

SUBJECT REVIEW REPORT

**DEPARTMENT OF COMPUTING AND
INFORMATION SYSTEMS**



**FACULTY OF APPLIED SCIENCES
WAYAMBA UNIVERSITY OF SRI LANKA**

24th to 26th November 2009

Review Team :

Dr. Prasad Wimalaratne, University of Colombo School of Computing
Dr. Dayan Rajapakse, ESOFT Computer Studies (Pvt) Ltd
Dr. Ruwan Wickramarachchi, University of Kelaniya

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and standards is a key factor required to promote and safeguard public confidence in higher education. As higher education in Sri Lanka 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 achievements and the teaching learning process. It is understood that the final responsibility for quality and standards remains within the institution itself, since it alone has the powers to control and to change existing practices.

Key features of the subject review process include the critical analysis of the Self Evaluation Report (SER) 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 discussions with as many stakeholders as possible.

Subject review process at the Department of Computing and Information systems (DCMIS) of the Wayamba University of Sri Lanka was conducted following the guidelines provided in the Quality Assurance Handbook for Sri Lankan Universities, published by the CVCD and the University Grants Commission in July 2002. The quality of education was reviewed according to the aims and learning outcomes given in the self-evaluation report of the Department.

The following eight aspects of education were reviewed at the Departmental level:

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

The review team consisting of the following members conducted the review process from November 24 to 26, 2009.

- Dr. Prasad Wimalaratne (Senior Lecturer , University of Colombo School of Computing)
- Dr. Dayan Rajapakse (ESOFT Computer Studies (Pvt.) Ltd.)
- Dr. Ruwan Wickramarachchi (Senior Lecturer, University of Kelaniya)

On 24th morning, the Representative of the QAAC briefed the review team about the Quality Assurance Process and writing of the review report. The agenda of the three-day visit was discussed and finalized with the Head of the Department (Annex 1).

During period of review, the review team met the Vice Chancellor, Dean/ Faculty of Applied Sciences, Head of the Department, academic staff, support staff, Librarian, and students. The list of persons met is given in annex 2.

During this visit the review team was able to observe teaching in classrooms and laboratories. The team also examined the facilities available for teaching and learning. These included the lecture theatres, teaching laboratories, equipment, faculty library etc.

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forms. These included the Structure and curriculum of the I and Major II), documents pertaining to curriculum intent criteria, student feedback forms, peer observation

forms, Faculty handbooks, hand-outs given to students, answer scripts, question papers, marking schemes, etc. The list of the documents examined is given in Annex 3.

On 26th November, the review team gave a feedback of the findings to the Head and other members of the academic staff.

After the review visit, this report was prepared incorporating the findings of the review team. In the report, the strengths, good practices and the weaknesses are highlighted together with our recommendations. Each aspect has been given a judgement 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 judgement, it would be resolved by the QAAC through discussion. The judgement 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 should take action to improve the quality of the aspects that receive a judgement of unsatisfactory within six months of approving the judgements by the Standing Committee on Quality Assurance of the UGC.

2. BRIEF HISTORY OF THE UNIVERSITY, FACULTY AND DEPARTMENT

Wayamba University of SL

Wayamba University was established in year 1999 by upgrading then Wayamba Campus of Rajarata University to a fully-fledged University with the addition of two new faculties. At present, Wayamba University functions at two premises; Kuliyapitiya and Makandura, which are situated at a distance of 20 km from each other, in the District of Kurunegala. Administration section, Faculty of Applied Sciences, and the Faculty of Business Studies and Finance are located at Kuliyapitiya premises. The Faculty of Livestock, Fisheries and Nutrition, and the Faculty of Agriculture and Plantation Management are located at Makandura Premises. Each premise also houses a Library, an English Language Teaching Unit (ELTU), a Computer Unit, a Sports Unit and a Medical Center and Student Hostels. Each of the four Faculties has four departments of study, totaling 16 in the whole University. As their names indicate, the programs of study and/or subject areas offered by the Faculties are to a large extent non-conventional and job oriented. Nearly two thousand students are enrolled for the Degree programs conducted by the four faculties, and the University has a total of 96 permanent academic staff members.

