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ΑΝΩΤΑΤΗΣ ΕΚΠΑΙΔΕΥΣΗΣ

HELLENIC REPUBLIC
H.Q.A.A.
HELLENIC QUALITY ASSURANCE AGENCY
FOR HIGHER EDUCATION

EXTERNAL EVALUATION REPORT

DEPARTMENT OF ORGANIC GREENHOUSE CROPS & FLORICULTURE

TECHNOLOGICAL EDUCATIONAL INSTITUTE OF CRETE

October 2011

External Evaluation Committee

The Committee responsible for the External Evaluation of the Department of ORGANIC GREENHOUSE CROPS & FLORICULTURE of the University/Technical Institution of TECHNOLOGICAL EDUCATIONAL INSTITUTE OF CRETE consisted of the following five (5) expert evaluators drawn from the Registry constituted by the HQAA in accordance with Law 3374/2005 :

1. Associate Professor, Athanasios Alexandrou (President)
California State University Fresno, USA

2. Professor, Serafeim Bakalis,
Birmingham University, UK

3. Professor, Sophia Kathariou
North Carolina State University, USA

4. Agricultural Research Officer, Dionysia Fasoula
Agricultural Research Institute, Cyprus

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.

II. The Internal Evaluation Procedure

Please comment on:

- Appropriateness of sources and documentation used
- Quality and completeness of evidence reviewed and provided
- To what extent have the objectives of the internal evaluation process been met by the Department?

The Committee of External Evaluation (hereafter the Committee) visited the Department of Organic Greenhouse Crops & Floriculture (hereafter the Department) of the Technological Educational Institute (T.E.I.) of Crete during the period June 27th – June 29th, 2011. The team arrived in Iraklion the afternoon of the 27th and had an introductory meeting with Dr. E. Kapetanakis (T.E.I. President), Dr. Savakis (T.E.I. Vice-President and MO.DI.P President), Dr. Goumas (Director of School of Agricultural Technology), Dr. Markakis (Department Head), Dr. Papadimitriou (Head of the Department of Crop Science), Dr. Lulakakis (member of MO.DI.P.), and Dr. Dragasaki and Dr. Manios, both members of the departmental self-evaluation committee (O.M.E.A) who had undertaken the drafting of the Internal Evaluation Report. The committee was also given a tour of the facilities, including computer labs, the Gym and student dormitories on campus.

On June 28th, the Committee met with the following groups: The departmental members of the secretariat, students, the special & laboratory teaching personnel (E.E.Δ.I.Π.); special scientific personnel; a recent graduate of the program and the

department's faculty. The Committee also visited some of the laboratories.

On June 29th, the Committee visited various departmental laboratories, greenhouses and other laboratories and facilities at the field station (Agroktima), the library, the cafeteria and restaurant, the office of International Relations and the Career Services Unit.

The Committee considered the self-evaluation report, which is extensive and well prepared. In addition, the Committee considered several documents provided by the Department.

The visit took place in an atmosphere of a high level of professionalism and collegiality. We are unanimous in expressing our gratitude to all the staff, faculty and students of the Department for their hospitality and assistance in all aspects of the evaluation visit.

In general, we find the department to be in a relatively healthy condition having a curriculum with a good balance between theory and practical experience. Courses are taught by highly qualified personnel that also conduct research, which is disseminated in peer-reviewed journals and conferences of high repute.

The department shares facilities and staff with the Department of Crop Science (Fitikis Paragotis) also part of the same school. The Committee considers this as been very positive. The department has added value to its programs and academic operations by standardizing its activities according to Bologna Process as it has been originally signed by the minister of education. The Committee considers this as great asset for the Department's graduates.

The department is part of a regional higher education institute, located in the island of Crete and has developed activities together with the local community, targeting solutions of local problems in the area of agriculture. The Committee considers this very positive and recommends that it continues and becomes further strengthened.

The present report is structured according to the template headings required by HQAA. In each section there is analysis of the current situation and recommendations by the Committee.

A. Curriculum

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

APPROACH

- 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?

