SUBJECT REVIEW REPORT

DEPARTMENT OF PHYSICAL SCIENCE AND TECHNOLOGY

FACULTY OF APPLIED SCIENCES
SABARAGAMUWA UNIVERSITY OF SL

15th to 17th July 2009

Review Team :

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and safeguard public confidence in Sri Lankan higher education is accountability for quality and standards. As higher education is a public good, universities must conscientiously exercise their responsibility for quality and standards. The subject review is one of the components of the external quality assurance programme carried out in Sri Lankan universities It evaluates the quality of education within a specific discipline. It is focused on evaluating the student learning experience, student achievement and the teaching learning process at the subject level.

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 as many stakeholders as possible.

Subject reviews evaluate how the teaching-learning process helps in the achievement of intended learning outcomes.

Peer observation carried out during the review process includes observing teaching both in the theory and laboratory classes, and if possible in the field classes. The documents that are observed include, examples of student work, student handbooks, student handouts, lesson guides, statistics on student achievements and progress, samples of answer scripts, external examiners reports, peer evaluation reports, student evaluation reports, minutes of Departmental committees etc. The stakeholders with whom the discussions are carried out include the Head of the department, members of the academic and non-academic staff, undergraduate students, postgraduate students, alumni, academic administrators, and student counsellors.

The subject review is carried out to evaluate the success of the processes employed 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 following eight aspects are evaluated.

- Curriculum design, content and review
- Teaching, learning and assessment methods
- Quality of students including student progress and achievements
- Extent and use of student feedback, qualitative and quantitative
- Postgraduate studies
- Peer observation
- Skills development
- Academic guidance and counselling

The Review Process

The review team consisted of,

- Prof S Mohanadas, Former Vice Chancellor, University of Jaffna, (Team Chair),
- Prof Sumedha Jayanetti, Department of Physics, University of Colombo,
- Dr. Prasad M. Jayaweera, Department of Computer Science, University of Ruhuna.

by the Department was provided to the review team on Assurance and Accreditation Council of the University n carried out the review process on 15th, 16th, and 17th of July, 2009.

On 15th morning, the review team met the Q. A. Specialist who briefed about the review process and met the Vice-Chancellor together with the Dean / Faculty of Applied Sciences and Head / Department of Physical Sciences and Technology. The Vice-Chancellor at this meeting briefed the reviewers on the present situation at the University.

The review team then finalized the agenda for the review process with Head of the Department and the Dean of the Faculty. The Agenda for the review visit is given in Annexure 1. After finalizing the agenda, the review team met the Head of the Department and other members of the academic staff. At this meeting, the Head of the Department explained the contents of the Self Evaluation Report which was followed by a discussion.
The review team during the course of the visit had discussions with the members of the academic staff, technical officers & non-academic staff, student counsellors, directors of career guidance centre & staff development centre and the present undergraduates following the B.Sc. programmes as well as past students. The list of persons met is given in the Annexure 2.

Several documents were also perused. These included the Faculty handbooks, handouts given to students, minutes of the Departmental meetings, answer scripts, question papers, student feedback forms, peer observation reports 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, equipment etc. The list of facilities observed is given in Annexure 4.

On the 17th, July 2009, the review team gave a feedback of the findings to Head of the Department and other members of the academic staff.

Publications the review report

A report will be prepared after the review visit incorporating the findings of the review team. 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 sent to the Department 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.

The primary source of documented information for this review was the self-evaluation report prepared by the DPST. The review team was also provided with supporting documents by the Department including the curriculum, detailed syllabi, teaching materials, student work records, question papers, marking schemes, answer scripts, marks, student feedbacks and peer

scussions with the Vice Chancellor, Dean of the faculty
l junior academic staff members, Co-ordinator of the
Career Guidance Director, Director Staff Development, students counsellors, non-academic staff members and students from the first, second, third and final years. The team also visited laboratories (Chemistry lab, Physics lab and Computer labs), lecture rooms at department level, library, computer unit, English Learning Centre, Hostels, Playground and Guest House.

Human Resources of the Department

Head of the department submitted a list of names containing academic staff, non-academic staff and visiting staff at present of the Department of Physical Science and Technology. There is one Senior Professor, five Senior Lecturers, eight Probationary Lectures, one Temporary Asst. Lecturer, two Demonstrators, one Computer Instructor, two Technical Officers, one Data Entry operator, one Laboratory Attendant and a Labourer as shown in the annex 5.