Vision of the WUSL

öTo achieve and be recognized as a centre of excellence in higher education, research and development of technologies whilst training and developing human resources to meet national and global needsö

Mission of the WUSL

öTo produce innovative, skilled and knowledgeable graduates who can give the lead in national and global development needs through formal educational programs as well as to carry out research and development through outreach programs in its mandated areasö

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Wayamba University, Faculty of Applied Sciences was
Sciences I of Rajarata University of Sri Lanka. Faculty

then had three Departments, namely, Department of Mathematics, Department of Industrial Management and Computer Science, and the Department of Nutrition and Human Resources Management. When Wayamba University was established, the Faculty of Applied Sciences I was transformed as Faculty of Applied Sciences with four departments coming under it: Department of Computing and Information Systems, Department of Electronics, Department of Industrial management, and Department of Mathematical Sciences. All the human and physical resources of the previous Departments were absorbed to the new Faculty and there was a transition period of about two years until the Faculty was fully prepared with its own programs to cater to the students admitted to the Wayamba University. According to the objectives of establishing new universities, Faculty was expected to conduct, to a greater degree, non-conventional, job oriented programs. The Faculty follows the modular system in its study programs and the medium of instruction of all the study programs conducted by the Faculty is English.

At present the Faculty conducts two degree programs:

- B.Sc (General) Degree (Three year program)
- B.Sc (Joint Major) Degree (Four year program)

The faculty admits students from the A/L physical Science stream for its two degree programs. Faculty has been conducting the above two programs since the academic year 2002/2003. Present annual student intake to the faculty is 125 and the total number of students enrolled at the Faculty for the present academic year (2007/2008) is 321. Faculty, at present, has a permanent academic staff of 32 members (including 10 on study leave).

Vision of the Faculty

öTo become a center of excellence for developing human resources in higher education, research and technology to match the national and global trends.ö

Mission of the Faculty

öTo produce competent, innovative human resources to match the national and global trends through undergraduate and postgraduate education, research and outreach programs.ö

Department of Computing and Information Systems

Department of Computing and Information Systems (DCMIS) was established as one of the four Departments of the Faculty of Applied Sciences when the Wayamba University was established in 1999, by transforming the then Department of Industrial Management and Computer Science of the Wayamba Campus of Rajarata university into two Departments.

At present the Department offers Computing and Information Systems as one of the core subjects offered by the faculty. Computing and Information Systems (CMIS) is offered as the Major subject I or Major subject II of the 3-year and the 4- year degree programs. Department also offers 4 course modules (14 credits) for those not taking CMIS as a major subject. Total number of students enrolled to follow course modules offered by the department in the present academic year was 284. As of September 2009, Department has been able to recruit six lecturers (Probationary), four of them pursuing postgraduate studies overseas, and has a separate computer laboratory to conduct practical classes and examinations.

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her Education in Information Technology in Sri Lanka.ö

Mission of the Department

öTo contribute effectively towards the development of a human resources base with higher level of knowledge and skills in IT, through conduct of undergraduate and research programs.ö

3. AIMS AND LEARNING OUTCOMES

3.1 Aims

In accordance with the Government educational policies and the aims and objectives of the Wayamba University, the Department is expected to achieve excellence in its program delivery, program development and resources development in order to meet its stakeholder requirements at the highest level. The Department hence aims to,

- Conduct a quality undergraduate degree program with up-to-date content that will equip the students with advanced knowledge and skills in IT
- Provide the students with a quality learning environment and a quality learning experience.
- Improve and maintain relevance, quality and standards of the undergraduate programs
- Provide opportunities for students to acquire and develop transferable skills
- Acquire and develop human and physical resources
- Promote research and disseminate knowledge in IT
- Provide a supportive department environment for all, and Encourage and support career development of the staff

3.2 Learning Outcomes

The academic programs of the Department have been designed to impart both theoretical and practical knowledge of Computer Science and to facilitate development of students' transferable skills. On successful completion of the course modules offered by the Department, the students should have:

- Gained theoretical knowledge and conceptual understanding in areas in Computer Science offered at first degree level,
- Acquired practical competence in computer programming, object oriented programming and use of programming languages, C and Java,
- Gained hands-on experience in using a different operating system and varied software including open source software,
- Developed personal and transferable skills: analytical skills, ability of self-directed learning, team work, computer literacy, oral and written communication skills and presentation skills,
- Acquired intellectual skills and understanding on scientific method, and laid a foundation for further studies / post graduate studies,
- Learnt how this knowledge, understanding and skills can be applied to practical situations and provide computer based solutions / software solutions,

fourth year program will also be able to undertake science, independent learning skills and system analysis skills by undertaking a project,

- to experience and be familiar with organizational structure and operational process of a business establishment / industrial environment through an industrial placement, and to analyze a business problem and propose solutions (computer based solution where applicable).

On successful completion of the two degree programs students should have obtained following subject-specific knowledge and understanding of Computer Science.

- BSc (General) Degree with Computing & Information Systems (CMIS) as a major subject: Fundamentals of computers and operating systems, computer programming, Object-oriented programming, Database Management Systems, Data Structure and Analysis of Algorithms, Data Communication & Computer Networks, Systems Analysis and Design, Web Designing & e-Commerce
- BSc (Joint Major) Degree with CMIS as a major subject: In addition to knowledge and understanding on the above topics at General Degree level, Advanced Operating Systems, Software Engineering and Project Management, Intelligent Knowledge Based Systems, Computer based Project.

4. FINDINGS OF THE REVIEW TEAM

4.1. Curriculum Design, Content and Review

The present curriculum has been developed in year 2002 and some enhancements have been made since then by the department. The Curriculum which provides a good grounding on Computer Science includes double majoring option in the fourth year providing students with the exposure to multi-disciplinary subjects. An industrial training module is available for both CMIS Major 1 and Major 2 streams. However, the year 4 project is available only for Major 1 stream. The review team noted that majority of students opt for Major 1 from Industrial Management and Major 2 from CMIS as the 3rd year computer based project is only available under Major 1 stream of Industrial Management.

A mini project with limited scope including requirement analysis and software development is part of the System Analysis and Design module. However, the review team felt that a comprehensive software development project which covers entire life cycle and integrate practical aspects of course modules covered in previous semesters would enhance skills of students.

Students are provided an opportunity to use open source platforms during the practical sessions of the course modules. It was felt that some practical components could be updated to reflect current technology.

Only a limited number of optional modules are offered under the current CMIS curriculum. The review team also noted that there is no room in the existing curriculum to include modern developments in such a fast growing discipline.

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1 by the ELTU, no formal efforts have been taken to students. Reviewers also found that basic modules that are, especially from other faculties are not included in the curriculum. A component could be introduced to enhance students' skills in research and independent learning, and to nurture their investigative spirit.

There was no evidence to show that internationally accepted guidelines such as the ACM's Computing Curricula have been used or industry/ Alumni feedback has been obtained in curriculum development or review processes.

4.2. Teaching, Learning and Assessment Methods

Teaching of the courses is based on lectures, practical and tutorials. The review team noted that workload of the modules where practical sessions are included (in terms of number hours assigned for lectures and practical sessions) exceed number of credits allocated.

Lectures are conducted in English. Reviewers observed that appropriate technology is used for both lecture and practical sessions. Hand-outs for lectures are uploaded into the Yahoo group and students are expected to download and print notes when coming to lectures. However, it was observed that students generally take down notes. The observed lectures were well prepared and delivered well. Reviewers observed that only moderate level of interaction between the lecturer and the students during these sessions. It was also revealed that the academic staff is generally available for consultation by students.

Practical classes provide an opportunity to develop skills needed in the relevant field of study with practical experience and knowledge. Practical sessions of theory modules are offered as part of the course modules. When conducting practical classes it was observed that majority of students are just following what instructors say rather than trying out on their own. The review team's view is that Instructors should be facilitators and make students learn by doing the practical themselves, instead of giving step-by-step instructions.