Overall, the curriculum was designed to serve the diverse agricultural sectors of Greece particularly vegetable and floral crops and also horticulture providing students with theoretical and practical knowledge. The importance and value of the Department and School to agriculture in Crete cannot be overstated. In the opinion of the Committee the Department should be given every opportunity to improve, expand and modernise its curriculum as we enter the era of climate change, globalization, increased world population growth, increased consumption of fruits and vegetables (produce) but also increasing food safety risks associated with produce, and great economic challenges to the agriculture as a sustainable way of life.

The current curriculum has 65 (240 ECTS) required courses, 34 of which are core courses. Eleven faculty members in permanent positions and approximately 40 part-time faculty (non-permanent) teach the courses. The Department shares facilities with the Department of Crop Science, with excellent working relationships between the two departments, including sharing of laboratory spaces and courses. The Committee feels that these synergies should be furthered explored.

The contents of courses are rather diverse, a fact that is explained by the nature of the Department. Courses are clearly interconnected and possess a small degree of overlap. Discussions with students indicated that some material may be out-dated, and that some courses were overly theoretical, without sufficient emphasis on knowledge required for practical applications.

According to the self-evaluation report, the Department faces difficulties in attracting students interested and committed to Agriculture for its program. This is partially contributed to:

(1) the plethora of agricultural related programs currently offered by Greek higher education institutions;

(2) the decreasing size of Greek agriculture and, perhaps most importantly, by

(3) the government-mandated program of National Examinations and student assignment to the University degree programs, according to which students are assigned by score and, in many (if not most) cases NOT by their area of interest. The Committee recognizes that these ways of student assignment cause substantial damage to the academic programs and to the eventual advancement of the nation. The committee also noted that the Department has highly qualified and exceptionally motivated and committed faculty members who overall do an excellent job under the circumstances, and who are willing and able to respond to the challenges that they face.

The number of available elective courses (15) is considered satisfactory. This presents an opportunity to the students to tailor their major to their specific needs.

Low attendance in classes taught in the classroom was a common concern expressed by faculty. However, the same students exhibited impressive engagement in laboratories or field settings that involve close interactions with faculty and teaching staff. This suggested to the committee that changes can be made in the teaching of the classroom-based classes to enhance and promote student engagement, and reduce absenteeism, which currently is at unacceptably high levels.

Students provide hard-copy evaluations for classes, and evaluations were processed by a dedicated member of the staff. However there was a feeling among the students interviewed that their feedback had no impact and was not really considered. The students have currently an unacceptably long time to completion (current average is 7.5 years). The exact reasons for this phenomenon should be identified and measures ought to be taken in order to address this issue. Some of the causes identified by faculty include lack of preparation of incoming students, causing them to repeatedly fail required classes; lack of attendance; students taking required specialized courses without having taken the appropriate pre-requisites; students being assigned to a University degree based on their scores in the national Entrance Examinations, with their assigned program frequently being far from their original choice and interests.

Following program evaluation, the following are recommended by the Committee:

Recommendation A1: The Department has to consider European and global trends

in the field and make appropriate adjustments in its curriculum to enhance its relevance, its ability to provide useful skills and knowledge, and its ability to attract high quality students. This said, it is fully recognized that this will not take place unless there is change in Government policies regarding entrance examinations and student assignment to degree programs.

Recommendation A2: The committee recommends that the department introduces a policy which will provide a detailed syllabus for each course and clearly articulated applicable policies, learning outcomes and expectations, assessment schedule, grading system, office hours and contact details for faculty.

Recommendation A3: The committee recommends that faculty develop teaching approaches and styles that enhance student engagement in classroom-based classes and reduce absenteeism, which currently is unacceptably high. Approaches can include grading schemes that have more than one criterion for grading and that reward participation; enhanced relevance of the material to contemporary challenges in agriculture; team work group discussion formats and other approaches which are definitely within the capacity of the highly dedicated faculty that the committee met. A more radical approach would be to make the focal point of the teaching the labs where student demonstrate high levels of engagement. For example, lectures would be associated with the labs and theory classes as traditional lecture type practices could be abandoned without cost to the program; instead, with projected benefit, as attendance would be higher and processing of information would be enhanced.