2. BRIEF HISTORY OF THE UNIVERSITY AND THE DEPARTMENT

The Faculty & its Departments

The Faculty of Applied Sciences along with the Faculty of Agricultural Sciences, constituted the Uva Campus of the Sabaragamuwa University of Sri Lanka until 2001, the year the Faculty of Agricultural Sciences was shifted to Belihuloya, the main campus of the University. From then onwards the Uva Campus of the University was represented only by the Faculty of Applied Sciences, which was situated at Buttala in the Monaragala District. This site at Buttala was very spacious, covering a land area of nearly 125 acres and was in a picturesque valley, lying between two beautiful hillocks covered with dense forest vegetation. But it was over 250 km away from Colombo, and was even at a distance of about 90 km from the Main Campus of the University at Belihuloya.

The Faculty, which at its inception (1996), consisted of only two Departments ï Natural Resources and Physical Sciences ï gradually expanded and by the year 2006 had grown to three Departments, Natural Resource Management, Food Sciences & Technology and Physical Sciences & Technology. Now this Faculty has also been shifted to the main campus at Belihuloya, the exact date of this relocation being 18th of March 2008. It is at the moment in operation, functioning under extremely difficult conditions, with little or no facilities, especially relating to buildings and space; a situation that can easily be identified as *"falling from the frying pan to the fire".*

In spite of these difficulties the three Departments in the Faculty however, provide quality education, offering six (06) B.Sc. (Special) degree programmes of four year duration, in fields relevant to the Departments. The students are however, given the option to leave the University after three years, but graduating only with a B.Sc.(General) degree.

Of the three departments, the Department of Physical Sciences & Technology, which on its own offers three B.Sc. (Special) degree programmes of four year duration can easily be considered as the backbone of the Faculty. It also provides basic science courses comprising Physics, Chemistry, Mathematics and Computer Science, to students following all degree programmes offered by the Faculty.

s offered by the Department of Physical Sciences & hey are
lied Physics,
- B.Sc. (Special) degree in Chemical Technology, and
- B.Sc. (Special) degree in Computer Science.

Additionally, the students in this Department also have the option to leave the University at the end of their third year, but only with a B.Sc. (General) degree.

The student population in the Faculty is relatively low and can easily be attributed to the distant location of the Faculty from all major cities in the country. Besides, its location in the dry zone of Sri Lanka may also be a contributing feature. This feature is reflected even when considering the student numbers in the Department of Physical Sciences & Technology, the total of which in all four years at present, is 72. Unfortunately, the shifting of the Faculty from Buttala to Belihuloya has only realized a marginal improvement in the admission of new students, the number registered for the year 2008, being only 23.

An Overview - Department of Physical Sciences & Technology

Since its inception in the year 1997, the main intention of the Department has been to produce quality graduates who are at least comparable or better than those graduating from established Universities in the country. The environment in the campus and the teaching programmes were all designed in a manner to establish this goal and also to produce leaders in their respective professions.

To create such a situation the study programmes were all designed with a bias towards applied sciences rather than the basic sciences. Additionally, it is also creditable that the Department offers the only Degree in Applied Physics in the entire University System in the country. Additionally, the Department has also designed all degree programmes to provide students with a thorough knowledge in computer science and also English to enable them to be considered favourably while competing with graduates from more established Universities for relevant job opportunities in the country.

3. AIMS AND LEARNING OUTCOMES

3.1. Aims

As mentioned in the previous Chapter under Section 1.1, altogether the Department offers six B.Sc. Degree Programmes to its students. They are

I Three four (04) Year Programmes
- B.Sc. (Special) degree in Applied Physics,
- B.Sc. (Special) degree in Chemical Technology, and
- B.Sc. (Special) degree in Computer Science.

II Three (03) Year Programmes
- B.Sc. (General) degree in Physical Sciences (Majoring in Physics),
- B.Sc. (General) degree in Physical Sciences (Majoring in Chemical Technology), and
- B.Sc. (Special) degree in Physical Sciences (Majoring in Computer Science).

all designed with an intention of providing the students a ective fields of study. Besides, the main objective of all they are on par with those offered by other Universities in the country.

3.2. Learning Outcome

All students who join the Department have to follow common lectures, during their first two years, which comprise lecture courses in basic sciences like Chemistry, Mathematics & Statistics, Computer Science and Physics, all of which are compulsory and also three supplementary courses which are optional.

The bases of these programmes are to provide students with a thorough knowledge in areas relevant to the Physical Sciences. Besides, after spending two years in the Department they are expected to gather sufficient experience to select a field of study for specialization.

