RE-ACCREDITATION OF
FACULTY OF FOOD TECHNOLOGY AND BIOTECHNOLOGY
AT THE UNIVERSITY OF ZAGREB

Date of the site visit:

22 and 23 April, 2013

2013
April

COMPOSITION OF THE EXPERT PANEL

1. **Dr Jes Christian Knudsen**, Department of Food Science, University of Copenhagen, Denmark, chair

2. **Dr Martin Wiedmann**, Department of Food Science, Cornell University, USA

3. **Dr Ralf Hartemink**, Department of Food Microbiology, Wageningen University, Netherlands

4. **Dr Johann Vollmann**, Dept. Crop Sciences, Division of Plant Breeding, University of Natural Resources and Life Sciences, Austria

5. **Ivana Tanasković**, student, Faculty of Food Technology University J.J. Strossmayer in Osijek, Croatia

Expert panel was supported by:

- Marina Matešić, Head of Department for Acceditation in Science, ASHE
- Irena Petrušić, Head of Research and Development, ASHE
- Gordana Cukar, translator, ASHE

Contents

* to be filled in by higher education institutions not listed in the Register of Scientific Organisations of MSES; related to the Criteria for the Assessment of Quality of Polytechnics and Colleges

INTRODUCTION

Short description of the evaluated institution

NAME OF HIGHER EDUCATION INSTITUTION: Faculty of Food Technology and Biotechnology

ADDRESS: Pierottijeva 6, Zagreb

NAME OF THE HEAD OF HIGHER EDUCATION INSTITUTION: Prof Mirjana Hruškar, PhD

ORGANISATIONAL STRUCTURE:

7 departments and Food Control Center

LIST OF STUDY PROGRAMMES (and levels):

Undergraduate level:

- Biotechnology
- Nutrition Science
- Food Technology

Graduate level:

- Molecular Biotechnology
- Bioprocess Engineering
- Nutrition Science
- Food Engineering
- Food Safety Management

Postgraduate specialist studies:

- Food Quality and Food Safety
- Food Management

Postgraduate PhD studies:

- Biotechnology and Bioprocess Engineering
- Nutrition Science

- Food Technology

NUMBER OF STUDENTS:

full-time 934

part-time 108

NUMBER OF TEACHERS: 99

NUMBER OF SCIENTISTS: 84

TOTAL BUDGET (in kunas): 63 763 150kn

MSES FUNDING (percentage): 76%

OWN FUNDING (percentage): 24%

SHORT DESCRIPTION OF HIGHER EDUCATION INSTITUTION:

The Faculty has a variety of teaching programmes at all levels of study, which are characterised by a highly multidisciplinary approach. This was made possible by cooperation of teachers with different scientific profiles, which contributes to the quality of scientific research as well as to the quality and diversity of study programmes. High quality of the educational programme, which needs to be confirmed by competitiveness of students on the job market not only in the country but also abroad, is one of the strategic goals of the Faculty. To reach this goal, full implementation of the process of quality assurance of the teaching process is of importance. Additional efforts will be necessary to overcome the observed unsatisfactory level of successfulness of the studying process. These are also supported by the students, who are becoming increasingly aware of the importance of higher quality of both theoretical knowledge and practical competences, and correspondingly, with higher competitiveness on the job market. A planned partial revision of study programmes is only one of the activities aimed at achieving better education. The quality of implementation of the teaching process is equally important, and in a large part it is related to adequate scientific and research activities of the teachers. This aspect of the Faculty seems satisfactory, particularly since the scientific excellence according to internationally accepted standards of a number of teachers has been recognized in Croatia, as well, and awarded with a number of National Science Awards. In order to reach the level of recognition of the Faculty as a centre of scientific excellence, it is necessary to continue the support of high quality research. Apart from scientific excellence, pedagogical competence of the teaching staff is also a prerequisite for high quality tuition, thus we will work in that respect with other Faculties of the University of Zagreb in order to achieve permanent education especially of young teachers prior to their involvement in the teaching

process. On the other hand, the quality of tuition depends on the level of previous knowledge and motivation of students to achieve higher levels of competences. However, the Faculty is not in a position to influence these factors.