Recommendation A4: The Department is actively engaged in re-defining its strategic plan and mission, to enhance its relevance to agriculture and its ability to train students who can serve current and future needs of agriculture in Crete and Greece in general. When the Department crystallises on its strategic plan and mission it is recommended that the new curriculum contains a strong core supported by a carefully selected courses in specialized areas of high relevance and current interest, including certain courses the subject of which is under-represented in the current curriculum (e.g. Post-Harvest Processing; Produce Safety; Agro-ecology). Furthermore, a senior level capstone course should be introduced to consolidate and synthesize knowledge, and also promote teamwork and problem-solving among the students in a classroom setting. The number of elective courses should be also critically evaluated and if possibly reduced-consolidated in order to introduce novel.

B. Teaching

APPROACH:

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

Please comment on :

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

Teaching methods used

Teaching methods include classroom teaching often using power-point presentations, laboratory exercises, opportunities to engage in laboratory research, and fieldtrips in selected courses. A few of the faculty also place class-related material on electronic platforms (e-classroom); others indicated that such format would further reduce attendance and thus did not use electronic platforms. All methods used are considered appropriate. However, certain students expressed the wish for more regular updating of course material in lecture notes. The committee also believes that alternative lecture formats that may include participatory components (presentations by students, group discussions) would further student engagement and attendance. Students noted their wish for material to be presented in ways that make it more real and exciting to them.

It should be noted that the majority of the courses contain a laboratory component. However, laboratory classes are not co-required with the corresponding lecture class. Students would benefit if a single class contained both lectures and laboratory; this would enhance engagement of the students, and maximize their ability to process the information. The committee appreciates the fact that the student groups are of relatively small size. However, depending on the size of the class frequently students participated in large groups (>5 students) which compromised individual participation in laboratory classes. Laboratory sessions use specialised personnel to teach the labs. Students expressed their satisfaction with the quality of the instruction in the labs.

Teacher/student collaboration

It was evident from discussions with a number of undergraduate students that teaching staff is largely accessible. However, few students participated in research in the faculty laboratories. They indicated in the clearest way that they would gladly either volunteer or work for some compensation in the lab, in order to obtain good research experience. Instead, many students indicated that they viewed themselves simply as pairs of hands to take care of the field stations and other facilities for the department, mostly without any monetary compensation. Faculty indicated that the participation of students in research activities is indispensable. Furthermore, students are often co-authors in research publications/presentations. The committee strongly recommends that students are included to the extent possible in research activities, and that they receive some compensation for their involvement.

Adequacy of means and resources

Undergraduate students voiced satisfaction with the classroom assignment policy. They also stated that for most cases laboratory consumables were in adequate quantities, and that in most laboratories the equipment was well maintained. However the increasing number of students often prevents real hands on experience. Students have adequate access to major libraries and databases through the internet. The library is located in the main campus was well staffed and maintained. It was an attractive space that was in sufficient use by students at the time of the visit. It provides reference material, books, an adequate reading room and a computer room.

Use of information technologies

All students and faculty have been issued university e-mail addresses. All buildings of the Department (including cafeteria) are equipped with wireless connections.

Examination system

Grades were assigned mostly by a single final written examination. Midterm exams are optional and apparently not widely used. Additional options for grading may promote participation and attendance for students, and reduce the currently unacceptably high portion for students that have to take the same course multiple times, thus requiring an average of 7.5 years to graduate. The laboratory part of the class is mostly assessed through laboratory and exams specifically designed for the laboratory section. The Department uses the 10 grade scale and the student has to have at least a grade of 5 to pass the course. When the course has both laboratory and

theoretical parts the average is used. Data indicate that most students pass the courses with a grade between 6 and 8.4.

The Committee notes that during the last five years the number of student that graduated with a grade higher than 8.5 was rather low.

Quality of teaching procedures

When the committee visited on-site, it was examinations week, and it was not possible to attend classes. It was also not possible to assess student evaluations for courses. The number of written evaluations was rather limited due to low attendance. Most faculty members are dedicated and enthusiastic about their teaching, but attendance of courses is frequently low. Current legislation does not allow for the instructor to introduce compulsory attendance. However, instructors can implement measures that can encourage and reward attendance, as indicated above (mid-term exams, bonus points for participation in group discussions and presentations, etc.)