4. FINDINGS OF THE REVIEW TEAM

4.1. Curriculum Design, Content and Review

The curricula of the three degree programmes of the Dept. have been revised and the revised curricula came into operation since last semester. It is constructed on a semester-based course unit system. All B.Sc. students follow a common core programme during first 4 semesters. On successful completion of this course there are two options to students; there is a provision for students who wish to undergo a 4-year-degree in one of the three special degree programmes by following courses for the next 4 semesters or to complete a three year degree programme by following courses for the next 2 semesters
Names of the three and four year degree are as follows;

1. B.Sc. (Special) degree in Applied Physics
2. B.Sc. (Special) degree in Chemical Technology
3. B.Sc. (Special) degree in Computer Science
4. B.Sc. (General) degree in Physical Sciences (Majoring in Physics)
5. B.Sc. (General) degree in Physical Sciences (Majoring in Chemical Technology)
6. B.Sc. (General) degree in Physical Sciences (Majoring in Computer Science)

The students are offered an English course which is offered on non-credit basis. It is compulsory for the students to pass the English program before graduation. The review team noted that students follow well-structured series of basic and advanced interdisciplinary and multidisciplinary course units throughout their student career. The students specializing the PST programme are provided with requisite subject knowledge and transferable skills, interpersonal and teamwork skills, abilities and attitudes required to work in the real world. However, at the meeting the review team had with students representing all the four batches, students were of the opinion that more practical, field visit based subjects related to applied field be incorporated / implemented. Human Resource Management, Time management and course on nanotechnology to chemistry special students are incorporated into the curriculum. However, the team observed that, many components related to communication skills and managerial skills necessary for young employees have been incorporated into the revised syllabus. The team observed that, under the current curriculum, students should be offered minimum of 120 credits in order be eligible for the award of the 4-

-degree, in addition to passing the English course. This irements for an undergraduate degree that is normally s.

Based on the feedback of the students, the team recommends the Faculty management to seek the possibilities to offer the students a revised English course with a well-devised assessment mechanism and to award a certificate on successful completion of the same. The BPST students receive a specialized training through their curriculum at the final semester of their degree programme. The modules provide an excellent coverage of basic sciences and all aspects of subject and practical knowledge required for the industry. The team observed that the BPST programme curriculum contains no elective course units in Semesters 5 ï 7, which provide a certain degree of flexibility and choice for students. Students are provided with supplementary courses in the selected field of specialization in third (3 year degree), third, fourth and fifth (4 year degree) semesters and to carry out a research project/industrial training in the final semester. These courses will provide opportunities for students to prepare themselves to evaluate and to undertake research in their specializing fields or in related areas in future. The review team is of the opinion that the exposure to the industrial environment given through the Industrial placement facilitates progression to employment of graduates. The reviewers are satisfied that the learning outcomes of the courses are reflected in the content of the curriculum, which would facilitate obtaining employment in the applied science sectors. The use of modern methods of teaching, multi-media presentations and audio visual equipment in teaching were observed during the review process.

At the meeting with students, it was pointed out that the field of Applied Science and Technology is developing fast and new technologies are being introduced into the field. However, present curriculum has no provision for updating the students with such novel technologies and products. The team also observed that the curriculum has no room for such updates. Therefore, the team recommends a subject (nomenclature of the said subject can be termed as ñEmerging technologiesò) be introduced into the curriculum.

Chemical Technology

During the first four semesters the curricula covers the core chemistry syllabus at the rate of 5 credits per semester. During the third year 1st semester, courses related to chemical technology such as Industrial Chemistry & Technology, Electro Analytical Chemistry, Chemistry of Natural Products, Biochemistry are taught for 11 credits. This will be followed (third year 2nd semester) by 8 credits of Project Work (8 credits) at a leading Chemical Industry, if a student opts for a three year degree. However the four year special degree programme consists of additional courses of 11 credits (Food technology, Polymer Technology, Chemistry of Drug Design & Drug Action, Surface and Colloidal Technology) for the third year 2nd semester followed by a fourth year 1st semester of 15 credits (advanced courses in chemical technology and 2 credits of mini project) and fourth year 2nd semester of 8 credits of Project Work.

Applied Physics

Physics courses offered by the department consist of both theoretical and laboaratory components. Credit distribution of the courses through semesters has a pattern similar to other degree programs offered by the department. At each semester undergraduates following physics are offered a 1 credit laboratory course unit. The workload in a single credit laboratory course is equivalent to 60 laboratory hours. Specially a degree with a title Applied

tion to represent laboratory work in terms of the credit
her areas such as Chemical Technology also. It is the
t the credit value of the laboratory courses be revised in order to address this need. Normally a basis that defines 1 credit as 15 lecture hours or 30 practical hours can be used while retaining the overall credit balance. Review team did not find a reasonable justification to incorporate Special Relativity as a 2 credit theory course unit. Department may consider replacing such a course by a course that will be more fitting to the Applied Physics degree programme.