Relying on the tradition of international cooperation so far, which includes some of the most eminent European universities, we will stimulate and support the involvement of as many teachers and associates as possible in all forms of international activities, and especially in scientific research. Strategic research programme includes projects in cooperation with or supported by businesses, with the aim of practical application of the obtained knowledge, in accordance with the goal of the academic community to contribute directly to the economic growth of the society.

The work of the Expert Panel

For its work the Panel drew upon the Self-Evaluation Report, prepared by the Faculty of Food Technology and Biotechnology. A site visit was carried out on 22 and 23 April. During the visit to the Institution the Expert Panel held meetings with the representatives of the following groups:

- The Management;
- The Working Group that compiled the Self-Evaluation;
- The students, i.e., a self-selected set of students present at the interview;
- The Vice-Dean for Teaching and Students' Affairs, programme co-ordinators and teachers;
- The Vice-Dean for Scientific Activity and International Cooperation and research projects' leaders;
- Teaching assistants and junior researchers.
- Students

The Expert Panel also had a tour of the classrooms and laboratories at the Faculty of Food Technology and Biotechnology, where they held a brief question and answer session with the students and staff who were present.

Preamble:

The committee applauds the Croatian government for implementing an external review of its HEIs. While the overall evaluation is well thought out and implemented, we believe that certain additional key criteria should be included in future evaluations. For example, with the well documented past issues with corruption in at least some parts of the Croatian higher education system, we would suggest that a clear evaluation of procedures that are in place to allow for effective reporting of corruption and academic misconduct would be appropriate. This may, for example, include an evaluation of the effectiveness of these procedures, including a review of past complaints received and how they were handled.

We also appreciate that certain aspects of the legal frameworks for HEI in Croatia may impede further improvements of HEIs. For example, the current system of appointing deans under the „e pluribus unum“ principle may, in fact, prevent or at least slow down the implementation of more sweeping changes that are needed. A model where a dean is appointed for a term of 5 years with a possible renewal for another 5 year may, for example, provide for stronger leadership and may facilitate implementation of some of the needed changes.

DETAILED ANALYSIS BASED ON STANDARDS AND CRITERIA FOR RE-ACCREDITATION

1. Institutional management and quality assurance

1.1. The Faculty of Food Technology and Biotechnology is in the starting phase in respect to strategic planning, which includes definition of goals and vision on the basis of current position and in relation to the mission. Stakeholders could be more involved in that process and it is recommended that an advisory board with stakeholders from industry and other universities is established.

1.2. The faculty has effective organizational structures and processes and has formalized them in legal documents.

1.3. Not applicable.

1.4. The study programme of the faculty is more or less aligned with the mission of the faculty.

1.5. The institution has partly implemented a quality policy and connected procedures for quality assurance and enhancement of activities.

1.6. The faculty has in part implemented collection and analysis of relevant information in order to effectively manage all of its activities. In order to evaluate activities students and stakeholders should be involved.

1.7/1.8. The faculty is in the starting phase of implementation of formal routines for monitoring and improving the research quality as well as the teaching quality.

1.9. The faculty is also in the starting phase in respect to establishment of formal mechanisms in order to ensure the highest level of ethical behavior within teaching and research activity. Students and staff should be informed about these formal mechanisms. In general Faculty of Food Technology and Biotechnology has a satisfactory strategic planning. There is a general strategy on faculty level, however, not for all three subfields (biotechnology, food technology, nutrition). The faculty has collaboration with industry, one of their stakeholders; however, it could enhance teaching and research resources if more collaboration with industry was established. The faculty will increase the number of scientific research projects, both national and international projects. However, the faculty should in their strategy include more attention on how to reach the goals, for example how to increase the number of scientific research projects. Currently the faculty has 176 research projects in collaboration with industry. By 2015, the faculty is moving to the new Campus Borongaj. The number of young researches, within the permanent staff, is limited compared to the number of senior/professor level researches. It is recommended that the number of young researches, within permanent staff, is