Quality and adequacy of teaching materials and resources

During interviews with students comments were made that some of the notes provided to students were out-dated. Committee examined available books for selected classes and found them to be excellent resources, frequently in effective formats (e.g. plant pathology books with numerous photographs of high quality). Books are available to the students at no cost. However, when students have to take a course on multiple years, they may have difficulty procuring the book, as both the book and the professor may have changed. Faculty indicated that in this case, there are books available for borrowing in the libraries of the School or T.E.I.

Equipment in labs seemed frequently quite old, but well maintained.

Mobility of academic staff and students

Faculty members accumulate sabbatical time, which they can use for their scientific advancement according to a personal plan that fits their needs. For the 2004-2009 period, 4 faculty members took sabbatical time. The Committee considers this number fair and recommends that faculty members make use of sabbatical to update their skills.

Few students are currently making use of the student mobility program Erasmus, apparently due to the costs involved. The Committee's visit to the office of International Relations showed a very dynamic and active personnel who clearly strives to recruit students for various mobility programs. Two interviewed students who had recently participated in Erasmus showed enthusiasm and appreciation for the program. It is worth noting that the Department respects the Bologna process and transfers the credit for the courses that its students study abroad.

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

The O.M.E.A. provided student evaluation of instruction for courses taught in the Department. The questionnaire is considered appropriate and included questions on teaching, course content and material used. Student evaluation of instruction is used in every semester and course. During our visit with the students, it was mentioned that their evaluations were done but did not have any impact. Discussions with faculty and members of MODIP indicated that after the answers are manually keyed in and analysed by MODIP, the summary goes to the Department where they are distributed to the faculty member, who also receives the hard copies of the evaluation. The Committee acknowledges the fact that the course evaluation process is in its infancy. Improvements can include an electronic evaluation system, which would greatly enhance the effectiveness and accuracy of data analysis. Electronic evaluations would also permit the verbal comments of the students to be included (currently such comments are not transferred to the electronic record, and remain on the hard copy; they may or may not ever be read by the instructors).

The Committee recommends the following:

Recommendation B1: The introduction of weighted grading where the student grade will depend on midterm exams, quizzes (announced and unannounced), assignments, group discussions or presentations, laboratory exercises and a final exam may provide an incentive for students to attend the classes. Higher attendance and multiple grading options may reduce the currently unacceptably high fraction of students who fail each course.

Recommendation B2: Evaluations of teaching can be further utilized to support excellence in teaching. The number of student evaluations should be increased before they could provide any useful information. The Department Head should confer with the faculty, discuss the faculty's student evaluation of instruction scores and provide support if needed. Teaching Excellence Awards (or equivalent tools for

recognition of excellence) can be instituted to recognize individuals who excel in teaching.

Recommendation B3: An outcomes assessment process with metrics should be gradually introduced for courses taught. The assessment should be referred to individual courses and examine if at the end of the course the student has achieved the learning outcomes as outlined in the syllabus.

Recommendation B4: The Department is advised to more widely adopt the use of software web-teaching packages for development of distance learning tools.

C. Research

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

APPROACH

- What is the Department's policy and main objective in research?
- Has the Department set internal standards for assessing research?

The department's founding mission, as stated in the Internal Report, relates to the following subjects: Vegetable Crops and Floriculture, both in open air systems and in greenhouses; Integrated Plant Production Organic Agriculture; Management of Natural Resources, Agricultural Ecosystems, Sustainable Development; and Landscape Architecture.

The Committee appreciates that the primary mission of the T.E.I.s in Greece is teaching and not research, and we have taken this into account in our evaluation of the program. We have also taken into account that there is a very close relationship between the Department under evaluation and the Department of Crop Science, located on the same campus. The two departments share research and teaching facilities. Furthermore, and, even more importantly, several faculty and staff of the Department of Crop Science substantially support the research and teaching activities of the Department under evaluation.

The Department has no specific research policy, as stated in the internal evaluation report.

The comments that follow are made having as a benchmark a teaching-intensive institution. The research activities of the Department have been compared to acceptable international standards for teaching-intensive institutions in Europe and the United States. Compared to the above mentioned standards and the State policy towards TEI, the Committee finds that the overall research activities are quite satisfactory. Faculty members of the Department have published extensively with 57 peer-reviewed publications since 2005. This indicates a ratio of > 1 publication per tenured faculty per year. This ratio is comparable with research-oriented institutions of higher education. We also note that the research results have been disseminated in journals that are highly regarded in their field.

