elsewhere thus jeopardising again the high standard delivery of the curriculum.

## RESULTS

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

According to the IER (table 8) 32% of graduates achieve employment within 12 months and 43% within 24 months following graduation. From the employed graduates the committee was informed that 91% have employment relevant to their degree. This clearly demonstrates that the objectives and predefined goals of the curriculum are met to a high level. The committee is concerned with the low and deteriorating level of percent graduation rate, i.e. for those entering the department for the academic year 2007-08, 79% have not so far

graduated. The committee recommends that the underlying reasons of this alarming statistics should be addressed as a matter of priority.

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

More than half of the students attending this program do not have the appropriate background in science and mathematics. This is an inherent issue pertinent to the entrance examination and the allocation of admitted students in higher education facilities. As pointed out in IER (page 16) additional teaching hours have been introduced to bring these students to a reasonable standard to attend the more advanced courses.

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

The department provides additional voluntary teaching to address student deficiencies, emanating from inappropriate high school education, to meet the demands of the department's curriculum. A system of prerequisites should screen and eliminate those students who cannot meet the strict requirements of the curriculum. To rectify and improve the situation the department believes that it is essential that the admission process, controlled currently by the State, is overhauled to match student educational foundations to the chosen program of studies. The committee fully agrees and endorses this sentiment and believes that the current inappropriate system of entering into higher education institutes in Greece is not cost effective for students, the taxpayers and the country's overall economy.

#### IMPROVEMENT

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

The department is making an effort to address the issues discussed in the previous section. Courses are being reviewed on a semester basis by the General Assembly of the department. Deficiencies detected in courses given by temporary personnel are addressed by the permanent personnel. Effort is made to limit overlap among courses but create, as needed educational bridges. Introduction of additional electives in rapidly evolving areas is being considered but currently hindered by the economic crisis and especially by the small number of permanent personnel and the annual uncertainty of the number of temporary lecturers to be hired or rehired to contribute to the program.

The EEC strongly recommends that additional elective courses are approved in the domains where the student deficiencies are observed, thus enhancing their scientific foundations and their ability to attend more advanced courses in the curriculum. A systematic and analytical monitoring of success/failure rates in all courses in order to identify the reasons for the currently undesirable failure rates and take the appropriate corrective actions is a must.

- Which improvements does the Department plan to introduce?

On pages 60-66 of the IER the department proposes a series of actions and particular targets concerning improvements in equipment and facilities, the admission process, academic programs, including more efficient field work, especially in hospitals, facilitating applied research, encouraging co-operation with other institutes in research, student welfare, widening employment prospects, consolidate interactions with the Greek Agro-business and the Food and Hotel industries in research and development, consumer education concerning balanced diets and emphasis on traditional diets.

More specifically the State is asked to overhaul the admission process so as to match appropriate student background to selected field of study. A decrease in the number of entering students is requested and more effort to match the student numbers to the ability of the institution to accommodate these in terms of personnel, facilities and space to ensure the

continuous provision of quality education. Based on current program and 100-120 entering students annually an increase of the academic permanent staff by at least 10-12 positions, the administrative staff by 2 positions and the technical personnel by 3 positions is paramount for success. The EEC feels that a higher education system based on less than 20% career academic personnel and more than 80% hourly scientific personnel with annual uncertainty of how many will be rehired is neither a sound nor a desirable system of attaining academic and professional excellence, despite the monetary savings for the State. Overall TEI successes in the critical areas of their mission cannot be relied forever on the hard work of career and temporary personnel beyond the call of duty. A gradual increase in the ratio of career to temporary personnel to approach that of the universities should be considered seriously by the State. There is a major difference between the psychology of commitment to academic excellence for those in the university system where their advancement is based on their productivity and their contemporary part time colleagues in TEI where their academic future is nothing more than a rehiring for the next year or semester provided adequate funds are allocated again by the State!

## **B. Teaching**

### **APPROACH:**

EEC responded to the following template questions.