increased in order to ensure continuation/future recruitment. Furthermore, the faculty should enhance the number of staff, who obtained their Ph.D. degree outside Faculty of Food Technology and Biotechnology. Currently, 5 permanent staff members obtained their PhD outside of this institution. It is recommended to increase the number of staff with a Ph.D. and postdoctoral education from foreign institutions. That would benefit scientific recognition and scientific output, also since collaboration with external partners/foreign institutions could be enhanced from that. The staff should also be encouraged to take stays abroad to visit institutions with advanced facilities/instrumentation in their respective fields. The faculty should facilitate (in the form of organization/union/alumni) contact between students/graduated students and industry representatives. That would also facilitate connecting the best students with industrial representatives.

2. Study programmes

2.1 The institution has defined and adopted effective processes by which new study programmes are proposed, approved, and implemented. These procedures monitor development, innovation and improvement of the existing study programmes and include stakeholders..

2.2 The institution ensures that its enrolment quotas are justified by the needs of society.

2.3 The enrolment quotas are in line with the institutional resources for quality teaching and the analysis of pass rate.

2.4 Student learning outcomes set by the teachers and stated at the level of a study programme and its courses, clearly describe knowledge and skills of the graduates..

2.5 Teachers at a study programme ensure that the assessment of student learning, regardless of its modality, is aligned with stated learning outcomes, represents the full range of learning being assessed, and assesses learning at the level of rigour appropriate to the qualification level. This point could be improved.

2.6 Allocation of ECTS reflects the realistic estimate of student workload.

2.7 The content and quality of each study programme conforms to internationally recognized standards and ensure the international recognition of its qualification.

2.8 Teachers select teaching strategies that are appropriate to the nature of the material being learned, responsive to various student learning styles and encouraging students to be autonomous, responsible learners. This point could be improved.

2.9 Programme faculty made available appropriate amount of supplemental resources, including electronic databases and other sources, which aid knowledge acquisition.

2.10 As appropriate to learning outcomes, students have opportunities to reinforce and apply their learning in the context of practical applications, such as through internships, business partnerships, community service, or similar arrangements. This point could be improved.

3. Students

3.1 The quality of entrants is underpinned by two major determinants - high school knowledge and studying motivation. The experience of faculty members lecturing first-year undergraduates shows that the level of foreknowledge of most entrants falls below that expected to be attained based on officially declared high school learning outcomes and cannot provide for their successful participation in the tuition process.

Such an experience shows weaknesses of the high school grading system and huge differences in the quality of education provided by different high schools.

We recommend more stringent criteria for admission.

3.2. The chief organizer of extracurricular student activities is the Student Council – it participates in the organisation of „Tehnologijada“, supports sports teams and athletes taking part in university competitions and other student tournaments.

Furthermore, a few other student associations have been established and are entrusted with the organisation of various lectures, workshops, congresses, competitions.

They also have association of Biotechnology students known as the “Helix” which organised the “1st Student Symposium on Biotechnology” with international participation, as well as visits to production facilities of biotechnological firms and workshops on “How to prepare a CV” and “How to approach a job interview”.

An association named “eSTUDENT” organized visits to food companies Franck, Nestle and Coca-Cola Hrvatska, together with the lecture on “How to successfully apply for studying abroad”.

3.3 According to the self-evaluation, the role of the mentor was assumed by the Chief Study Coordinators. There are offices established to provide support to disabled students, as well as offices that provide student counselling services (established on the University level).

Furthermore, the FFTB Office of Legal Affairs provides legal counselling for all students and foreign students coming to the Faculty within the frame of various student exchange programmes are assigned his/her “student-buddy“.