The Committee also notes that certain faculty members have extensive research activities that contribute significantly to the regional economy. Currently the Department participates in various research programs supported by local, state and European Union funds totalling over 15 million euros, with approx. 2.3 million euros

allocated to the department. Moreover, the Department has developed significant consulting activities. However, a large portion of these funded programs are in the context of the research on waste management by one faculty member, Dr. Manios. The committee was impressed by the competitiveness and productivity of this research program. The thrust of this program is currently somewhat peripheral to the primary focus of the Department on vegetable production, but the vigour of the program is commendable, and clearly an asset to the Department. Another area of excellence involved research by Dr. Kypriotakis. His research has resulted in a herbarium collection of >30,000 specimens, the discovery and description of several new species, and the mapping of residual populations of endangered native plants. As with the waste management program discussed above, this program is also somewhat peripheral to the immediate focus of the Department (Vegetable Production), but clearly a unique asset to the Department. As public sources of funding become scarce donations from charitable organisations (e.g. Benaki Museum) might be a solution for this and other programs with focus on biodiversity and conservation.

The Committee noticed pronounced diversity in research areas pursued by faculty members. Research was application-oriented and addressed a number of important needs in today's agriculture, including plant diseases, propagation of resistant cultivars through tissue culture, plant taxonomy and ecology with focus on native, medicinal or endangered plants, waste management, and collaborative projects on molecular and biotechnological applications to just mention a few.

The variety in the activities and the outward-looking, open mentality of the faculty members are commendable. Furthermore and despite the fact that the Department is not allowed to develop autonomous graduate programs, it has developed PhD programs in cooperation with research universities abroad such as Cranfield University. During the last 5 years, 13 doctoral candidates used the Department's facilities for their thesis research, supervised by faculty of the Department's. T.E.I. students were actively engaged in research projects, as paid assistants, as volunteers, or in the process of pursuing their degree program. In our interview with students it was made abundantly clear that students were eager to participate in research, even without pay. Funded programs that can support a larger number of T.E.I. students are needed. T.E.I. faculty are strongly encouraged to include support for students in Programs from the European Union, other government sources, or the private sector.

The committee is impressed with the establishment of a spinoff company by the faculty leading the Waste Management program, the recent successful LIFE grants, and the number of European Union grants that have funded. It is also commendable that faculty research has strong connections with the local and regional economy.

Research infrastructure, shared with the Department of Crop Science, is impressive, including very good greenhouse and tissue-culture facilities for vegetable and flower production, a very modern laboratory and extensive field facilities associated with the Waste Management Program, very good plant pathology and entomology laboratories, a well-equipped laboratory of agricultural engineering, and good laboratories involved in research about the local flora and ecology.

There are excellent supporting library services, shared by the whole TEI.

The Committee recommends the following:

Recommendation C1: The Committee urges faculty and staff to maintain the present high quality of research and outreach, despite the acknowledged obstacles posed by the current crisis in the Greek economy.

Recommendation C2: Improve the visibility of the work, especially the significant quantity of applied research and the many relatively small projects, undertaken for individual growers and producers. The results of this work (e.g. tissue-culture based propagation of cultivars with improved disease resistance) are conveyed to those that ask for it, posted in the web page of the T.E.I., presented in conferences, symposiums, workshops and published in local or national newspapers.

Recommendation C3: Further align the Department's research with the strategic needs of Greek Agriculture and related industries.

Recommendation C4: Explore the possibility to join forces with the Department of Crop Science to further enhance the already existing synergism and collaboration between the two Departments.

Recommendation C5: Identify novel areas for research (with accompanying training) to address current needs and trends, e.g. in organic production and safety of produce, whether conventional or organic, and promotion of niche markets for agricultural commodities.

D. All Other Services

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

APPROACH

- How does the Department view the various services provided to the members of the academic community (teaching staff, students).
- Does the Department have a policy to simplify administrative procedures? Are most procedures processed electronically?
- Does the Department have a policy to increase student presence on Campus?

