SUBJECT REVIEW REPORT

DEPARTMENT OF FOOD SCIENCE AND TECHNOLOGY

FACULTY OF APPLIED SCIENCES
SABARAGAMUWA UNIVERSITY OF SL

28th to 30th October 2009

Review Team :

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promote and safeguard public confidence in Sri Lankan Higher Education is accountability for quality and standards. Hence Universities must undertake the responsibility for maintaining quality and standards. To achieve these objectives, subject review and institutional review are considered very important. Subject review process was introduced by the committee of Vice Chancellors and Directors and University Grant Commission.

Subject review process evaluates the quality of education within a specific discipline and is focused on evaluating the student learning experience, student achievement and the teaching-learning process. Key features of the subject review process include the critical analysis of the self evaluation report prepared by the academic department concerned, peer observation of teaching, observation of documents, observation of the facilities available, and gathering information on activities towards quality assurance through conducting discussions with students and staff and other possible stakeholders. Subject reviews assess how the teaching-learning process helps in the achievement of intended learning outcomes.

Publication of the review report

A report on the subject review process will be prepared after the review incorporating the findings of the review. In the report, the strengths and good practices will be highlighted and the weaknesses will also be stated together with some recommendations. Each aspect will be given a judgment of good, satisfactory or unsatisfactory. The draft report will be then sent to the department concerned and the feedback will be obtained. If there is disagreement with any judgment, it would be resolved by the Quality Assurance and Accreditation Council (QAAC) through discussion. The judgment will be submitted to the Standing Committee on Quality Assurance of the UGC for approval. After its approval, the report will be published in the QAAC website, *www.qaacouncil.lk*. The department has to improve the quality of the aspects that receive a judgment of unsatisfactory within 6 months of approving the judgments by the Standing Committee on Quality Assurance of the UGC.

Brief about the subject review of the Department of Food Science and Technology of Sabaragamuwa University

The following review team has been appointed by the QAAC of the University Grants Commission to carry out the subject review of the Department of Food Science and Technology (DFST), Faculty of Applied Sciences, Sabaragamuwa University of Sri Lanka. This review took place from 28th to 30th October 2009.

(1) Professor T. S. G. Fonseka, Wayamba University of Sri Lanka
(2) Dr M. S. W. De Silva, Wayamba University of Sri Lanka
(3) Mr D. A. M. Arsecularatne, Ceylon Cold Stores, PLC

The Self Evaluation Report (SER) prepared by the DFST was provided to the review team on 30th September, 2009 by the QAAC of the University Grants Commission.

Peer observation carried out during the review process includes observing teaching both in the theory and laboratory classes. The documents that were observed include student handbooks, course outlines, statistics on student achievements and progress, samples of answer scripts, student feedback reports, minutes of faculty board meetings etc. Meetings were held with the Vice Chancellor, Head of the Department of DFST, members of the

undergraduate students, academic administrators, senior
s and Directors of Career Guidance Director and Staff
.

The subject review was mainly focused on evaluating the success of the processes employed by the DFST to achieve the *aims and intended learning outcomes* stipulated in the self evaluation report.

Aspects of the subject review

In the subject review process, the evaluation was directed at the following eight aspects.

(1) Curriculum Design, Content and Review
(2) Teaching, Learning and Assessment Methods
(3) Quality of Students Including Student Progress and Achievements
(4) Extent and Use of Student Feedback, Qualitative and Quantitative
(5) Postgraduate Studies
(6) Peer Observation
(7) Skills Development
(8) Academic Guidance and Counseling

On day one (28th October 2009) of the review, the team met the QA Specialist Professor Colin N. Peiris who briefed the review process and then met the Vice-Chancellor together with the Dean / Faculty of Applied Sciences and Acting Head of DFST. The Vice-Chancellor at this meeting briefed the present situation of the Sabaragamuwa University with regard to the quality culture. The review team discussed with the Acting Head of DFST and finalized the agenda for the review process (Annexure 2). This was followed by the presentation by the Acting Head of DFST and a follow up discussion.

The primary source of documented information for this review was the self-evaluation report prepared by the DFST. The review team was also provided with supporting documents by the Department including the curriculum and studentsô Handbook, question papers, answer scripts, student feedback forms, course outlines etc. The complete list of the documents examined is given in Annexure 3. The review team also examined the facilities available for teaching and learning. These included the lecture theatres, teaching laboratories, equipments etc. The list of facilities observed is given in Annexure 5.