During our site visit, we noticed that the system doesn't work properly. There is a need for establishment of better systems for mentorship, counselling and

professional orientation because students lack information about their obligations and job opportunities.

Students have the feeling that they are treated as a number instead of as a partner, and we strongly recommend different approach because both students and the Faculty members should work together to enhance the quality of the Faculty and the quality of teaching.

3.4 Premises accommodating student sports activities are satisfactory. A major issue is the insufficient capacity of tuition premises and premises in which student associations could meet or in which cultural activities could take place, insufficient accommodation capacities and small capacity of the restaurant.

3.5 The evaluation of the learning outcome is conducted through various forms of classes and through various forms of knowledge evaluation (preliminary exams, written exams, oral exams), or with a combination of all of them. They also implemented an e-learning system.

They offer students formal possibility of appeal - explanations and advice as to how to proceed can be sought directly from the Head of the Undergraduate & Graduate Studies Office, or they can turn to the Student Ombudsman.

The main problem is that a part of the students is not familiar with the formal strategy of appeal and we found apparent irregularities at exams (as exceptions).

We would also like to recommend establishment of an independent person or office for complaints by students and non-teaching staff.

3.6 There are few societies that gather engineers, masters and PhDs of Food Technology, Biotechnology and Nutrition Science such as The Croatian Society of Food Technologists, Biotechnologists and Nutrition Scientists, Croatian Society of Biotechnology and other expert societies.

The society agenda is primarily focused on the exploration of employment options so as to help its unemployed members and to raise the popularity of the profession through public media and the release of a scientific research journal.

We recommend strengthening of alumni so students can get information about employability and, at the same time, the Faculty will get information about the needs of society which will lead to restructuring of study programmes and enrolment quotas.

3.7 The Faculty established Student Council and Boards and committees and students participate in the activities of the Faculty Council through their elected representatives.

The problem is that students do not fully trust their student representatives because they failed them regarding some issues.

Students complain and ask for help, but nothing changes so they claim that students representatives are „in the system“ and consider that as a reason for mentioned problem.

We recommend external associates for students until trust relations between students, Student Council and other bodies at the faculty are improved.

3.8 First of all, Faculty website contains all relevant information on the application process, study curricula, study conditions, competencies gained following graduation and possibilities of employment upon graduation.

Furthermore, study programmes are also introduced on the University Fair, and within the frame of the Fair in workshops and through visit of the Faculty.

Faculty Jubilees are marked by publishing of brochures containing not only information on study programmes, but also those on scientific research activities, international cooperation, lecturer and student mobility and the organisational structure of the Faculty.

3.9 Students participate in the activities of the Faculty Council through their elected representatives. They are also incorporated in the management’s structures through Student Council and Boards and committees.

The Faculty of Food Technology and Biotechnology established The Quality Assurance Committee – they conduct student survey targeted at evaluating Faculty members’ performance.

3.10 According to the self-evaluation, all information is conveyed to the students by their representatives in the Committees and the Faculty Council.

During our site-visit we noticed and heard that part of the students is not informed about the results of student surveys and the measures implemented on the basis of their suggestions and opinions.

Also, it appears that there may be considerable problems regarding the relationship between students and student representatives. Students don't believe to their student representatives because they complain and ask for help, but mostly nothing changes so they claim that students representatives are „in the system“ and consider that as a reason for mentioned problem.

We recommend external associates for students until trust relations between students and Student Council and other bodies at the faculty are improved and organization of meeting with students to inform them about the results of surveys and all the problems/information regarding the Faculty work.

4. Teachers

4.1. The number and qualifications of the teachers appear to be in-line with the strategic goals of the institution, except that there may be a need for re-alignment of positions to provide more expertise in nutrition if the study program in nutrition will be maintained (we appreciate that this may mean that teaching positions in other areas may have to be cut). The study program in nutrition currently seems to be more designed towards training students for employment in food industry (which is more easily possible with the current teaching staff), as the teaching staff currently available does not seem to have the depth to teach a nutrition program that would train highly qualified nutritionists for employment in hospitals etc.