Adequate administrative infrastructure is in place. The Department has access to web support, and computer stations are available to students at the library. Computer stations at the central library are numerous and up-to-date. Wireless is in virtually every corner of the institution.

The Committee noticed that the Department has access to the University's support services and provides services for the students with learning or physical disabilities. Athletic and catering facilities were impressive, significantly above average.

Based on the information provided in the internal self-appraisal report, discussions with faculty members and students, and actual visits to the Department and related facilities, the Committee considers the functionality of the Department's administrative services and infrastructure effective.

Students appear to be reluctant to utilize elected student representative bodies in order to voice their grievances regarding academic issues.

Job placement services for students carried out through the Career Services Unit. During our meeting with the office representative, it was stressed that, up until 2008 (at which time funding from the European Union was discontinued) the office organized annual "Career Fairs" with representatives from the agricultural sector, industry, government, institutes, foundations etc. The committee notice that faculty were engaged in assisting students with choices for agencies to perform the required internship ("Practical Exercise") and considers this to be crucial for student training, academic and professional development, and future job placement.

The Committee recommends the following:

Recommendation D1: The Committee recognizes the introduction of an advising program in the Department and recommends that this effort continues. Such

advising would contribute to reducing the risk that students become enrolled in classes without appropriate prerequisites, and thus reduce failure rate for classes and time required for degree completion. The electronic registration process can also be modified so that students cannot register for classes if prerequisites have not been completed.

Recommendation D2: The Committee recommends the development of an organized mentoring system for junior faculty on issues related to professional growth and development, teaching and scholarly activity. This is also critical for members of the instructional staff in non-permanent contracts. In this process senior faculty and academics outside the institution could be also involved.

Recommendation D3: The Committee recommends the development of a retention, promotion and tenure institutional policy which will provide guidance to faculty members on related issues.

Recommendation D4: The Committee recommends that the Department encourages faculty to participate in visiting scientist programs and to take sabbaticals at other institutions.

Recommendation D5: The Committee recommends that the Department institutes a regular program for reward of excellence in teaching, research, service and outreach for the faculty and staff.

Collaboration with social, cultural and production organizations

The Department's initiatives are mainly oriented towards maintaining active outreach programs to the community, the local agricultural sectors and the industry. It has developed a number of initiatives with local and regional organizations and has a number of consultancy activities. The cooperation with the cities of Iraklion and Kalithea of Rhodes and the private company Antipollution are notable. However, there is need for improvement. For instance, workshops on specialized applied topics can be offered (free or for a nominal fee) to growers. Seminars open to the public can be given on a regular basis (e.g. once each semester) to present those aspects of faculty research programs that are of special relevance and interest to the T.E.I. and to the community.

E. Strategic Planning, Perspectives for Improvement and Dealing with Potential Inhibiting Factors

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

Please, comment on the Department's:

- Potential inhibiting factors at State, Institutional and Departmental level, and proposals on ways to overcome them.
- Short-, medium- and long-term goals.
- Plan and actions for improvement by the Department/Academic Unit
- Long-term actions proposed by the Department.

As an overall recommendation of paramount importance we propose that:

Recommendation E1: The Department should define a clear novel identity, mission, and operational niches compatible with: the capabilities and technical competencies of its staff and the needs of the agricultural sector, the food industry and related socio-economic stakeholders in Crete and the Eastern Mediterranean basin.

Having achieved the above, the Department is encouraged to develop a long term vision with main aims:

- a) To carry out a thorough review and restructuring of the curriculum to truly reflect the core aims and objectives of the Department.
- b) To develop a research and outreach strategy that will include development of research topics oriented not only towards the needs of the local, economy but also toward the Eastern Mediterranean economy.
- c) To develop a core curriculum in English, which will allow the Department to recruit students from the Eastern Mediterranean basin and other countries.