On the 30th October 2009, the review team gave a feedback of the findings to the Head of DFST and other members of the academic staff.

Human Resources of the DFST

It was revealed at the presentation made by the Head of DFST that the present cadres of the department are for one Professor and seven Senior Lecturers/ Probationary Lecturers, two demonstrators. In addition, the DFST has one Computer Application Assistant and one Laboratory Attendant.

NIVERSITY, FACULTY AND DEPARTMENT

Sri Lanka was established on 7th November 1995 under the University Act and ceremonially inaugurated on 2nd February 1996. At present, the university has five faculties namely; *Faculty of Agricultural Sciences, Faculty of Applied Sciences, Faculty of Geomatics, Faculty of Management Studies and Faculty of Social Sciences and Languages.*

The Faculty of Applied Sciences was situated at Buttala in the Moneragala district as a part of Uva Campus of the university and has been shifted to the main campus at Belihuloya in the Rathnapura District since 18th March 2008. The Faculty has three departments namely, Department of Food Science and Technology (DFST), Department of Natural Resources and Department of Physical Science and Technology. The faculty offers ten B.Sc. degree programs; B.Sc. (Special) in Food Science and Technology, B. Sc. (Special) in Environmental Science and Natural Resources Management, B.Sc. in Environmental Science and Natural Resources Management, B.Sc. (Special) in Chemical Technology, B.Sc. (Special) in Computer Science and Technology, B.Sc. (Special) in Applied Physics, B.Sc.(Applied Sciences) in Physical Sciences, B.Sc. in Sport Science and Management, B.Sc. in Physical Education and B.Sc. in Computing and Information Systems.
DFST offers a Bachelor of Science Special Degree in Food Science and Technology (BFST) and has a total student population of 66. The BFST is interdisciplinary. Annexure 4 gives the curriculum of the revised degree program. The range of the study area includes core subjects in Food Science, General Sciences, Environmental Science, Statistics, Computer Sciences, Marketing, Economics and courses in career development. The degree program is designed for the students who wish to pursue professional careers in the field of food science and technology. The academic staff of DFST consists of one professor and seven probationary lecturers and most of them are on study leave; nevertheless DFST is conducting the degree program with optimum efficiency of academic staff. The delivery of the curriculum is supported by the services offered by well recognized persons as visiting lecturers. Constrains by many limitations, DFST also contributes to the other degree programs conducted by the Faculty of Applied Sciences.

The DFST offers curricula and professional development for students pursuing careers in public sector, the food industry or other sectors involved in the food manufacturing. This programme of Food Science and Technology specialization is designed with contact hours provided through lecture and laboratory courses, mini project, research project/ industrial training placements and field excursions.

3. AIMS AND LEARNING OUTCOMES

3.1 Aims

DFST provides the students with theoretical knowledge and the practical training in related areas enabling them to be involved in employments and higher degree education.

Aims of BFST degree program are as follows,

- To provide a degree program which offers the best possible learning experience to our students in a well developed learning environment.
- To produce graduates with advanced knowledge and understanding of their chosen specialty in the field of Food Science and Technology.

dents with high academic potential from a variety of
em with degree program which further the contribution
ment of the country.

- To help our students achieve their full potential and to promote high standards and completion rates by providing a friendly, responsive and supportive environment together with available facilities.
- To conduct nationally and internationally recognized research in accordance with university policy.
- To improve the content and diversity of our degree program, to match with the present developments in the field of Food Science and Technology.

3.2 Learning Outcomes

On successful completion of the BFST program, students should achieve the following learning outcomes.

- should have developed knowledge, understanding, abilities in their chosen area of specialization in the field of Food Science and Technology.
- should have developed the technical skills and intellectual framework necessary for the acquisition and analysis of experimental data through laboratory work and industrial placement.
- should be with well improved interpersonal, communication and leadership qualities to freely mix with heterogeneous environment.
- should have the skills and attitudes appropriate to his or her career aspirations, and be well placed to meet the recruitment needs of employers.

4. FINDINGS OF THE REVIEW TEAM

Findings of this review are presented in eight aspects mentioned in the ñIntroductionò. Each aspect will provide the evidence gathered during the visit, highlight strengths, weaknesses and good practices along with recommendations and suggestions where needed.