Computer Science

In addition to Chemistry and Physics courses offered by The Department of Physical Sciences and Technology (DPST), it also offers course units in Mathematics & Statistics and Computer Sciences with the intention of providing necessary Mathematics, Statistical and Computing skills for all graduating students in different streams.

Besides Chemistry and Physics, as DPST offers degrees in Computer Science they have pretty strong curriculum in computing as well. However, offering the same content for students reading degree with major in Chemistry and Physics has not been well justified. Furthermore, being a department attached to a faculty of applied sciences, DPST may consider inclusion of more Information Technology and Information Systems components to the computing curriculum.

In this respect the review team would like to recommend considering IEEE and ACM guidelines in the next curriculum revision workshops. Please find the relevant documents at the http://www.acm.org/education/curricula-recommendations. DPST is advised to sharpen the distinction from its study programs consisting CS, CE, and EE course units for fundamental needs against programmes consisting CS, IT, and IS course units for organizational needs, (here, CS=Computer Science, CE=Computer Engineering, EE=Electronic Engineering, IT=Information Technology, and IS=Information Systems).

Curriculum review

The present curriculum has been recently revised by the department in order to overcome drawbacks met in achieving intended learning outcomes. This could be considered as an additional strength in the Department. The DPST has revised the existing curriculum considering several facts including studentsô feedback on the same. Studentsô comments were addressed by the curriculum revision. In developing the new curriculum, the department has considered the views of the academics from other universities, industry, employees and other stakeholders.

The team is of the view that the proportion between theory and practical components of each subject need to be re-examined to give more emphasis on the weight-age to the practical/field/applied aspect on the final score.

Considering the above facts, the aspect of Teaching, Learning and Assessment Methods is judged as 'GOOD'.

ment Methods.

ent of students the department follows the standard practices accepted by the good national universities. Both laboratory and classroom teaching are conducted by qualified staff in order to train the students. Wherever possible, modern teaching aids are used in addition to conventional blackboard/whiteboard teaching. Studentsô performance is assessed using end of semester and/or continuous assessments. Setting of question papers is done by the staff responsible for teaching while the moderation of papers are done by either external examiners or with the help of the senior staff internally. Department has adhered to similar practices in evaluating the student performance using the first examiner second (internal/external) examiner methodology.

However it was noted by the review committee that the staff numbers especially in areas such as Physics and Mathematics were not sufficient to conduct a good degree program with proper evaluations. It was observed as an example that there was only one junior staff member was available to evaluate a large number of laboratory reports in Physics that belong to all the academic levels. This deficiency might lead to the lack of confidence among the undergraduates following relevant degree programs which was indicated by them during the meeting with students.

Considering the above facts, the aspect of Teaching, Learning and Assessment Methods is judged as 'SATISFACTORY'.

4.3 Quality of Students including Student Progress and Achievements

The Department of Physical Sciences and Technology (DPST) currently offers six degree programmes in three major subjects streams; Applied Physics, Chemical Technology and Computer Science. In each of the above stream students have the option of getting three year general B.Sc. degree or four year special B.Sc. degree. Complete names of the degrees awarded by the department and to which students from Advanced Level physical stream could get enrolled are listed below;

1. B.Sc. (Special) degree in Applied Physics
2. B.Sc. (Special) degree in Chemical Technology
3. B.Sc. (Special) degree in Computer Science
4. B.Sc. (General) degree in Physical Sciences (Majoring in Physics)
5. B.Sc. (General) degree in Physical Sciences (Majoring in Chemical Technology)
6. B.Sc. (General) degree in Physical Sciences (Majoring in Computer Science)

As all the other degree programmes offered by other departments of Faculty of Applied Sciences in Sabaragamuwa University of Sri Lanka, enrolments for the above degree programmes are also handles by the University Grants Commission of Sri Lanka. Although, DPST has no control over the intakes, records show higher Z-scores among students registering for its degree programmes. This is an indication of the demand for DPSTôs degree programmes as well as initial quality of the intakes.

The review team also noticed that DPST has mainly been adapted three folded mechanism in order to achieve the intended studentsô quality not only in subject areas but also inculcating soft-skills through the academic programmes. This is one of the best practices that other institutions could also consider within their study programmes. Those three are;

wed by Evaluation involving External Supervisors
ıtations and Awarding
dentsô Projects and Presentations

In addition to evaluations through formal examinations, studentsô evaluations also through the above categories have shown DPST students progress and achievements. However, review team was unable to locate any strong evidences of formal mechanism to monitor studentsô progress during their study period. In this respective DPST could consider appointment of mentors and personal tutors those who can maintain studentsô profiles, monitor their progress, advice and support weak students.