Discussions with students who follow CMIS as Major I and Major II revealed that they are happy about the way courses are conducted and assessed. However, students felt that more practical exposure require in relation to course modules such as Data Communication and Networking. Students also pointed out that collection in Computer Science available at the library is not adequate as well as not up to date. They also indicated that a limited time available for students to use the library mainly due to lecture schedule.

In order to enhance the learning experience, a six month industrial training component is incorporated into curriculum at year 4. The review team pleased to note that this training programme is managed extremely well and students are also highly satisfied about the internship. In addition, a project is included in the 4th year of the curriculum to encourage independent learning.

The DCMIS uses a variety of assessment methods to determine the level of achievement of the stated outcomes. They are based on the subject taught and the method of teaching used. For most of the course modules, students are assessed by end-of-semester examinations and in-course assessments which may include assignments, tutorials, practical examination (where applicable) etc. Practical sessions also contain continuous assessment. Students are required to obtain at least 30% from continuous assessment marks to be eligible to sit for the final examination. Reviewers noted that external second examiners/ moderators are appointed

king. The Review team of the view that relatively a long ester examinations. available for observation as only soft copies of the reports are submitted. Reviewers feel that DCMIS should streamline the 4th year project by setting guidelines, requiring students to submit reports in the printed form and also taking steps to improve writing skills of students.

The review team would like to commend the DCMIS's effort in teaching, learning and assessment related activities despite experiencing number of constraints such as lack of staff, space and other resources.

4.3 Quality of Students including Student Progress and Achievements

Majority of students of the Faculty of Applied Sciences opt for CMIS either as Major I or Major II. Reviewers noted that a higher percentage of students who take CMIS, graduated with classes than from other streams of study.

Although the department is not keeping information about extra-curricular activities of students who follow CMIS, it was found that number of students excelled in sports.

Detailed completion rates of students who took CMIS as a subject were not available. Tracer studies have not been conducted to obtain information on employment, first salary, time for the first employment, etc. It was also noted that the department does not continuously monitor student progress in order to identify students who require more attention.

It was observed that there is no special award to recognize the best student from the Department at the convocation. The reviewers of the view that DCMIS should actively look for support and/or sponsorship from the industry to organize an award to encourage students. Also it could try to organize awards and recognition of student achievements at semesters, in course units, projects and etc.

Students should be encouraged to take part in technical and academic work and also extra-curricular work such as sports and social activities. As a suggestion, special achievements of alumni can be recognized by DCMIS to encourage current students as well as all alumni to keep in touch with the department. Successful alumni can be organized to act as mentors for groups of students.

4.4 Extent and Use of Student Feedback

Student feedback for course modules is taken at the end of the course but there is no evidence to suggest that the feedback is analysed and actions are taken.

As per the University Act No. 16 of 1978, two students represent the student body in the Faculty Board. Generally representatives of Students' Union participate in these meetings. Reviewers feel that this approach may not appropriate to address some of the issues which could be dealt with the department directly. Student and staff meetings at the department level - which reviewers feel are more effective - are not held.

No batch representatives are appointed to represent the batch and take up issues with the department.

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permanent staff of only 2 probationary lecturers. No postgraduate programmes are offered and staff members do not contribute towards external postgraduate programmes. The reviewers understand the difficulties faced by the department and expect it to offer/ contribute when members of staff who are reading for PhDs return. Therefore, the team will not provide positive aspects, weaknesses and recommendations for this aspect.

4.6 Peer Observation

As specified in the SER, up until the last semester the peer evaluation conducted at the department had been informal. There was evidence that Demonstrators and Instructors were receiving informal guidance from Lecturers in conducting tutorials and practical work in the labs.

Evidence suggests that a formal peer evaluation process has been started in the last semester covering all the lectures. It was commendable that as DCMIS is lacking the services of senior staff at present, Senior Lecturers from other departments have contributed and provided a valuable service with regard to peer observations.