One professor and seven probationary lecturers in the internal lecturing panel are involved in the delivery of the BFST program. However, there is also input to the courses from well recognized persons as visiting lecturers in some subjects. The permanent staff in the department also contributes to the teaching of programs conducted by the Departments of Natural Resources and Physical Sciences as well. DFST has two laboratories namely Food Microbiology Laboratory and another laboratory shared for the purpose of conducting practicals of Food Processing & Food Analysis.

Although the DFST has faced some difficulties due to swift shifting the DFST to Belihuloya from Buttala, DFST is making every effort to conduct the degree program as effectively as possible.

The curriculum of the BFST has been designed with the aim of imparting knowledge and skills to ensure the graduates are well aquatinted with their fields of study and that they will be readily available to be employed in their chosen fields. The review team noted that students follow well-structured series of basic and advanced interdisciplinary and multidisciplinary course units throughout their student career which provides required theoretical knowledge and opportunity to develop transferable skills, interpersonal and teamwork skills, abilities and attitudes required to work in the real world. The success of the effort is evident by the high rate of employability in a wide array of careers both in governmental and private sector.

The BFST is driven on a course unit-based semester system. Students have to earn a minimum of 120 credits during their four year study period (Annexure 4). This includes a four month compulsory research component / industrial training placement for all the students and specially designed mini projects. During the first two years all the students follow a common program. The common program exposes the students to an array of general subjects that are required to establish a strong basis for future studies and a wide theoretical knowledge and an approach to their applications.

In the first year Food Science related fundamental subjects are taught along with many disciplines of supporting subjects. This provides the students necessary background to develop a range of skills that are needed for Food Science and Technology fields. During the second year, students are guided through courses that are more advanced in the field of Food Science and Technology. In the third and fourth years, students are offered courses which are more practically applicable in the food industry. This degree program is offered in English medium and the students are offered English modules on non-credit basis. Faculty has a separate unit, English Language Teaching Unit for improving studentsô skills to better understanding lectures and to enhance communication skills. It is compulsory for the students to pass the English program before graduation.

Individual and group assignments, continuous assessments, presentations, field studies and seminars will strengthen the basic skills as well as other skills expected in a graduate. This program is designed in a manner that would enable the students to gain necessary skills and training to become independent learners.

At the commencement of the program in the first year, Food Science and Technology students are provided with a copy of the Faculty handbook which clearly outlines the syllabi of course units offered by the DFST. The handbook also provides information in relation to course structure, assessment criteria and syllabi of course units of the program.

The team observed that the curriculum of BFST program (Annexure 4) contains some optional course units taught in the fourth year. The students, after the curriculum revision have not proceeded to the fourth year of the new program. Students will have to conduct two mini projects during the first semester of the fourth year: One individual mini project and one group mini project (survey-based). Students are required to submit a project proposal prior to the commencement of the project, according to the guidelines given. This course will provide opportunity for students to prepare themselves to evaluate and to undertake research in their specializing fields or in related areas in future.

l measures to review and upgrade the curriculum. The urriculum was revised by a selected panel comprising senior academics and others experts as well as stakeholder once in two years. During the recent curriculum revision took place in 2008, the Faculty Curriculum Review Committee has made the new curriculum more attractive by increasing exposure of the students to research and working environment (Mini project and Research / Industrial placement). One of the attractive features of the revised curriculum is, except the Research project/ Industrial placement, other course units are designed to offer in small units. The team also observed that, components related to communication skills and managerial skills necessary for young employees have been incorporated into the revised syllabus. The revision has also made the duration of the BFST degree program four years and this exercise has enabled the incorporation of additional food related subjects and practical components to the program. Many practical related courses have been separated and are now being offered as different course units of one credit. Further the incorporation of Mini Project has made the BFST more attractive and has provided students opportunity to gain more skills. This is assessed by a project report and a presentation. This course would provide opportunity for students to prepare themselves to evaluate and to undertake research in their specializing fields or in related areas in future. However, the assessment of possible skills gained through this activity is not properly documented. The proceedings of the curriculum revision process were not available for observation.

At the meeting with students, it has been pointed out that the field of Food Science and Technology is developing fast and new technologies need to be introduced into the field. However, present curriculum has no provision for updating the students with such novel technologies. Therefore, the team recommends a relevant subject be introduced into the curriculum. The multidisciplinary nature of the study program has been increased by incorporating optional course units on Human Resource Management, Critical Thinking, Industrial Economics, Principles of Cleaner production & Application of Ergonomics, Principles of Accounting and Functional Food & Neutraceuticals in the first semester of the fourth year. It has been made compulsory that students take three credits from the above optional. However the review team is also in the agreement with the students opinion that optional courses such as Cleaner Production should be included in the compulsory courses. Students feel that two chemistry courses offered in year 1 are more elementary without much deviation from Advanced Level Chemistry content. Reviewers would like DFST identify components of chemistry necessary for Food Science and Technology and revise the two Chemistry courses accordingly.