When the above facts are considered the aspect of the Quality of Students, Student Progress and Achievements could be judged as 'SATISFACTORY'.

4.4. Extent and use of Student Feedback

The Department obtains qualitative student feedback about the academic programme and the requirement of infrastructural facilities at various forums such as Faculty Board meeting, practical session and lecture & tutorial classes. Students expressed happiness about their interaction with teachers and higher authorities.

The Department has perceived the importance of quantitative student feedback. The teaching process is evaluated by student feedback using a questionnaire since 2006. The 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 analysed to identify the strengths and weaknesses of each staff of the department. The outcome of the quantitative student feedback have been brought to the notice of all academic staff at departmental meetings The Review Team noted that a Faculty Teaching & Learning Committee has been established recently and the issues arose out of student feedback are discussed at this meeting. The Review Team noted that student feedback data has been taken into consideration during the revision of the curriculum and to increase the tutorial classes, practical and industrial visits.

The Review Team recommends that the practice of obtaining students feedback may be extended to all visiting staff as well as for practical classes. Also data may be collected for a lecturer to compare his/her scores over the years on a particular course to evaluate the progress.

When the above facts are considered the aspect of the extent and use of student feedback, qualitative and quantitative could be judged as 'GOOD'.

4.5. Postgraduate Studies

Since the inception in the year 1997, the Department of Physical Science and Technology (DPST) at the Sabaragamuwa University of Sri Lanka has not started any formal postgraduate courses in relevant disciplines. However there are six senior lectures and three more postgraduate qualified junior academic staff in DPST. Therefore review team thinks that DPST could consider starting postgraduate studies earlier the possible at least within areas where they have senior staff. DPST needs establishment of advanced and research

cture development for this propose of course, while meet undergraduatesô needs.

DPST also has the option of starting immediately M.Phil and Ph.D type postgraduate studies within the department and also in collaboration with other national and international institutes as another remedy to shortage of qualified senior staff. However, the review team noted majority of senior membersô involvements in research works and their publications in national and international in well recognized forums as well. Some of junior academic staff members those who are reading for their postgraduate studies have also published their work in various forums. This is interesting to be heighted and the team recommends continuation and promoting such activities with the entire staff of the department.

When the above facts are considered the aspect of the Postgraduate Studies could be judged as 'UNSATISFACTORY'.

4.6. Peer Observations

The DFST has evolved several mechanisms to monitor the quality of teaching provided to their students and has a mechanism to use the feed back to enhance the quality of teaching.
The review team was pleased to find evidence of peer evaluation of teaching by colleagues in their own department, also by undergraduate students. As per the materials provided to the review team, all the permanent staff members have been subjected to peer-observation while teaching, by other members of the Department or brother-departments. The team also noted that the Senior Academic staff members are also being peer-evaluated. In addition, the temporary staff members are being monitored by senior academics. The peer observation is found to be a workable tool in the DFST. It can be recommended that the peer observation data be correlated with the student feedback responses for further improving teaching, learning and assessment of lecturers concerned.

When the above facts are considered the aspect of the Peer Observation could be judged as 'SATISFACTORY'.

4.7. Skills Development

Department has taken several steps to improve the skills development of students. English language requirement has been made compulsory in the undergraduate curriculum and in order to improve the English language (communicative and writing) skills of students, the department gets the help of the well established English Language Laboratory. Review team went to observe the English Language Laboratory during a teaching session and was quite satisfied by the approach and mechanisms that have been used to improve the English language skills of the students. It was also observed that the department is equipped with well equipped It laboratory through which the students can obtain hands-on experience in order to develop their computer and IT skills. It was also noted that the department has made the use of computer facilities available to the students till midnight on daily basis. It is the view of the review team that the department has taken positive steps to provide students with sufficient IT skills.

s that the department takes an initiative to form student such as Chemical/Computer/Physics Society and any ich students can further develop their skills through application of their knowledge in English and IT.

When the above facts are considered the aspect of the Skill Development could be judged as 'GOOD'.