However, there was no evidence of teacher-reviewer meetings conducted at the department. It was also observed that actions have not been taken based on these formal reviews. The Review panel was of the opinion that teacher-reviewer meetings should be started and formal reviews should be continued aiming at progressive improvements of the academic work.

The Review Team is glad to know that the external moderators have been used for moderating the examination papers and also for 2nd marking of answer scripts. Considering the current limitation of resource personnel at DCMIS, reviewers believe that this is a very positive practice.

4.7 Skills Development

In order to improve skills in English, 2 compulsory course modules in English language offered by the ELTU in the 1st year and the 2nd year. Industrial training exposes students to organizational environment and may result in enhancing their soft skills and as well as their confidence. 4th year project encourages self-learning. In addition, group assignments/projects provide opportunities for students to develop communication, report writing, presentation skill, team building skill etc. However, reviewers noted that no formal course module is available for enhancing complimentary skills of students.

Computing and Information Systems Students Association, organizes community outreach activities which further improve soft skills of students. Faculty also encourages students to organize annual cultural and religious activities to promote social harmony.

Observations and discussions with students reveled that practical sessions of some course modules do not provide adequate practical skills in relevant areas. The team also of the view that in order to develop an *all-round student*, additional knowledge/ awareness should be provided from different fields of studies in addition to providing core skills in Computer Science.

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en for small groups of students by appointing 5 student counsellors for the batch during the 1st year. Although counselling continues by appointing a senior student counsellor for each batch there was not much evidence to show that students made use of such services.

An orientation provided to students of new intakes during their intensive English program. Also a comprehensive prospectus which provides courses offered by various departments of the faculty including that of DCMIS is issued to the students as they enter into the faculty. When students are to select subject streams at the end of the 1st year, they are supported by academic staff both formally and informally.

The reviewers felt that the faculty has not clearly identified roles of academic counselling and general student counselling. Formal academic advisors are not appointed either by the faculty or the department. In addition, there is no system to identify and support weak or students with academic issues.

There was no evidence that DCMIS took initiatives to get the support of the University Career Guidance Unit. Also there was no formal system for recording the counselling details of students. Review panel wishes to suggest that records should be maintained to follow up on students who come for counselling services. Also a system should be introduced to identify and support students who require psychological counselling.

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

Aspect Reviewed	Judgement
1. Curriculum Design, Content and Review	Satisfactory
2. Teaching Learning and Assessment Methods	Good
3. Quality of students including student progress and achievements	Good
4. Extent and use of student feedback, qualitative and quantitative	Satisfactory
5. Postgraduate studies	Unsatisfactory
6. Peer observations	Satisfactory
7. Skills development	Good
8. Academic guidance and counselling	Satisfactory

5. CONCLUSIONS

1. Curriculum Design, Content and Review

Good Practices/Strengths

- Curriculum covers the basic areas of Computer Science as a subject
- In depth exposure to multi-disciplinary fields through Double Majoring
- Fourth Year individual project encourages self-learning and skills development

additional competencies

ty of modules encourages students to study throughout exposes student business environment and provides additional competencies

Weaknesses

- Limited elective modules in the 4th year
- Last major revision has been conducted in 2002
- No evidence to suggest that model curricula have been utilised in drawing up the curricula
- Limited exposure to real world implementation of systems

2. Teaching, Learning and Assessment Methods

Good Practices/Strengths

- Teaching and learning are carried out through a combination of methods such as lectures, tutorial assignments, practical classes etc.
- Course details including content, assessment criteria, recommended texts etc. are provided at the beginning of the semester
- Efforts have been made to make available learning material online
- Use of tools such as multimedia projectors for lectures and practical classes
- Use of appropriate simulation tools to demonstrate concepts

Weaknesses

- Students' interaction with the teacher during the lecture seems to be low
- Collections and number of copies in relevant subject areas are inadequate at the library
- Taking relatively a long time to release results after holding semester examinations
- Limited opportunities available for students to self-learn especially during practical sessions
- Limited time available for students to use the library