The reviewers rate this aspect of the DFST as 'GOOD'.

4.2. Teaching, Learning and Assessment Methods

The above aspects of the DFST were evaluated using (a) Self-Evaluation Report (b) peer observation of lectures and laboratory practical classes, (c) meetings with academic and supporting staff and students. The review team also examined the Faculty Student Handbook, time tables, project reports, question papers and answer scripts (of year 2008). The review team noted that courses are delivered through lectures, practicals, discussions, assignments, group work and Power Point presentations, and field / industrial visits. DFST uses a credit value based end-semester-examinations for each course unit. The review team noted that, at the beginning of the majority of lectures and practical courses, the BFST students are not provided with sufficient information such as objectives, intended learning

and a list of reference material. The current teaching-
do not appear to be sufficient for the achievement of the
cture theaters are equipped with multimedia projectors, but lack of computers seemed to constrain the proper utilization. In addition, many sophisticated scientific equipment purchased recently as well as brought in from Buttala is not properly organized due to lack of space and human resources. Students are happy about the IT facilities. The faculty IT facility is accessible till midnight. University has two libraries; the main library and one at Agriculture Faculty which is about one kilometer from the main library. Review team was made aware that the Agriculture Faculty Library too keeps its collection of food science and technology related books which are accessible to the BFST students. Students mentioned that, during the regular semester, the main library opens from 8.00 am to 4.00 and their lectures are scheduled to go till 5.00 pm.

It should be mentioned that students appreciated the effort taken by the DFST to meet the human resources needs, especially in academic area by organizing the services of visiting staff. However, they still expressed strong concern in relation to visiting lecturers who tend to concentrate all their lectures toward the end of semester giving them limited opportunity to grasp the theory content and very limited time to do self studies. The DFST depends, to a large extent, on the services of industries, organizations and universities to deliver the degree program. The department, at present, does not have a Technical Officer TO); instead the TO of the Department of Natural Resources has to look after five laboratories of the faculty. We were made to understand that only a small percentage of time allocated for practicals of some courses (Eg; Food Biology, Biotechnology) is utilized for conducting practicals. This would nullify the positive impact brought into the curriculum during the recent curriculum revision where theory component and practical component are segregated. Most of the young staff members are of the opinion that they have limited opportunity to get necessary assistance and guidance for their career development.

The lists of moderators and second examiners were made available during the review; however the reviewers were not able to get sufficient information to comment on the control that should be exercised to maintain the quality and standard of examination and the assessment process.

The reviewers rate this aspect of the DFST as 'Satisfactory'.

4.3 Quality of Students including Student Progress and Achievements

Students are selected through a special window meant for Food Science and Technology students as mentioned in the UGC Handbook of University Admission. The average Z-score of the students admitted to the BFST since 2004/2005 has shown a regular increase from 1.157 (in 2004/2005) to 1.446 (in 2007/2008). This indicates that the students enter, are of relatively of good quality. Students recruited have ethnic, religious/cultural diversity. However, it should be noted that the BFST program has not been able to reach the 50% level of the available vacancies (which is 35) after academic year 2004/2005. The current intake which took place in academic year 2007/2008 is 14. DFST may want to come up with a solution to attract students.

The first batch of students following the revised BFST program is yet to complete the first cycle. However, the records of the past students who followed the three year program and the fourth-year-specialization program show a 100% completion rate. Thus, DFST has already produced 177 graduates; of which 50% obtained classes and 1% accounts for first

than 80% get employments within the first six months ector. Passed-out students and senior students exchange tudents inducing them to perform better. The Review team noted that more opportunities be given to students to get involved in active participation to improve their communication skills.

The reviewers rate this aspect of the DFST as 'GOOD'.

4.4. Extent and use of Student Feedback

DFST obtains qualitative student feedback about the academic programme and teachers and the requirement of infrastructural facilities in the following manner;

- From student representatives at Faculty Board meetings.
- After or during the lectures.
- Using teacher evaluation forms.