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

- Teaching methods used

The teaching program is spread over 8 semesters. Lectures are delivered over 7 semesters in custom-built comfortable lecture rooms equipped with modern audio-visual aids, thus lectures are supported by electronic audio-visual methods. The program is delivered over 2 semesters per year in the form of lectures and laboratory classes at the ratio 60 to 40. A very important component of the program is the project that takes place during the last semester and is carried out outside of the institution e.g. hospitals. Attendance to lectures is a cause of concern but this experience appears to be shared by other Greek institutions, and may reflect the non-compulsory nature of the lectures.

- Teaching staff/ student ratio

The staff to student ratio is 1/50-1/100 in theory, 1/25 to 1/50 for tutorials/seminars and 1/15-1/25 for laboratory sessions.

- Teacher/student collaboration

The relationship between students and staff, both permanent and part-time, is excellent. The students appreciate the effort put by the staff to tailor the courses to their needs. A sense of community spirit appears to prevail which enables the smooth running of the courses in general. There is electronic teacher-student communication system in place (e-class).

- Adequacy of means and resources

The number, state and electronic support of the lecture rooms are exemplary and constitute a valuable resource of TEI-Sitia. The laboratories however, are not large enough to accommodate the excessive number of students entering annually. As a consequence a

number of sessions operate which leads inevitably to increased workload for the staff. Furthermore they lead to large, 6-member groups, that prevent all students to contribute and benefit equally from the laboratory sessions. The EEC committee notes that there is no continuous technical support so that the teaching staff are forced to prepare the materials for the laboratory sessions, increasing even more their workload.

There is a limited variety of book titles, beyond the standard textbooks that are provided by the state. Only 6 terminals were at the students' disposal for literature searches. However upon request the EEC was informed that remote access via VPN system allowing students to conduct literature searches off and on campus is available and operational.

At the time of the visit there was a single librarian to support the students but the committee was informed that she was leaving imminently and there were no plans for replacement at the time: The EEC believes this is an unacceptable state of affairs.

- Use of information technologies

The EEC believes that the technologies available to the staff are generally sufficient to ensure effective teaching in a conducive to work environment.

- Examination system

Student progress is evaluated through written examinations and practical exercises. Outlines of the courses and the course material are provided to the students at the beginning of the semester and are also uploaded to the web. Based on examination questions in a variety of courses provided to EEC, it seems that the examination style is appropriate. Student diploma thesis is graded by a 3-member committee taking into account a number of performance criteria tabulated in an appropriate scoring document. The EEC has a concern with respect to the discriminatory power of the evaluation processes when students work as a group but only a single thesis is prepared and the assumption is made that all students in the group made equal input. The EEC believes that the currently implemented grading system is unfair and most likely punishes the good student. The committee believes that it is not possible to discern the true contribution of individual students if a "joint" thesis is prepared and submitted for evaluation. Although students may collaborate in gathering or generating raw data, each student should be expected to prepare a thesis so that his/her ability to calculate, analyse and critically interpret data in the context of published literature can be truly assessed. Other than that the EEC overall considers the examination procedures adequate and satisfactory.

## IMPLEMENTATION

The EEC responded to the following template issues:

- Quality of teaching procedures

All courses and teaching faculty are evaluated by the students every semester through an appropriate questionnaire. The responses are tabulated using Excel to allow further statistical analysis for the identification of critical issues. Raw data from years 2011 and 2012 were made available to EEC. The committee felt that the data should have been submitted to a statistical analysis to identify strengths, weaknesses and trends and the comments to be included in the IER. Graphs from limited analysis were given to EEC. The nature of the graphs was such that EEC was unable to appreciate the real facts and trends or had the time to make its own statistical analysis.

The IEC members feel that mean satisfaction levels (on a scale 1-5) are increasing in the specialization courses as compared to basic science courses. They attributed that to the increased student interest as they move into more professional areas directly related to a

successful practice. During the EEC meeting, the 14 students indicated that they were not aware of the fate of the questionnaires and there has not been any feedback from the department's administration or any meeting to discuss the findings and exchange ideas on corrective actions. Under such circumstances the EEC cannot see how such process can be mutually beneficial. The administration assured the EEC that corrective action will be taken in this very important area.