4.2. Human resources are largely grown from within. There is a requirement for spending 3 months abroad for all assistants before they can be promoted to assistant professors and in the last 5 years, 12 FFTB assistants/senior assistants spent a year or over a year abroad. While this is good, more efforts to recruit human resources with longer training outside FFTB and preferably outside Croatia may facilitate introduction of new ideas and approaches. The lack of lateral mobility (meaning mobility from other institutions both within and outside Croatia) needs to be addressed and FFTB is strongly encouraged to develop quantitative goals for recruitment of teachers from the outside (an example of a quantitative goal would be "By year XXXX, at least XX% of teachers should have received at least one degree from outside of FFTB). Institutions with limited influx of outside ideas will not only be less likely to implement change, but also, as outlined in this blog (http://blogomata.wordpress.com/tag/forms-of-corruption/) carry a higher risk of corruption. An increased number of outside teachers would thus likely have a beneficial effect on the institutions at a number of levels.

4.3. Overall, a sufficient number of full time teachers seem to be employed.

4.4. While the faculty student ratio seems to be appropriate (about 1:10), it is not clear whether a specific plan for managing faculty student ratio or a strategic goal for faculty student ratios is in place.

4.5. The self assessment states: "*As a rule, FFTB faculty members promoted to assistants/associates have spent some career training time abroad; in case of moving to be promoted into the Assistant Professor of the FFTB, a study visit abroad, not shorter than 3 months in a row, poses as one of the prerequisites. Of note, most of the applicants moving to be promoted stayed abroad even longer. …. In addition, prior to accepting his/her very first PhD mentorship, each and every Assistant Professor is bound by the obligation to attend the Mentor training workshop organized by the University of* Zagreb*…..However, most of the lecturers failed to undergo a systematic pedagogical/lecturing training; …* " There thus appears to be a need to improve formal offerings and policies for the professional development of teaching staff (as the self report states: "*there exists a need for a more intense and more systematic pedagogical training of the lecturing staff*")

4.6. The self assessment states "*Unbiased tools to be employed by the Faculty in order to assess lecturing competencies of its lecturing staff are lacking* ...." Only student surveys are currently used to evaluate teachers; we thus recommend implementation of a peer review system for teaching to provide for better assessment of teaching qualifications and performance.

4.7. No formal procedures for assigning teaching workloads were apparent to the evaluation committee.

4.8. It is unclear how the institution assures that teachers hold a substantial commitment to teaching and research and how the institution assures that these commitments are not compromised by external interests.

*5. *Research and professional activity*

5.1. The Faculty of Food Technology and Biotechnology is active in a variety of areas of research and other professional activities generating remarkable and diverse scientific output with both national and international visibility. According to the self evaluation, the faculty has also set up general strategic goals for research activities. The implementation of a research agenda which can be monitored and evaluated with pre-defined success indicators is at the starting phase and needs to be fully implemented in the future in order to quantify the success of the scientific activities and to control the strategies developed.

5.2. The faculty is the leading institution in its field in Croatia. It envisions and provides cooperation with the industry in its field both nationally and on the international level. Here, the faculty recognizes the opportunity of international cooperation, particularly after Croatia will become a member of the EU. However, the faculty has a high number of diverse research topics to be covered by a low number of researchers. Therefore, a high level of research quality cannot be achieved in all research fields. A formal advisory board with stakeholders from the industry could contribute to setting up a more focused research strategy.

5.3. The faculty acknowledges research as a major contributing component to its overall activity. While education is considered the main line of the faculty's activity, research is seen as a mirror of national and international food science disciplines, and the strategic goals comprise national and regional leadership and international recognition.