The teaching process is evaluated by student feedback using a questionnaire for sometime. The student feedback questionnaire includes feedback on several aspects of teaching & learning such as student awareness of learning outcomes, organization & clarity of the lecture, motivation & interaction of the lecturer, speed & audibility of the lecture, etc. Student feedback data obtained by the lecturer have been used to identify the strengths and weaknesses of each staff member of the department.

Review team believes that the outcome of studentsô feedback can be utilized more efficiently and effectively to improve quality of the study program. There was hardly any evidence to prove that the studentsô feedback has been discussed adequately and decisions were made based on the feedback accordingly. It would be more appropriate to organize staff-students consultative committee to represent all academic staff members, academic supporting staff and library with a cross section of students. The meeting of the above committee at appropriate time would enable to identify problems and issues which can be discussed and resolved early without hampering the smooth delivery of the program.

The reviewers rate this aspect of the DFST as 'SATISFACTORY'.

4.5. Postgraduate Studies

Department is not in a position to offer postgraduate degrees at the moment due to lack of senior staff members as well as needed facilities. This is further aggravated by a series of other problems which are of very fundamental nature and should be addressed before any meaningful steps are taken to commence a postgraduate program.

A majority of the junior staff is actively involved in the postgraduate studies, locally and overseas.

The reviewers rate this aspect of the DFST as 'UNSATISFACTORY'.

identified the significance of peer observation for the enhancement of teaching at undergraduate level. The peer evaluation form reported to have been designed with the assistance of the Colombo University. However, it was not made available for the examination by the review team. However, peer observation of class room teaching has not been commenced yet and planning to commence from the second semester of 2009. Discussions with the staff members revealed their concerns due to limited senior staff leading to insufficient guidance in many areas in performing their duties as academic staff.

No evidence found to satisfy the peer evaluation of moderation and second marking of examination papers.

The reviewers rate this aspect of the DFST as 'UNSATISFACTORY'.

4.7. Skills Development

The DFST has taken a great effort to develop various skills of the students.
Research and mini research projects are aimed at developing studentsô innovativeness, time management and planning. Industrial training component expose the students to develop skills required for the world of work. Oral presentation exercises aimed at discussing, practical / mini research outcomes help the students to develop communication skills, computer skills, preparing visuals and defending the ideas and outcome. Review team believes such group presentations help to develop team work culture and leadership skills. Various other exercises such as oral examinations, written examinations, poster presentations and practical examinations are designed to develop all necessary skills required to achieve high standard of performance in any profession.

Various teaching methodologies such as Small Group Work, Problem Based Learning are used to motivate studentsô involvement in improving their active learning skills. Most affective skills are developed through studentsô participation in discussions and practical sessions. Field excursions are being designed to improve studentsôpsychomotor skills.

The reviewers rate this aspect of the DFST as 'GOOD'.

4.8 Academic Guidance and Counseling

DFST considered academic guidance and counseling as an important component for facilitating teaching and learning process.

When new students are admitted, they are provided with the faculty handbook containing the BFST curriculum. The handbook also provides information about university, faculty, departments, subjects offered, academic programmes and details of course titles. An orientation programme is being conducted during the first week of their entry. Students are encouraged to improve their English during the program.

The department assigns an internal supervisor for supporting the students during their industrial training. However, the review team was unable to find the reports of the external supervisors or any internal mentoring program.

sonal problems it has been found that the students can s or any staff member to this effect. Department has two unaware about the benefits of the counseling service. There is nobody to function as a professional counselor. Some of the counselors are of the opinion that they are not conversant on the methods of counseling. Trainings needs for the counselors should be taken into consideration in the near future.

The university has a Health Centre with a permanent doctor. Career Guidance Unit facilitates students by organizing trainings/seminars on job related matters and improves attitudes to carry out a successful career. Vice Chancellor is the director of Staff Development Centre. The University does not have a separate place for counseling; instead counselors use their office room for the purpose. The senior student counselor also acts as the Director of Career Guidance Unit and the Coordinator of the IRQUE project of the Agriculture Faculty. University has recently begun to conduct district wise awareness program on degree program for prospective Advanced level students.

The reviewers rate this aspect of the DFST as 'SATISFACTORY'.