The EEC discussed the fact that less than 10 questions are included in student opinion questionnaires in their respective universities (two in the UK and one in the US) contrary to the 34 in the TEI-Sitia questionnaire. The EEC wonders about the necessity for the latter being so exhaustive. While the information collected is important and can be informative, yet it may create mental fatigue to the students, so that they may not respond seriously to the remaining questions; therefore the findings may be biased. An interesting study is under way now by one of the non- permanent personnel in one course which is testing the evolution of student opinion as the course progresses through the semester.

- Quality and adequacy of teaching materials and resources.

The EEC was informed that all lecturers make available to the students a copy of their notes and slides prior to the lectures. These can be also accessed electronically by the student (e-class system). The students expressed satisfaction with this procedure during their meeting with the EEC. Students are also provided on commencement of the courses with the relevant text books free of charge.

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

The EEC was informed through IER that the teaching materials are subject to annual review by the academic staff with considerations of budget allocation at the time. The time required for the preparation and updating of lecture notes is not considered part of the academic workload. This is particularly pertinent to the part-time staff, paid on an hourly basis, so that no financial compensation is given to them for the extra time required for updating lecture notes.

- Linking of research with teaching

Laboratory equipment is shared by research and teaching, making good use of available resources and exposing students to modern equipment and research concepts That was particularly evident when visiting the Body Composition laboratory.

- Mobility of academic staff and students

The ERASMUS program offers the only means of academic and student mobility. The committee acknowledges that the staff engaged enthusiastically with this program.

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

Teaching and resources are evaluated annually by the students through an extensive questionnaire.

## RESULTS

Please comment on:

- Efficacy of teaching.

The efficacy of teaching is hampered by the small number of permanent staff and the large number of students. Students were expected to attend at times 4 hours of continuous teaching, with only a 15 minute break after the second lecture. This is understandably very

demanding as it is very difficult to maintain concentration for such long periods of time. In laboratory classes group numbers (6 per group) are too large for effective teaching, dissemination of information and appropriate hands-on training.

The EEC was alarmed by the laxity of adherence to standard, routine safety procedures. Students were allowed to carry out experimental procedures without wearing laboratory coats and glasses. Apparently the cost of laboratory coats is the disincentive responsible as some students indicated to EEC. The EEC strongly recommends that no student should be allowed to enter a laboratory without laboratory coat and glasses.

Moreover the committee was surprised that no first aid kits were available in the laboratories or the vicinity. The EEC recommends that urgent corrective action is taken to rectify this situation.

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

The department monitors success and failure rates for each course and each semester, to identify courses becoming bottlenecks delaying student graduation rates. In the IER it is stated that the findings are discussed in the faculty general assembly. Courses identified in the past with success rates of 3-20% included some in the basic science areas but also some in specialized areas. The number of examinations in these courses according to IEC is less than 30 out of a total of 2300 examinations administered so far. The department feels that the low success rates in these selected courses cannot be considered as a key factor in the significant number of students failing to graduate. The EEC encourages the department to proceed with a more sophisticated analysis of the impressive volume of collected data. Such analysis should address whether the same course(s) appears to have repeatedly low passing rates and at what stage in the curriculum these courses are offered.

Despite the limitation of time the EEC proceeded with a limited statistical analysis of the data concerning 3 first semester courses which are prerequisites for the second semester namely, Biomathematics, Principles of Physics and General and Inorganic Chemistry. With respect to Biomathematics in a total 23 examination periods administered during the academic years 2004-2013, the mean of success of all examination periods was 69% with a 95% confidence interval (CI) of 12%. The corresponding figures for General Chemistry are: 51%, with a 95% CI of 7%. The corresponding figures for General Physics are 35% with a 95% CI of 12%. The relative small 95% CI might be indicative of a student population of similar potential in passing a course. Another point of significance is that the success rates of 69% and 51% might compromise the argument that inappropriate background, for the demands of the program, from secondary education might be responsible for failures in prerequisite courses early in the curriculum, thus creating a bottleneck. On the other hand the lower passing rate for the Principles of Physics might be due to other undetermined but repetitive factors. The EEC encourages the department to explore further this area of great significance to the graduation rates.