5.4. Young researchers are supported in informal ways with individual professors serving as mentors. A research service office providing help in project acquisition and management is not yet implemented. For high quality publishing of research, a mentoring system for young researches would be necessary as well. In addition, the teaching workload of individual teachers seems to be high due to the large number

of study programs and the numerous different and highly specialized courses offered which reduces time available for individual research.

5.5. The implementation of a policy of research excellence is in the starting phase. While a few papers by faculty members are highly cited, the paper citation rate is 3.8 on average for the report period and the total number of publications per lecturer is 4.99 over a period of 5 years. As pointed out in 5.2, the high number of different research topics and the small group of researchers in specific fields are major barriers towards excellence. A more specific research strategy could contribute to improve the quality of research. Moreover, the faculty will move to a new location of the University of Zagreb (Borongaj campus) in the near future. As the faculty will be in the vicinity of a "bio-centre" there, considerable synergy could be expected in the new environment. This appears as a great opportunity for the faculty in terms of facilities, modernized equipment and finally research quality. However, the various options associated with the move to the Borongaj campus are not yet incorporated in the strategies of the faculty.

5.6. The faculty is clearly encouraging academic publishing. For a PhD thesis, one peer-reviewed publication (WoS) is required. For mentoring (supervising) a PhD thesis, a certain number of WoS publications in the thematic field of the thesis is necessary for the mentor as well which surely encourages scientific publishing. Moreover, the faculty is publishing a successful peer-reviewed WoS journal itself (Food Technology and Biotechnology) which is a remarkable activity reflecting the high priority devoted to academic publishing within the faculty.

5.7. The faculty keeps well track of its scientific output, as revealed by the self evaluation report and various indicators of scientific productivity and quality. Apart from that, the scientific productivity is regularly monitored in annual reports and is publicly accessible through the Croatian Scientific Bibliography.

5.8. As the largest faculty of food science in Croatia, the faculty has a significant number of major professional projects and extension activities which ensure technology and knowledge transfer to the industry. Thus, the faculty has established industry cooperation in food technology and food safety as well as in testing both within Croatia and in the region. The faculty unit "Food Control Centre" is an ISO- certified laboratory for food and feed testing with testing licenses from the Croatian Ministry of Agriculture and the Ministry of Health which undoubtedly recognizes the faculty's expertise and also outlines the high level of implementation of professional activities.

6. International cooperation and mobility

6.1. Procedures seem to be in place to allow for enrolment into FFTB graduate programs for students that have graduated from "kindred career colleges"

6.2. Since 2009, the University of Zagreb has been involved in joint graduate studies in Biotechnology ("Bio industrial Techniques"), organized with the University of Orléans, France. This appears to be a strong program and development of additional similar programs should be encouraged.

6.3. While the institution appears to encourage mobility of its teachers, it is not clear whether and how FFBT analyses implementation of the experience gained in their activities upon return to FFBT.

6.4. FFTB seems to be involved in a number of international associations and programs. For example, within the 2007-2011 timeframe, the Faculty of Food Technology and Biotechnology was involved in 2 TEMPUS projects.

6.5. Through the IAESTE program, FFTB provides an apparently successful exchange program related to internships; the limited course offerings in English, at FFBT, are hurdle though towards attracting students from other countries to complete their degrees at FFTB. The Faculty Council apparently decided though, starting from this academic year on, to offer a total of 8 modules, mostly intended for graduates, in English.

6.6. Interinstitutional cooperation is very strong with regard to international research collaborations (EU projects)

7. Resources: administration, space, equipment and finances

7.1 The institution provides appropriate resources for enrolled students to support their effective learning.

The faculty has no problems with classroom space, and the classrooms are well equipped for teaching. Laboratories can be upgraded and most likely laboratory facilities will improve when the faculty moves to the new campus. Library resources are sufficient, but there are not enough common use computers or individual study spaces. New teaching methods (case studies, problem-based learning) may also require new or other types of rooms and facilities, which currently are lacking. This can be taken into consideration when moving to the new campus. Equipment of experiments can be improved and the faculty should focus more on public-private partnerships, in which equipment can be used for education as well as commercially by third parties. A good example of this is the small scale brewery equipment.