Based on the observations made during the study visit by the review team, the eight aspects were judged as follows;

Aspect	Judgment
Curriculum Design, Content and Review	Good
Teaching, Learning and Assessment Methods	Satisfactory
Quality of Students including Student Progress and Achievements	Good
Extent and Use of Student Feedback	Satisfactory
Postgraduate Studies	Unsatisfactory
Peer Observation	Unsatisfactory
Skills Development	Good
Academic Guidance and Counseling	Satisfactory

5. CONCLUSIONS

The strengths/ good practices and the weaknesses of each of the eight aspects considered in the subject review process are summarized bellow.

1. Curriculum Design, Content and Review

Good Practices/Strengths

1. DFST offers a well-structured series of basic and advanced interdisciplinary and multidisciplinary course units throughout their student career.
2. Curriculum covers up areas of Food Science & Technology BFST program provides the students with required subject knowledge and transferable skills, interpersonal and teamwork skills, abilities and attitudes.

gard to the contents, assessment of some courses at the

was reviewed in 2008 has strengthened the process of achieving intended learning outcomes.

5. Introducing separate course units for practical components.

Weaknesses

1. Revised curriculum has no provision for updating the students with newer technologies and products.
2. English program offered has fewer components to improve studentsô communication skills.
3. Insufficient optional course units to make the curriculum flexible.
4. No proceedings of the sequential steps taken to revise the curriculum.

Judgment: Good

2. Teaching, Learning and Assessment Methods

Good Practices/Strengths

1. Using a variety of activities including lectures, practicals, discussions, assignments, group work and power point presentations, and field / industrial visits to deliver course contents.
2. End semester examination question papers are based on the credit value of courses.
3. Introducing separate course units for practical components has made more room for fair evaluation of possible skills.
4. Making laboratory manuals available for students.
5. Maintain interfaculty relationships.
6. Conducting practicals in small groups.
7. Sufficient IT facility to cater the faculty population.
8. Library facility at the Faculty of Agriculture is accessible by the FST students.

Weaknesses

1. BFST students are not provided with sufficient information such as objectives, intended learning outcomes, assessment procedure and a list of reference material at the first lecture.
2. No proper record keeping on moderation and second marking in relation to examination.
3. Insufficient trained academics to guide the junior staff.
4. Not giving practical handouts for some practicals in advance.
5. Considerable high workload for the staff, especially for probationary lecturers.
6. DFST does not have a Technical Officer to look after its two laboratories.
7. Some of the skills could possibly gained from Mini Project is not sufficiently assessed.
8. During semesters, the main library is closed before academic activities finish for the day.
9. Visiting lecturers delivering the whole content in few days towards the end of the semester.
10. Time allocated for Food Biology practical Unit is not sufficiently utilized

Judgment: Satisfactory

1. Students are admitted through a special window meant for Food Science and Technology students.
2. Pass-out rate is 100%.

Weaknesses

1. Only a small fraction of students including the third year students came forward to present their views when an opportunity is given.
2. A large fraction of studentôs vacancies in the program is not filled.
3. Insufficient attention to infrastructure facilities at Belihuloya before moving the DFST from Buttala.

Judgment: Good

4. Extent and Use of Student Feedback

Good Practices/Strengths

1. Obtaining qualitative student feedback using a questionnaire.

Weaknesses

1. No student-staff consultative meetings are conducted.
2. No proper recording about implementing suggestions of students.
3. No evidence of discussing the shortcomings.
4. No proper statistical analysis of studentôs feedback.

Judgment: Satisfactory

5. Postgraduate Studies

Good Practices/Strengths

1. Availability of research equipment

Weaknesses

1. Insufficient trained staff.
2. Insufficient guidance for young staff.
3. Unavailability of a Masters program.
4. Equipment are not properly organized due to lack of space.

Judgment: Unsatisfactory

6. Peer Observation

Good Practices/Strengths

1. Consultancy has been obtained from the Colombo University to design a form for peer observation of staff.

rocess at present.
he peer observation process.

Judgment: Unsatisfactory

7. Skills Development

Good Practices/Strengths

1. Course units have been developed in such a way that every student gets opportunity to develop a range of skills.

Weaknesses

1. Insufficient opportunity to develop leadership skills.
2. Insufficient opportunity to overcome backwardness of students.

Judgment: Good

8. Academic Guidance and Counseling

Good Practices/Strengths

1. Availability of student handbook/prospectus.
2. Availability of an orientation programme.
3. Availability of Student Counselors for counseling.
4. University has recently begun to conduct district-wise awareness campaign on degree program for prospective Advanced Level students.
5. Health Center has a permanent doctor.