4.8. Academic Guidance and Counseling

When new students are recruited, they are provided with the faculty handbook containing curriculum and a university prospectus. An orientation programme is being conducted during the first week of their entry. The hand book provides information about University, Faculty, Departments, subjects offered, subject combinations, academic programmes and details of course titles. On the first day of the orientation programme, the Vice-Chancellor, Dean of the Faculty, Heads of Department, Career Guidance Officer and Senior Student Counsellor address the students. At this programme an introduction is given to the students on various departments in the faculty, the courses offered by the department and the selection criteria to offer the special degree programmes. Tutors are appointed and each tutor is assigned with three to four students at every year to clear any doubts arising out of academic matters. There is no practice of assigning academic advisers, mentors or tutors, who can guide the new entrants academically and look into the overall aspect of the student and keep a record of the student.

Whenever students encounter personal problems it has been found that the students can meet the faculty student counsellors or any staff member to this effect. There is a Director for Career Guidance Unit to facilitate students by giving trainings/seminars on job related matters and improve attitudes to carry out a successful career.

When the above facts are considered the aspect of the Academic Guidance and Counselling could be judged 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	Satisfactory
Extent and Use of Student Feedback	Good
Postgraduate Studies	Unsatisfactory
Peer Observation	Satisfactory
Skills Development	Good
Academic Guidance and Counseling	Satisfactory

e weaknesses of each of the eight aspects considered in the subject review process are summarized as follows.

1. Quality of Students including Student Progress and Achievements

Strengths:

1. The review team noted that students follow well-structured series of basic and advanced interdisciplinary and multidisciplinary course units throughout their student career.
2. The present curriculum has been reviewed by the department in order to overcome drawbacks met in achieving intended learning outcomes.
3. The PST programme provides the students with requisite subject knowledge and transferable skills, abilities and attitudes required.
4. Strong Computer Science (CS) curriculum with some Electronics (EE) and Computer Hardware content
5. Industrial placements included within the curriculum

Weaknesses:

1. Present revised curricula have no provision for updating the students with emerging technologies and products.
2. More opportunities be provided to develop interpersonal and teamwork skills of the students.
3. Separation of practical components from relevant theory course units into a single course unit
4. Some of the course titles do not reflect the content
5. Limited flexibility for students to select course units of their choice offered at DPST

Judgment: Good

2. Extent and use of Student Feedback

Strengths:

1. Courses are delivered through a combination of lectures, practicals, discussions, assignments, group work and power point presentations, and field / industrial visits.
2. At the beginning of lecture or practical course, the DPST students are provided with detailed information on intended learning outcomes, assessment procedure.
3. End semester examination question papers are routinely moderated and/or scrutinized.

Weaknesses:

1. Teaching and learning environment is crowded.
2. Urgent need to provide adequate spaces for establishing lecture halls, practical laboratories instrument /equipment centre and computer centre.
3. Equipments received from QEF are unpacked due to non-availability of space.

Judgment: Satisfactory

ıdent Progress and Achievements

1. DPST attracts students with higher Z-score for their courses
2. Student evaluations and monitoring also through Industrial Placements, mini/final-year studentsô projects, and Annual StudentsôPresentations and Awarding

Weaknesses:

1. Lack of proper academic counselling and mentoring services offered by DPST for their students
2. No evidences of maintaining students progress and achievements

Judgment: Satisfactory

4. Extent and use of Student Feedback

Strengths:

1. Obtaining qualitative student feedback is in practice.
2. Obtaining quantitative student feedback procedure has begun one year ago.
3. Availability of analyzed data on the quantitative student feedback responses for few academic staff.

Weaknesses:

1. Obtaining quantitative student feedback practice not extended to practical sessions as well to all visiting academics.

Judgment: Good

5. Postgraduate Studies

Strengths:

1. Availability of trained staff
2. Availability of research equipments
3. Research activities of some staff and students members have also been published in different forums
4. Some senior staff members contribute to postgraduate students supervision at various institutes

Weaknesses:

1. No teaching/research on postgraduate degree programme yet commenced
2. Research equipments received from QEF are unpacked due to non-availability of space.
3. DPST could consider fully utilizing national and international network in strengthening its research and postgraduate studies.

Judgment: Unsatisfactory

1. Peer observation practice has just begun.
2. Few permanent staff members have been subjected to peer-observation while teaching, by other members of the Department by using a pre-prepared format.

Weaknesses

1. Peer observation practice may be practiced by all academic staff.

Judgment: Satisfactory

7. Skills Development

Strengths:

1. Every student has an opportunity to do 4-year-degree programme
2. Every student has an opportunity to take part in these skill development exercises.

Weaknesses:

1. Leadership skill development programmes may not be sufficient.

Judgment: Good

8. Academic Guidance and Counseling

Strengths:

1. Availability of student handbook/prospectus and a website.
2. Availability of an orientation programmes.
3. Availability of Student Counsellors for counselling.