7.2. The institution maintains a favourable ratio of teaching and non-teaching staff.

The faculty is striving to maintain a very good ratio, but is hampered by financial means. These results in a high teaching load for PhD students, which is beneficial for students, but not for the research output of the PhD students.

7.3. The institution has well-developed policies for non-teaching staff that ensure their development as needed to advance the institution's mission.

The panel has not been provided with examples of training opportunities for non-teaching staff.

7.4. The institution ensures that the laboratory equipment and protocols are aligned with recognised international standards.

There is a serious lack of modern laboratory equipment. The faculty has already obtained some modern equipment, but at large it can still be improved. This is due to lack of funding and different ways of obtaining new equipment (see 7.1), or sharing equipment with other faculties/institutes may be a way to improve the availability of equipment.

The panel clearly recognizes that the management strives to improve this, but more creative steps can be taken.

7.5 The institution provides the equipment and technical support for its use to ensure that all aspects of the organisation can make the most of the technologies.

Comments on this criterion are combined with 7.4.

7.6 Size, usability and availability of the library as well as equipment ensure adequate support to student's learning and research activities.

As already discussed in the sections above, the equipment at present is not able to provide the appropriate scientific level to (PhD-) students. The library facilities are also limited and more use of electronic journals is recommended. The latter may also be improved by sharing facilities and moving to the new campus.
As the faculty strives to higher scientific output, more emphasis should be given to access to literature and equipment.

The panel recognises the fact that the management strives to obtain this and also recognises the difficult financial situation at present.

7.7 Financial stability of the institution is harmonised with its mission and enables all students to graduate. Sources of financing are transparent and do not limit institutional autonomy.

The panel recognises the financial constraints at present. Students are still able to graduate and project money is being used for teaching and research, and to some extend, to teacher's salaries. An overview of projects has been provided, but the faculty should strive to larger, more science driven, projects, and less to small consultancy projects. Similarly, projects should be more in line with the research strategies of the faculty. The panel understands that with current financial constraints any project is welcome, but in the long run, the faculty has to develop clear strategies to acquire larger funds and projects.

7.8 Institution's own funds are used to raise the quality of teaching and scientific activity in line with its mission.

The panel did not receive good insight in the financial situation and the way the faculty is financed and thus can not judge this criterion fully. However, the panel recognises the policy of the management to allocate as many funds as possible to teaching and research and to try to keep the overhead limited.

FINAL REPORT AND RECOMMENDATIONS BY THE EXPERT PANEL FOR THE ACCREDITATION COUNCIL

ADVANTAGES (STRONG POINTS)

1. Conduction of joint course for graduate students with the French university in Orlean.
2. Promotion of students work (scientific research, projects, Tehnologijada, scientific newspaper
3. Cooperation with Lactalis which offers scholarships through the Ecole Supérieur d'Agriculture d'Angers to students from around the world for a two-year training in France
4. Publication of a journal „The Food Technology and Biotechnology"
5. Implementation of e-learning system
6. Well organised measures for motivation of students and young scientists (awards)

   Ect.

DISADVANTAGES (WEAK POINTS)

1. No lifelong education programmes held by the Faculty
2. Limited number of lecture halls, lack of student laboratories specifically equipped, lack of adequate lecturing staff quarters
3. Disproportion of ECTS scores and workload of students
4. Too large groups for lecturing on the undergraduate study
5. Impact on students regarding re-accreditation (threats that people would lose their jobs if students say something bad)
6. While FFBT often appears to have appropriate goals for their program, these goals are rarely quantified and often there are no mechanisms in place to assure that strategies are implemented to facilitate achievement of the stated goals.
7. While the FFBT appears to have good industry relationships, including a number of professional projects funded by industry, the relationship with industry and strategic planning could be strengthened further by implementing a formal industry advisory council with a charter that includes a requirement for regular council meetings with FFBT teachers, assistants and students.