3. Quality of Students, including Student Progress and Achievement

Good Practices/Strengths

- Majority of CMIS double major graduates are either employed or doing postgraduate studies
- Overall results of CMIS compared to other Subjects streams with respects to First Classes etc. are higher in the last few years
- Students of CMIS programme actively participate in sports and have made notable achievements
- Performances of the students doing CMIS in the 4 year degree are above average

Weaknesses

- No records of completion rates have been made at the department
- No progression analysis of the student performance as they progress in the programme of study
- Not evidence to suggest that career progression of graduated students is systematically monitored
- Tracer studies have not been done for general degree students

4. Extent and Use of Student Feedback

Good Practices/Strengths

- Students' feedback is taken at the end of course modules
- Use of a standard evaluation form for obtaining the student feedback and collected forms are maintained at the department level
- Through student counsellors are assigned for batches

Weaknesses

- Although student feedback forms have collected no evidence that they have been systematically analyzed
- No summarized analysis of the feedback forms observed by the reviewers
- No evidence of actions being taken on students' feedback
- There are no staff student committees at the departmental Level to get students' feedback

5. Postgraduate Studies

No comments are left as the department is not in a position to offer or contribute towards postgraduate programmes.

6. Peer Observation

Good Practices/Strengths

- Peer observations are conducted at the department
- There is evidence that senior academics from other departments have also involved in peer observations
- Moderation examination papers 2nd marking of answer scripts by the external examiners
- Evidence to suggest that lecturers are guiding and supervising demonstrators and instructors

Weaknesses

- No evidence to suggest that peer observations are formally analyzed and actions have been taken based the peer comments
- No evidence to suggest that formal record for the reviewers-teacher meetings and the agreement or amendments made during their discussions
- No evidence of minutes being kept of regular internal staff meetings

7. Skills Development

Good Practices/Strengths

- Two compulsory English modules conducted by ELTU in the 1st and 2nd year
- Technical report writing and presentation skills are enhanced through continuous assessments / assignments
- Community outreach activities organized through the Association of Computing and Information Systems Students
- Annual cultural and religious activities to promote social harmony among the students

and students have been encouraged in sports activities and Inter-faculty and Inter-university events

Weaknesses

- Evidence to suggest that limited depth in the Practical sessions
- Lack of course modules from other disciplines
- Lack of formal course module for enhancing complementary skills of students

8. Academic Guidance and Counseling

Good Practices/Strengths

- Appointment of 9 student counsellors with a separate student counsellors for each of the batches to guide students on academic matters
- Small groups are assigned to each counsellor in the 1st year
- Specific times are defined and allocated for students to meet the student counsellors
- Senior student counsellors guide the students in selecting their subject streams when starting the 2nd year
- Evidence to suggest that student counsellors have been provided training by the experts except one recent workshop

Weaknesses

- Lack of a formal mechanism for handling students requiring psychological counselling
- No distinction duties between academic counselling and student counselling
- No proper system to identify and counsel weak students
- No evidence was found in encouraging students to meet student counsellors after initial allocation in the 1st year and record keeping of counselling sessions
- There was no evidence that the students make use the services of Career Guidance Unit

6. RECOMMENDATIONS

1. A curriculum revision to be carried out in order to update the syllabus
2. Use of model curricula such as ACM as guide lines in developing curriculum
3. Inclusion of more optional course modules
4. Introduction of non-technical subjects to enhance complementary skills
5. Formalization of an industry feedback process via a mechanism such as the Department-Industry Consultative Board
6. A component such as Literature Survey could be incorporated into some course modules to enhance students' skills in research and independent learning and to nurture their investigative spirit
7. Introduction of course modules from other fields of study
8. Initiating formal method to obtain feedback from alumni and strengthening the alumni-department relationships with regard to the curriculum revision
9. Increase staff numbers (review team understands that this is a difficult task)
Provide sufficient office space and other facilities such as photocopying, duplicating etc. for department/ staff
10. Increase the number of computer books, especially updated ones in the library
11. Introduction of an appropriate Learning Management System