Weaknesses

1. Non-availability of professional counselor.
2. No designated place for counseling.
3. Senior counselor discharging duties as the Director of Career Guidance
4. Students are not aware of the counseling and mentoring service and their benefits until late in the first year.

Judgment: Satisfactory

6. RECOMMENDATIONS

Based on the findings of the review, the review team wishes to make the following recommendations that the DFST may consider for improving the quality of the study programmes further.

1. It is necessary to device a mechanism to attract students to the program.
2. Record keeping needs to be properly organized.
3. Students should be encouraged to attend English course.
4. Reviewers would like DFST identify components of chemistry necessary for Food Science and Technology and revise the two Chemistry courses accordingly.
5. Assessment methods of the Mini Project need to be redesigned to evaluate expected and possible outcomes.

the contents, evaluation methods and relevant criteria
ourse units and be given to students at the beginning of

7. Handouts should be prepared for all practical classes and distributed in advance so that students can come prepared for practicals.
8. Junior staff should be given more guidance for conducting lectures along with close peer observed in marking of examination scripts.
9. Visiting lectures should be organized at the beginning of the semester so that students get sufficient time to clarify unclear areas.
10. It is necessary that the department begins exploring possibilities to get senior academics in initiating research programmes.
11. The laboratory staff should be strengthened.
12. More opportunities should be made available for students to come to front and speak out. Frequency of group / individual presentations can be increased.
13. Suggestions and feedback process from students should be evaluated.
14. Measures should be taken organize student-staff consultative committee.
15. Peer observations must be commenced immediately.
16. Periodical discussions among staff to upgrade the peer evaluation techniques.
17. Senior Student Counselor should be freed from the post of the Director of Career Guidance and should be given an office.
18. Student counselors should be given proper training.
19. Students should be made aware of the counseling & mentoring program and the benefits of the services.

Acknowledgements

The Review Team appreciates the hard work done by the DFST facilitating the review process. Team also appreciates the cooperation extended by the Head of the Department of FST and all others to perform our duty well.

VIEW VISIT

Day 1: 28th October 2009 (Wednesday)

08.30-09.00 am	Arrival of Team and brief discussion with QAA Specialist	VC office
09.00-09.30 am	Meeting with the Vice-Chancellor, Dean and Head of the Dept.	VC office
09.30-10.00 am	Discuss the agenda for the visit	VC office
10.00-12.00 noon	Department presentation on the self evaluation report & discussion	(L1)
12.00-01.00 pm	Lunch	
01.00-03.00 pm	Monitoring departmental facilities / university facilities	
03.00-04.00 pm	Meeting with all staff of the department with tea	(L1)
04.00-05.00 pm	Meeting with 1st & 2nd year undergraduates	(L1)
05.00-05.30 pm	Meeting of reviewers	(L1)

Day 2: 29th October 2009 (Thursday)

08.30-09.00 am	Monitoring teaching 2nd year ï Statistics by Mr. RMKT Rathnayake	(X1)
09.00-09.30 pm	Monitoring teaching 3rd year ï Fish Processing by Ms. TC Kananke	(X2)
10.00-10.30 am	Meeting Student Counselors, Career Guidance Director, with tea	(X2)
10.30-11.00 am	Monitoring teaching 1st year ï Nutrition by Ms. KM Somawathie	(X1)
11.00-12.00 noon	Monitoring Studentsô Presentations	(X1)
12.00 noon-01.00 pm	Lunch	
01.00-02.30 pm	Monitoring documents	(X1)
02.30-03.30 pm	Monitoring teaching ï Practical Class ï 3rd year ï Meat Processing by Mr. MCN Jayasooriya	(FPL)
03.30-04.00 pm	Observing documents	(L1)
04.00-05.00 pm	Meeting with 3rd & 4th Year students and tea	(L1)
05.00-05.30 pm	Meeting of reviewers	(L1)

Day 3: 30th October 2009 (Friday)

09.00-09.30 am	Monitoring documents	(L1)
09.30-10.00 am	Meeting with technical & other non-academic staff advisors	(L1)
10.00-10.30 am	Tea	(L1)
10.30-11.30 am	Reviewers Private Discussion	(L1)
11.30-12.00 noon	Meeting with Head and Staff for reporting	(L1)
12.00noon-01.00 pm	Lunch	
01.00-05.00 pm	Report writing	(L1)