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

According to IER, the average time to graduation for those who graduate is 5.5 to 6.0 years, (11.4 semesters). However it should be emphasized that, according to table 7 of the IER, the percentage of student graduating the program during the academic years 2004-2008 ranged from 42% to 79.4% with a trend of increasing degree of failure. The EEC members believe that this is an alarming situation that should be urgently addressed by the department and beyond.

For the 7 academic years 2005-2012 the mean graduation grade ranged from 6.83- 7.56 with a mean of 7.14. Table 6 of the IER indicates that of 452 graduates 1.11%, 45.35%, 50.0% and

3.54% had a grade of 5.0-5.9, 6.0-6.9, 7.0-7.9 and 8.0-10 respectively. This grade range is considered very satisfactory comparatively to other Greek institutions of higher education.

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

The department recognises that the high level of failure to graduate is a major issue. Possible reasons, at least partially responsible for this, were put forward. TEI-Sitia was not one of the first choices by the students and they are not inclined to stay until completion of their studies. Students generally prefer to study in Athens/Thessaloniki even if they have to change their major subject. Moreover, many of the students that enrol to TEI-Sitia do not possess the necessary knowledge to attend the program. As a result they find lectures and laboratory sessions very demanding, are discouraged and eventually stop attending lectures and abandon the program. The large number of students also hinders efficient teaching and frequent and effective interactions with teaching staff. The IEC noted also that current economic problems may also play a role as they have an impact on quality of student life. The EEC feels that the relationship of the above factors to the low passing rates, in some courses, should be further investigated using appropriate statistical analyses.

#### IMPROVEMENT

- Does the Department propose methods and ways for improvement?

The unacceptable high percentage of students failing to graduate in Greek higher education institutes seems to be a systematic trend which should be addressed at the national level. Better teaching methods, high professorial calibre and good faculty-student ratios and interactions have a positive effect in student graduation rates. The extensive variability in the educational background of new entrants, with many having unacceptable deficiencies should be explored more seriously. This coupled with the reality that many of the entering students end up in the department not by primary choice and desire hinders the effectiveness of the educational process in any department with the best faculty intentions.

The obvious response is the appointment of additional permanent staff to meet the needs of the program. The high dropout level is inherent to the admission system that fails to match the wishes and ability of the student to the appropriate program and its demands. Students should not be obliged to attend TEI-Sitia if (a.) the program is not attractive to them, and (b.) they do not have the necessary background to successfully complete the program. The results may potentially improve if lectures are deemed to be compulsory with a concurrent monitoring that this implies.

- What initiatives does it take in this direction?

The collection of student opinions as a routine process at the end of every course and its tabulation allowing statistical analysis to identify important trends has been established. The department has committed itself to a closer interaction with the students so the findings can be discussed and corrective actions can be taken to promote a better understanding on teaching efficiency, anticipation of appropriate student performance and factors affecting such performance.

On page 65-66 of the IER the need for more permanent personnel, closer supervision of student progress through the curriculum, a decrease in the number of entering students and more objective selection of the subject options are being stated. Unfortunately faculty appointments, budgeting temporary academic personnel, entering student numbers and admission criteria are all decided at the State level with the academic institution having limited impact on these decision processes as historical trends have shown.

## **C. Research**

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

### **APPROACH**

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

The department encourages research but is also fully cognisant that with only 4 permanent staff, fully occupied with teaching and administrative duties, not much can be achieved. The hourly paid staff are clearly not expected to contribute to the research effort as this is not remunerated. As a result the publication record is at best modest. For the period of 2007-2013 there were 15 published papers in international peer reviewed journals and 23 peer-reviewed contributions at national and international conferences.

- Has the Department set internal standards for assessing research?

The department has no internal standards for assessing research.

### **IMPLEMENTATION**

- How does the Department promote and support research?