8. FFBT does not have strong procedures in place for systematically monitoring ethical student behaviour. For example, there is no record keeping that would determine whether students repeatedly show inappropriate behaviour across classes (e.g., cheating, plagiarism). It is essential that this issue is addressed and that formal procedures are put in place to assure that students who cheat across different classes and multiple times are ultimately removed from the program.

RECOMMENDATIONS FOR IMPROVEMENT OF QUALITY

1. Management of the Higher Education Institution and Quality Assurance

- An independent system/ombudsman for handling of complaints from students or staff should be established.
- Furthermore, all written exams should be made anonymous in terms of that the examiner/censor cannot identify the student. It is easy to do that via a transfer of name/personal identification into a code. Only the anonymous code should appear for the examiner/censor on each student exams papers in written exams.
- An external advisory board, with stakeholders from industry and other universities, should be established.
- Initiatives to enhance use of English language in all levels of teaching and research should be made.

2. Study Programmes

- The faculty should develop opportunities for students to reinforce and apply their learning in the context of practical applications, such as through internships, business partnerships, community service, or similar arrangements.
- Student learning outcomes set by the teachers and stated at the level of a study programme and its courses, should be more clear in order to describe knowledge and skills of the graduates.
- Teaching should also address that students have various learning styles. A variation in teaching should encourage students to be more autonomous, responsible learners.

3. Students

- Provision of sufficient capacity of tuition premises and premises in which student associations could meet or in which cultural activities could take place
- Re-establishment of the mentor system
- Instigation of students work (scientific research, projects, Tehnologijada, scientific newspaper)

- Partial revision of study programmes to solve disproportion of ECTS scores and workload of students
- Better organization of exam terms
- Undergraduate study - organization of lecturing in two groups to provide better quality of teaching
- to organize meeting to inform students about the results of student surveys and all the information regarding the faculty work
- Open up to students ideas more and start seeing them as "partners", not as numbers
- To improve trust relations between students, students representatives, student council and other bodies at the faculty
- To implement system with codes instead of names on exams when they are corrected, in order to protect the student's identity when his/her exam is corrected
- To make internship obligatory because it's essential in our field of work
- To establish more effective mechanism for the appeals procedure, with an independent person/committee from outside of the faculty
- To provide at least optional courses in English
- Improve quality of incoming students
- Reduce drop-out rate
- Introduce student counselling system
- Support international student activities
- Improve student participation in organisation
- Organise alumni network

4. Teachers

- We suggest that the FFTB implement peer review of teaching
- We suggest that the FFTB further expand the use of English text books particularly for graduate level classes, but also throughout the curriculum. Along with implementation of the use of English as language of instruction throughout all classes, this will significantly increase (i) the employment opportunities for students outside Croatia and (ii) the opportunity for FFTB to attract foreign students who do not speak Croatian.

5. Scientific and Professional Activity

- A clear research agenda should be implemented which allows to better quantify success in the scientific activities.
- As the high number of very different research topics is a barrier to specialization and excellence development, a research strategy should be developed to identify major research topics to focus on.
- An advisory board for the faculty with industry stakeholders should be set up for focusing the strategy and for monitoring scientific output.
- The implementation of a research service office would support researchers in grant acquisition, project management and publishing.
- Initiatives for improving research quality and excellence should be taken by the faculty.
- The options associated with the faculty's move to the new Borongaj campus should be better considered, and strategies for their full exploitation should be developed.

5. International Cooperation and Mobility

- University of Zagreb should provide an office that supports and manages EU and other international grant applications

6. Resources: Administration, Space, Equipment and Finance

- Invest in equipment and facilities
- Develop research strategy and align that with external projects
- Develop private-public partnerships
- Share equipment with other faculties and institutes