ET BY THE REVIEW TEAM

Dean of Applied Sciences
Head of the Department of Food Science and Technology
Director, Career Guidance
Director, Staff Development Centre
Librarian
Student Counselors
Academic staff of the department
Non-academic staff of the department
Students of 1st, 2nd, and 3rd year
Demonstrators

Annex 3. DOCUMENTS PERUSED BY THE REVIEW TEAM

Student Handbook
Course outlines
Statistics on student achievements and progress
Samples of answer scripts
Student reports on teacher and course evaluation
Student reports on mini research & research projects
Minutes of Faculty Board meetings

Annex 4. DEGREE PROGRAM IN FOOD SCIENCE AND TECHNOLOGY

Students should earn 120 credits to be eligible for the award of B.Sc. (Special.) degree in Food Science and Technology.

First Academic Year

First Semester	*Second Semester*
FST 11201 General Chemistry I	FST 12201 General Chemistry II
FST 11102 Chemistry Practical I	FST 12102 Chemistry Practical II
FST 11203 Introduction to Food Science and Technology	FST 12203 Structured Programming Techniques
FST 11204 Introduction to Computer Systems	FST 12104 Computer Practical II
FST 11105 Computer Practical I	FST 12205 Basic Management Principles
FST 11206 Mathematics for Biological Sciences	FST 12106 Fundamentals of Microbiology
FST 11207 Food Biology	FST 12207 Principles of Nutrition
FST 11108 Food Biology Practical	
FST 11209 Agronomy / Food Crops	

FST 21201 Fundamentals of Statistics	***Second Semester***
	FST 22101 Database Management Systems
FST 21202 Biochemistry	FST 22202 Statistics
FST 21203 Food Chemistry	FST 22203 Computer Aided Statistical Applications
FST 21104 Biochemistry and Food Chemistry Practical	FST 22204 Food Preservation
FST 21105 Fundamentals of Biotechnology	FST 22105 Food Preservation Practical
FST 21206 Post-harvest Technology	FST 22206 Food Process Engineering
FST 21207 Food Physics	FST 22107 Food Physics and Food Processing Engineering Practical
FST 21208 Food Microbiology	FST 22208 Food Quality Management
FST 21109 Microbiology Practical	FST 22209 Post-harvest Pest and Disease Control
FST 21210 Livestock Products & Aquaculture	FST 22110 Post harvest Handling of Food Sources Practical
FST 21111 Livestock Products & Aquaculture Practical	

Third Academic Year

First Semester	***Second Semester***
FST 31201 Food Product Development	FST 32101 Food Regulations
FST 31202 Food Packaging	FST 32202 Food Analysis
FST 31203 Dairy Science	FST 32103 Food Analysis Practical
FST 31204 Food Biotechnology	FST 32204 Meat Processing Technology
FST 31205 Applied Nutrition	FST 32205 Fish Processing Technology
FST 31106 Food Biotechnology & Nutrition Practical	FST 32106 Meat & Fish Processing Technology Practical
FST 31207 Food Marketing	FST 32207 Dairy Processing Technology
FST 31108 Process Automation in Food Industry	FST 32108 Dairy Science and Dairy Processing Technology Practical
FST 31209 Environmental Management and Water Quality Assurance	FST 32109 Sensory Evaluation
	FST 32110 Food Packaging & Sensory Evaluation Practical
	FST 32111 Food Toxicology
	FST 32112 Food Science and Technology Seminars

Second Semester

ion and Career Development

FST 42801 Research Projects / Industrial Training

FST41202 Root Crops & Spice Processing Technology
FST41203 Grain Processing Technology
FST41104 Plant Based Food Processing Technology Practical I
FST41205 Fruits and Vegetable Processing Technology
FST41206 Sugar and Confectionary Processing Technology
FST41107 Plant Based Food Processing Technology Practical II
FST41108 Beverage Processing Technology
FST41209 Advanced Food Quality Management
FST41210 Mini Projects

Optional Courses

FST 41211 Human Resource Management
FST 41212 Critical Thinking
FST 41213 Industrial Economics
FST 41214 Principles of Cleaner Production and Application of Ergonomics
FST 41115 Principles of Accounting
FST 41116 Functional Foods & Neutraceuticals

Annex 5. FACILITIES

Faculty and department administration and staff rooms
Two laboratories; Microbiology and Food processing/ Food analysis
Two lecture halls equipped with multimedia projectors
Department Computer Laboratory with computers & internet facilities
Library
English Department