There were signs that the permanent members of the department are making efforts to establish and exploit relationships with other national and international institutions. However for such cooperation to thrive, TEI-Sitia must be able to demonstrate a distinctive, proven research capability.

- Quality and adequacy of research infrastructure and support.

There is systematic expenditure toward building laboratory infrastructure capable of delivering high calibre research outputs. Bearing in mind the time and research facilities available the performance is considered satisfactory

- Scientific publications.

For the period to 2007-2013 there have been 15 published papers in international peer-reviewed papers, 23 peer-reviewed contributions at national and international conferences and 65 presentations at various conferences without peer-review process. Bearing in mind the teaching and administrative work load, the above publication statistics constitute a worthwhile effort.

- Research projects.

The chairman of the department indicated to the EEC that between 2005-2013 the department had secured external research income of 634,000 Euros emanating from 8 research projects, of which 2 were from European sources with the remaining being funded from Greek sources.

- Research collaborations.

The impression of the EEC is that members of the department have active research relationships with the University of Crete and the Harokopion University in Athens that resulted in joint publications.

### **RESULTS**

How successfully were the Department's research objectives implemented?

The research objectives as appeared in the IER were rather vague and poorly defined  
However there was a clear effort to focus the research activities of the department to the



local needs. This appears to have been successful as exemplified by the research income attracted to investigate the dietary habits of local schoolchildren. The results of this investigation were published in 3 peer-reviewed international journals.

- Scientific publications.

Bearing in mind the limited research effort, dictated by other academic activities, the research record is satisfactory.

- Research projects.

The department has attracted a total of 634,000 euros during the last 8 years and is actively seeking additional funding.

- Research collaborations.

Research collaborations are restricted to national partners although it was obvious that the staff members would welcome collaboration with international institutions.

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

To our knowledge no patents were awarded to any staff member.

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

There is a limited level of recognition and visibility of the research work outside Greece. EEC is unaware of the number of citations concerning each article. Similarly, there was no mention of any reward or award received by any staff member.

#### IMPROVEMENT

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

The department undoubtedly aspires to significantly improve its research profile, but this remains a long-term ambition rather than a pragmatic target. This is almost entirely the consequence of inadequate staffing as a result of which research has become a low priority.

Assoc. professor Fragkiadakis in discussing the research productivity of the department on the positive side cited the following actions: good co-operation with scientists in other Greek institutions, multifaceted research activities, publications in good journals and research effort to assist the local economy.

On the negative side he cited the limited consideration of the department's publications and technical proposals by the centers of management and decision making and the absence of funded research projects based on international cooperation.

- Initiatives in this direction undertaken by the Department.

The department will continue to seek additional staffing to fill the obvious gaps. Moreover it proposes the purchase of additional equipment totalling 200,000 euros from central funds (TEI-Crete).

## **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 EEC considers that student facilities such as information technology, restaurant, student dormitories etc. are of very good quality and an asset to the institution. The administrative staff, in discussions with the EEC members, were very happy with the conditions of employment and the contribution they make to the running efficiency of the institution.

Moreover it was obvious that they commanded the respect and gratitude of the students who appreciated and valued their input.

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

We are not aware whether there are any problems concerning the administrative procedures or of any plans to simplify these. To our knowledge and understanding most procedures are electronically processed.

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

A problem encountered by the EEC is that there is no subsidised student cafeteria/restaurant on campus so that students are forced to travel to the center of Sitia (3.2km) to make use of such facilities. As there is only one buss per hour the students are discouraged from attending afternoon sessions. EEC was informed that there are plans for such amenities to be provided in the next building phase. However as a result of the current financial crisis there is no optimism that this will be implemented in the near future.

### **IMPLEMENTATION**

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

The administrative support of the department is well organized and effectively aided by 2 competent secretarial staff and an information technology expert.

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

As currently there is no employed librarian, there will be no support in the library to advise students in the effective use of library facilities or respond to their queries.

It was also pointed out that around 15% of departmental PC's are becoming outdated and will require replacement in the near future. We are not aware of any plans directed at student counselling.