Weaknesses:

1. Non-availability of Professional Counsellor
2. Non-availability of Academic Tutors and Mentors.

Judgment: Satisfactory

6. RECOMMENDATIONS

Based on the findings of the review, the review team wishes that the Department may consider the following recommendation in order to improve the quality of the study programmes further.

The team observed that, many components related to communication skills and managerial skills necessary for young employees have been incorporated into the revised syllabus. The team observed the urgency for updating students with newly developing food technologies and novel food products. Therefore, the team recommends a subject (nomenclature of the said subject can be termed as ñEmerging food technologiesò) be introduced into the curriculum.

he Senior Academic staff of the department that the senior researchers who were earlier attached to leading proposes the department to explore/involve the senior academics in initiating more research programmes which will strengthen the degree programme at large.

The Department is also encouraged to,

1. Consult computing curricula guidelines in future curriculum revisions of computer science units as recommended in IEEE and ACM (please visit, http://www.acm.org/education/curricula-recommendations)
2. Integration of practical components with relevant theory course units.
3. Introduce Information Technology, Information Systems and business related computing course units with higher industrial demand into the present curriculum
4. Revise the titles of the course units with generic names to reflect the content
5. Consult important stakeholders such as employers and alumina in the curriculum revision process
6. Take action to increase flexibility in selecting course modules for degree programs
7. The team is of the view that the proportion practical components of each subject need to be re-examined and it will be of more effective if practical units are provided with increased weight-age of credits.
8. Offer academic counselling, mentoring services for students
9. Maintaining studentsô profiles/records to monitor their progress and achievements
10. Encourage students to take-part in national and international competitions
11. Obtaining quantitative student feedback procedure may be extended to practical sessions as well to all visiting academics.
12. Findings of the student feedback practice may be carried out regularly to see the change over the years for each staff.
13. Commence teaching/research activities on postgraduate degree programme as early as possible.
14. Start research activities with junior staff of DPST leading to their postgraduate degrees also through national and international networks
15. The review team is pleased to note that the department is practicing peer observation techniques as a part of improving learning and teaching. It is recommended to hold periodical discussions among peers with a view to upgrade the peer evaluation techniques.
16. Leadership skill development programmes may be further developed More opportunities be provided to develop interpersonal and teamwork skills of students.
17. The Dept. shall take action to appoint Academic Tutors and Mentors.
18. The University shall engage a Professional Counsellor to the benefit of all students of the University.

Acknowledgements

The Review Team appreciates the excellent working arrangement made by the DPST during the review visit. The HOD and all others in the dept. provided the necessary support to perform our duty well. The documents were displayed and any other document needed by the team member, it was provided by the staff. The review team is grateful to all the categories of the staff in the DPST and others for the support given during our visit.

VIEW VISIT

Day 1: 15th July 2009 (Wednesday)

08.30 ï 09.00 am Arrival of Team and brief discussion with QAA Specialist
09.00 ï 09.30 am Meeting with the Vice-Chancellor, Dean and Head of the Dept.
09.30 ï 10.00 am Discuss the agenda for the visit
10.00 ï 11.30 pm Department presentation on the self evaluation report & discussion
11.30 --12.00 noon Observing documents
12.00 ï 01.00 pm Lunch
01.00 ï 03.00 pm Monitoring departmental facilities/university facilities
03.00 ï 04.00 pm Meeting with all staff of department with tea
04.00 ï 05.00 pm Meeting with 1st & 2nd year undergraduates

Day 2: 16th July 2009 (Thursday)

08.30 ï 09.00 am Monitoring teaching 1st year-Computer by Ms PAC Deepani
09.00 ï 09.30 am Monitoring teaching 1st year- Chemistry by Ms Dr N Wickremaratne
09.30 ï 10.00 am Monitoring teaching 3rd year-English by Mr Derik Silva
10.00 ï 10.30 am Monitoring teaching 1st year-Physics by Mr GNLP Aponso
10.30 ï 11.00 am Meeting student counsellors and Career Guidance Director with tea
11.00 ï 11.30 am Monitoring teaching-Practical Class-2nd year Chemistry
11.30 ï 12.00 Monitoring teaching-Lecture-3rd year Chemistry by Dr SHNP Gunawickrema Meeting 12.00 - 12.30 pm Monitoring
12.00 ï 01.00 pm Lunch
01.00 ï 01.30 pm Monitoring teaching-Practical Class-1st year Physics
01.30 ï 02.00 pm Monitoring teaching-Practical Class-2nd & 3rd year ï Statistical by Mr RMKP Rathnayake
02.00ï 03.00 pm Monitoring teaching Practical Class-2nd year-Computer by Mr RKAR Kariapper
03.00 ï 03.30 pm Tea
03.30 ï 04.30 pm Monitoring studentsô presentation
04.30 ï 05.30 pm Meeting with 3rd & 4th year students