The Department should also develop focused plans to increase its visibility and impact on the local community. Outreach efforts could involve: workshops on their area of departmental expertise (e.g. floriculture; apiculture; organic production); development of an Arboretum where diverse plants, including native and endangered flora, could be seen and appreciated (this could not only serve for teaching purposes but would also provide excellent community outreach, become a source of potential fundraising through private donors and regular plant sale events, and could involve

both students and the community at large in volunteer positions for the maintenance of the Arboretum; many agricultural universities in the United States have an Arboretum associated with them, and successful models are available); capitalise on its excellent facilities and expertise to become involved in the design and maintenance of public parks and protected natural areas

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 most important conclusions reached by the Committee are assembled here. The detailed recommendations in each area that can be found at the end of the corresponding sections, numbered accordingly, are not repeated here.

General

The Committee were impressed with the teaching and research facilities available to the students, including field and greenhouse facilities and well equipped laboratories, including those of the Department of Crop Science with which there is a very close relationship. There was excellent IT support and very good library facilities. The Committee was particularly impressed with the International Relations Office, responsible also for the implementation of the Erasmus exchange program. The Office is run by highly experienced and dedicated staff and Committee had the opportunity to interview both incoming (non-Greek) and outgoing (Greek) students about their Erasmus experience. Their enthusiasm was abundantly evident and it is clear that the work of the International Relations Office is of the highest calibre and should continue.

During the visit, the Committee became aware of a recent development at the State Level, according to which the Department under evaluation was excluded from new, first-year students for the new academic year. This is a potentially serious development, requiring immediate action at multiple levels, in order to safeguard all the achievements of the faculty, staff and administration, the excellent facilities and the human capital of the Department under evaluation.

To this effect, the Department should develop a novel identity and a cohesive, long term mission. In so doing, areas of local and regional importance must be taken into account using modern methods and advances. In particular, the new strategy should take into account factors such as the prime geographical location of the Department's

facilities, which can act as a powerful magnet for international students, visiting faculty and research scholars. Additional advantages include the prime facilities, the existing close interaction with the Department of Crop Science, and the overall excellent quality of human capital. The Department under evaluation would do well in adding a strong International dimension to its future, by offering accredited courses and degrees in the English language.

Curriculum

In its new identity the Department has to consider generally accepted educational programs and develop a new curriculum which will reflect course requirements established by relevant professional associations and official thematic networks. In addition, it should minimise thematic overlaps in courses while adding courses that reflect current needs and trends in Agriculture (e.g. Organic Production; Agro-ecology; Post-Harvest Processing; Produce Safety). The classes can be incorporated to the curriculum, to serve students with diverse needs. Furthermore, the committee recommends that the department introduces a compulsory policy with respect to the availability of a detailed syllabus; that it introduces an electronic evaluation system for classes; that it limits the transfer of prerequisite courses but also introduces measure to prevent registration for courses for which the appropriate pre-requisites have not been successfully completed; that it incorporates components (availability of additional grading options; group discussions and class participation etc) to encourage attendance; that it enhances accessibility of department research programs to the students, who seemed hungry for such involvement, even without monetary compensation (Committee strongly encourages a wider stipend support system for students working in the labs or in the field facilities); and that it introduces a faculty-led student advisement program to assist students in decision-making for enrolment and reduce time to degree. Students, staff and faculty need to work together to reduce the length of the degree program, which is currently unacceptably high.

Teaching

The Department should establish processes to assess the efficacy of teaching and act upon the findings. Electronic evaluations should be implemented. Teaching excellence should be acknowledged and rewarded through a TEI-based assessment system (e.g. a committee of faculty and students that solicits nominations and acts accordingly).

Research

The Department should concentrate its activities in targeted areas of demand that can catapult the program into excellence, while maintaining the present high quality of research and outreach. Research excellence should be acknowledged and rewarded through a TEI-based assessment system (e.g. a committee of faculty and students that solicits nominations and acts accordingly).

Planning

The Department should develop a long term vision with main aims to carry out a thorough review and restructuring of the curriculum to truly reflect the core aims and objectives. The Department should also draft a research strategy that will include specific methods and procedures for the identification, fostering and development of high-impact, high-relevance research areas. Lastly, the Department should encourage and assist faculty, staff and students in design and implementation of novel and expanded outreach efforts. This Department exceeds the standards of a teaching-intensive institution in most areas with clearly strong potential for sustained excellence, innovation, and strategic planning to best address current trends, needs and opportunities related to agriculture in Crete, the eastern Mediterranean basin, and elsewhere.