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Technical Officer for the Language Laboratory at ELTU
t staff
er laboratory

15. Providing guidelines for 4th year project
16. Improving students' writing skills
17. Requiring hard bound reports of the final year project to be submitted
18. More independent learning to be encouraged
19. Implement a mechanism to monitor progress of students to identify and assist weak students.
20. Conduct a tracer study for general degree students.
21. Special awards to recognize the achievements of students
22. Setting up of an Alumni association
23. Implementing a student suggestion box system to obtain student comments
24. Appoint batch representatives to liaise with the department.
25. Implement the staff - student liaison committee.
26. Reviewers expect the department to introduce relevant postgraduate programmes when the required resources especially qualified staff is available
27. Maintaining a reviewers-teacher meeting records would help even new reviewers to comment on the improvements
28. Analyzing peer comments and taking actions based on comments
29. Formalise regular internal staff meetings, with minutes.
30. Introduction of Non GPA courses from other disciplines
31. Encouraging students to take part in national/international ICT competitions.
32. Offering course modules to develop complementary skills
33. Hold more guest lectures and seminars, including speakers from industry.
34. Appointment of academic advisors/ counsellors
35. A formal follow up of students who come for assistance
36. Provision of psychological counseling
37. Records have not been maintained on student counseling activities
38. Offering an enhanced career orientation programme before the second year of the undergraduates programmes.
39. A systematic approach to identify and counsel weak students.
40. Encouraging students to meet student counsellors after initial allocation in the 1st year and record keeping of counseling sessions

Day 1

08.30-09.30 Arrival of Team and brief discussion with QAAC Representative
9.30 - 10.30 Meeting with Dean/ Tea
10.30 ó 12.00 Department presentation on the Self Evaluation Report
12.00 ó 13.15 Discussion/ Meeting with staff
13.15 ó 14.15 Lunch
14.15 ó 15.00 Meeting with 4th year students
15.00 - 16.30 Observation of facilities/ Tea
16.30 ó 17.00 Meeting with support staff
17.00 ó 17.45 Observing documents

Day 2

09.00 ó 09.30 Observing teaching - practical session - 1st year
09.30 ó 10.15 Observing documents/ Tea
10.15 ó 11.30 Meeting with graduating students
11.30 ó 11.45 Observing teaching - Lecture - 2nd year
11.45 ó 12.45 Meeting with 2nd year students
12.45 ó 13.30 Lunch
13.30 ó 15.00 Meeting with Head/ ELTU, Visiting Physical Education Unit
15.00 ó 15.45 Meeting with student counsellors
15.45 ó 16.45 Observing documents

Day 3

09.15 ó 09.30 Observing teaching - practical session ó 2nd year
09.30 ó 09.45 Observing teaching - Lecture ó 3rd year
09.45 ó 11.30 Meeting with Vice Chancellor/ Tea
11.30 ó 12.00 Meeting with 3rd year students
12.00 ó 13.00 Meeting with head and staff for reporting
13.00 ó 13.45 Lunch
13.45 ó 16.00 Report writing

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2. Dean/ Faculty of Applied Sciences
3. Head / Computing and Information Systems
4. Head/ Quality cell of the University
5. Members of the academic staff
6. Temporary staff
7. Academic Support staff
8. Non-academic staff
9. Faculty student counsellors
10. Students (2nd, 3rd, 4th years and graduating)
11. An instructor of Physical Education Unit
12. Head/ ELTU
13. Head/ Industrial Management
14. Librarian

Annex 3. DOCUMENTS OBSERVED

1. Student feedback forms
2. Peer observation forms
3. Curriculum and Curriculum revisions
4. Association of Computing and Information Systems Studentsø
5. Academic calendar
6. Mark sheets
7. Examiners lists
8. Subject master files for different course modules
9. Faculty board minutes
10. Staff ó Student consultative committee records
11. Examination papers of previous years
12. Studentsøreports on Industrial training
13. Answer scripts
14. Report of group projects
15. Time table
16. Work norms
17. Attendance sheets
18. Master plan of the department/ faculty