### **RESULTS**

- Are administrative and other services adequate and functional?

In the opinion of EEC the administrative and other services are adequate and competent to ensure effective running of the department. However there is a clear shortage of technical support for the laboratories and this merits serious and urgent consideration. Furthermore

the department has just lost the only librarian whose services were essential to student educational progress.

- How does the Department view the particular results.

The department recognises the lack of technical support and the need for filling as soon as possible the vacated librarian`s post.

#### IMPROVEMENTS

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

Despite the recognition of additional personnel needs as stated above the department has no resources and budgetary authority to address them effectively.

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

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

The department enjoys positive relationships with many local organisations. The people of Sitia are proud of the presence of TEI in the city. Food producers appreciate and value the expertise of TEI staff in promoting technological advances of local products such as Xygalo (soured spreadable cheese) and olive oil, and investigating and publicising the benefits of the local diet. Indeed stakeholders, including the current and 2 ex mayors, in a meeting with the EEC committed themselves to financial support to the department in order to address and advance issues of major economic significance to the area and beyond. Moreover they expressed the belief that olive oil sales rose due to the scientific support given to them by the staff of TEI. There are plans in place to continue and enhance this mutually beneficial collaboration. The mayor of Sitia has committed 60,000 euros, over 6 years, for a new project to ensure the quality and safety of municipal water.

#### ***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.

Factors impacting adversely on the performance of the department are the grossly inadequate staffing and the excessive reliance on hourly-paid external staff. Similar shortages of staffing resources were noted in technical, laboratory and library support.

Another major factor that influences negatively the graduation rates is the fact that many students entering every year lack the necessary knowledge in science and mathematics that would allow them to benefit from the lectures and be successful in examinations. In essence there is a mismatching of freshmen education potential (as they originate from a variety of high schools with different academic standards) to the educational objectives of the department. This situation and the number of entering freshmen being much greater than

the facilities can accommodate presents a major hurdle and challenge to academic excellence not only in this institution but also for the whole higher education system of the country. It is therefore imperative that the State adopts new entrance criteria to higher education institutions so that student-selected educational fields are matched with their appropriate academic preparation.

The EEC encourages the close cooperation among personnel of the different departments scattered around the island in areas of mutual interests. Such a close cooperation will eventually enhance professional competence; ensure better research incomes, better research output and more effective use of resources.

During our meetings with TEI –Crete executives, they pointed out that presently there is no legal status that differentiates and supports research active staff members. The EEC feels that productivity should be rewarded. Therefore distribution of state support should take into account the contribution of each department within TEI-Crete to research revenues and support excellence accordingly.

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

Short term goals of the department include the provision of more laboratory sessions in the same course to decrease group sizes and facilitate learning processes as well as allow greater hands-on participation of students. Additional elective courses should be made available so that entering students with inappropriate preparation from high schools have a chance to fill the gaps and be able to attend more advance courses in a more efficient way.

Medium term goals: There is an urgent need for the appointment of additional academic staff and increase the ratio of permanent to temporary personnel in favour of the former. The EEC considers this a critical issue in determining the future of the institution. Furthermore the present staff should maintain and extend their collaboration with the local community and industry focusing on critical issues with significant economic benefits.

Long term goals: It is envisaged that additional academic appointments will free up more time from the current teaching, administrative and managerial duties of the permanent personnel and allow them to concentrate more on their research interests. This should be exemplified by more sustained effort in obtaining research funding, alone or in collaboration, from national and international sources.

- Plan and actions for improvement by the Department/ Academic unit.

For the above goals to be attained the department should spare no effort in significantly increasing the number of staff at all levels (teaching, laboratory, library).

- Long-term actions proposed by the Department.

The actions put forward by the department to secure its future success are: Improve the laboratory facilities, both research and teaching, offer additional courses in the cutting edge of nutrition and dietetics (food supplements, food contaminants ), implement improvements in student placement, widen research collaboration nationally and internationally, seek laboratory accreditation from appropriate authorities, recruit more high calibre permanent staff, and prepare new text books more akin to the courses taught.