Day 3: 17th May 2000 (Friday)

09.00 ï 09.30 am Monitoring documents
09.30 ï 10.00 am Meeting with Technical and other non-academic staff advisors
10.00 ï 11.00 am Meeting with Director/SDC. Director/CGU, Student Counselors 11.00 ï 11.30 pm Reviewers private discussion
11.30 ï 12.00 noon Meeting with Head and Staff for reporting
12.00 ï 01.00 pm Lunch
01.00 ï 05.00 pm Report writing

BY THE REVIEW TEAM

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

Annex 3. DOCUMENTS PERUSED BY THE REVIEW TEAM

Student Handbook
Student handouts
Lesson guides, theory & practical
Statistics on student achievements and progress
Samples of answer scripts
External examiners reports
Peer evaluation reports & its analysis
Student reports on teacher evaluation & its analysis
Student reports on mini research & research projects
Minutes of Departmental committees

Annex 4. FACILITIES

Temporary building for the department of PST on top floor comprising ï A room for the HOD, a small lecture hall, and staff cubicles
Two smaller lecture rooms in a separate building
Three small laboratories one for each of physics, computer and chemistry
Faculty computer laboratory with computers & internet facilities
IT laboratory for the IT degree programme
Equipment storage room
Library
English Language Teaching Unit
Museum
Gymnasium, swimming pool and play ground

Technology		
Academic Staff		
Name	**Subject**	**Position**
Dr. C.P. Udawatte, B.Sc, (Pera) M.Phil (Pera), Ph.d(Pera)	Inorganic Chemistry	Head Senior Lecturer Gr. I
Prof. I.K. Perera, B.Sc.(H0n), Ph.d (Hull)	Physics	Senior Professor
Dr. (Mrs.) M.N. Wickramaratne, I.Chem (SL), Ph. D(USA)	Bio Chemistry	Senior Lecturer Gr. II
Dr. J.A.P. Bodika, B,sc (Hon) (ruh), Ph. D(col)	Physics	Senior Lecturer Gr. II
Mr. G.M.L.P. Aponsu B.Sc. (Hon) (Col), M.Phil (Col)	Physics	Senior Lecturer Gr. II
Dr. S.H.N.P. Gunawickrama, B.Sc, (Ruh) M.Sc, Ph.D (Norway)	Organic Chemistry	Senior Lecturer Gr. II (Temp)
Mr. R.K.A.R. Karriapper, B,Sc (Hon) (SESUL)	Computer	Prob. Lecturer
Mr. S. Malavipathirana, B.Sc(Pera)M.Phil (Pera)	Physical Chemistry	Prob. Lecturer
Mrs. H.M.S. Wasana, B.Sc(Hon) (Ruh)	Chemistry	Prob. Lecturer (resigned on 2009.08.08)
Miss. H.N.M. Sarangika, B.Sc.(Hon) (Ruh)	Physics	Prob. Lecturer
Mr. R.M.K.T. Ratnayake, B.Sc.(Hon) (Ruh)	Statistic	Assist. Lecturer (Temp)
Miss. P.A.C. Deepani, B.Sc.(Hon) (SUSL)	Computer	Instructor
Mrs. K.V. Hasithamali B.Sc. (Hon) (SUSL)	Chemistry	Demonstrator (Temp)
Mrs. H.H.S.K. Hewage B.Sc. (Hon) (SUSL)	Chemistry	Demonstrator (Temp)
Study Leave		
		Country
Mr. J.B. Ekanayake, B.Sc (Hon) (Pera), MSc (pera)	Computer	Switzerland
Mr. S. Amarakeerthi B.Sc (Hon) (SUSL)	Computer	Japan
Mrs. W. Madawala B.Sc (Hon) (Pera)	Analytical Chemistry	USA
Mr. C.H. Baduraliya B.Sc (Hon) SJP	Mathematics	UK
Non –Academic Staff		
Mr. D. Piyasena	Technical Officer /Chemistry	
Mr. R.H. Rohitha	Technical Officer / Physics	
Mrs. A. Athurugiriya	Data Entry Operator	
Mr. M.V. Wijekumarathunga	Lab attendant Chemistry	
Miss. L.R.K.K. Priyadarshani	Labourer- Physics (Tem)	