## ***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 of Nutrition and Dietetics of TEI-Sitia offers a good level of teaching, generating graduates that fill the needs of both the public and private sectors in Greece. Moreover, it has successfully helped the local community in improving the quality and image of its Agro-Food products and their human health benefits. It is the view of the EEC that for this potential to continue to thrive and improve the State must provide the necessary investment to tackle the major problems, in particular the poor staffing levels.

The EEC acknowledges the following positive aspects:

- Dedicated staff, at all levels, providing high quality expertise.
- A harmonious environment that induces and promotes collaboration.
- Outstanding student attitude towards the preservation of the functionality and appearance of the educational facilities.
- Close relationship between staff and students.
- Strong links and fruitful collaboration between staff and the local community.
- Relatively short graduation time, for those graduating, compared to other equivalent institutions.
- Of those employed the vast majority is engaged in areas commensurate with their field of studies.
- Over 50% of the graduates achieve a graduation grade of at least 7/10.
- Effective selection of laboratory equipment that ensure usage for both teaching and research objectives.
- A clear enthusiasm and attitude to enhance the research potential of the Department.

The EEC acknowledges the following weaknesses:

- Inadequate academic staffing in terms of permanent appointments.
- Overreliance on part-time hourly paid staff.
- Uncertainty of sufficient funding every year for the required part-time staff.
- Poor student retention.
- Poor implementation of safety procedures in the laboratory.
- Admission of students with inadequate background to attend the curriculum.
- Poor student attendance of lectures.

- Insufficient analysis and feedback of the student questionnaire data.
- Insufficient analysis and feedback of student course pass/failure rates.

The EEC recommends:

### **A-Teaching**

1. Develop new elective courses in the subjects in which admitted students are weak.
2. Encourage individual diploma thesis for assessment even when the gathering of data was done in groups. The grading system should be altered, as advised by the EEC, to reflect the true contribution and academic ability of each student in cases where the experimental work was carried out in groups.
3. In laboratory sessions grouping of students should not exceed 4 students per group.
4. Improve library facilities when budgetary pressures allow.
5. Cultivate better relationships with nearby hospitals to facilitate the placement of students for their field assignment.
6. Encourage student mobility through ERASMUS and similar programs.
7. Adopt and enforce clear safety guidelines when working in the laboratory.
8. First aid facilities to be introduced in each laboratory as a matter of urgency.
9. Identify bottle neck courses or other factors that hinder acceptable student graduation rates and take appropriate corrective actions.
10. Lecture attendance should be made compulsory and monitored. More frequent short progress examinations and reports (term papers) may enhance attendance.
11. Establish a staff student liaison committee to enable students to air their views, in particular the data concerning questionnaire analysis and course pass/failure rates.

### **B-Research**

1. Identify research groups with similar interest and goals both nationally and internationally and establish links for submission of collaborative research proposals and personnel exchange. Emphasis should be placed in EU funded initiatives (e.g. Horizon 2020).
2. Improve channels of communications with the private sector in order to seek funding for commodity oriented research contributing to local and national economic growth. (olive oil, wine, dairy and vegetable industries)
3. Organise and equip the laboratories in order to enhance the concept of “fee for service” concerning nutritional ingredients in label declarations and other analytical services within the expertise of the department.
4. Decide and focus on limited thematic research activities with maximum return with respect to long term goals of the department. Such activities eventually will enhance the prestige and competitiveness of the department in securing additional research funds.
5. Improve publication record.

### **C-Other**

1. Maintain and improve the already existing links with local stakeholders through the establishment of a joint committee to deal with issues of mutual interests.

2. Make special efforts to expand the circle of participants providing student practical experience.
3. Maintain good links with the local community so that the good image of the institution is maintained.
4. Enhance the frequency of public gatherings where staff members discuss current issues in human nutrition and dietetics, and the department's activities and goals.
5. Efforts should be made to provide student cafeteria facilities on campus.
6. Efforts should be made to increase the bus frequency between Sitia, the campus and the dormitory facilities.

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