SUBJECT REVIEW REPORT

DEPARTMENT OF CIVIL ENGINEERING

FACULTY OF ENGINEERING
UNIVERSITY OF PERADENIYA

21st to 23rd October 2009

Review Team :

Prof. Dayantha Wijeyasekera, University of Moratuwa
Eng. Nihal Rupasinghe, CECB
Eng. Ranjith Gunathilake, Sanken Lanka
Dr. A. M. N. Alagiyawanne, University of Ruhuna
Prof. Lalith Munasinghe, University of Kelaniya

CONTENTS

Page

ality of education within a specific subject or discipline. This review evaluates the quality of education within the specific discipline of Civil Engineering being offered by the Department of Civil Engineering (DCE) of Faculty of Engineering (FE) of the University of Peradeniya (UoP). The review focused on the Self Evaluation Report (SER) prepared by the DCE. Based on the SER, the team evaluated the quality of the B.Sc.Eng. degree programme in Civil Engineering using the criteria set out by the Quality Assurance Council (QAC) of the Ministry of Higher Education.

The SER consisted of: introduction; program details including aims of the DCE, learning outcomes; students, staff and facilities; curriculum design, content and review; teaching, learning and assessment methods; quality of students, including student progress and achievement; extent and use of student feedback; research consultancy and postgraduate programmes; peer observations; academic guidance and counselling and conclusions. Section on skills development was also provided during the review process.

The quality of education within the disciplines was evaluated in the light of the aims and learning outcomes given in the SER submitted by the department.

The review focused on the following eight aspects of education:

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

The evaluation of the above eight aspects of the program were done by obtaining the information from the following sources:

- The self-evaluation report submitted by the Department
- Meeting with the Deputy Vice Chancellor, Director/ Academic Affaires, Dean/FE, Head/DCE, academic, technical and non-academic staff members of the DCE, undergraduates, postgraduate students, recently passed out graduates, Students Counsellors, Academic Advisors and Personal Tutors.
- Observation of teaching sessions, practical classes, teaching ï discussion sessions, student presentations and field work, presentation on activities of Civil Engineering Society (CES).
- Observation of relevant documents (Faculty Handbook, course module sheets, teaching & learning material, samples of studentsô project reports, examination papers, model answers, answer scripts, assignments, assessment methods, details of programs, peer observation forms, teacher evaluation questionnaires filled by students and analysis sheets)
- Observation of department and other facilities of the Faculty (ELTU, Language laboratory, Computer Aided Design laboratories, Structures laboratory, Materials laboratory, Metallurgy laboratory, Hydraulics/Fluid Mechanics laboratory, Environmental Engineering laboratory, Geotechnical Engineering laboratory and Transportation Engineering and Surveying laboratory, Drawing/Design Offices, Computer centre, lecture halls/rooms, Seminar rooms, Library, Canteen, Common rooms, etc.)

cation was judged by making one of the three levels isfactory. For this purpose, strengths, good practices and t were considered. An overall judgment was made from the three options, confidence, limited confidence and no confidence, by taking into account the status of the judgments given for all the eight aspects of the academic programme.
The review team visited the DCE on 21st, 22nd and 23rd of October, 2009.
The agenda of the subject review is in Annex 1.

2. BRIEF HISTORY OF THE UNIVERSITY, FACULTY AND THE DEPARTMENT

The University of Peradeniya is the successor to the University of Ceylon established in 1942 as the first university in Sri Lanka (then Ceylon). In 1952 it was shifted to its current seat in Peradeniya ï a satellite town of the city of Kandy ï situated in the central hill country, 110 km away from Colombo, the financial capital. The University is organized along a faculty structure. It currently has eight faculties: Arts, Allied Health Sciences, Science, Agriculture, Engineering, Medicine, Dental Sciences and Veterinary Medicine & Animal Science. The total number of undergraduate students is approximately 6600 while that of the post-graduate students is 1200. About 75% of the undergraduate students are provided with ón campusô accommodation in 15 halls of residence located within the university campus premises.

The Faculty of Engineering of the university was established in 1950 while the then University of Ceylon was still in Colombo. In 1964 it was shifted to the current location on the left bank of the river Mahaweli in the main university campus at Peradeniya. Currently it has an undergraduate student population of about 1400.

The Department of Civil Engineering is one of the eight departments in the Faculty of Engineering. The other seven are: the Departments of Electrical and Electronics Engineering, Mechanical Engineering, Production Engineering, Chemical & Process Engineering, Computer Engineering, Engineering Mathematics and Engineering Management. The administration of departments comes under the heads of the department who work under the direction of the Dean of the Faculty. The Deans report to the Vice Chancellor, who is the Chief Executive Officer of the University.

Within this structure the Department of Civil Engineering manages and operates the programmes in Civil Engineering under the general guidelines applicable to the Faculty of Engineering (which are determined by the Faculty Board of Engineering). These in turn have to comply with the general guidelines for the University (which are determined by the University Senate and the Council). In practice regarding matters related to curriculum development, the quality of teaching and learning, industrial relevance, academic standards, and research the department exercises a great deal of control. Matters related to strategic planning and resource planning are dealt with by the Faculty of Engineering in consultation with the departments.

Vision of the Faculty of Engineering
ñFaculty of Engineering will be the centre of excellence in engineering education and research in South Asia. The best student representative of geographical and cultural diversity, academic staff of the highest calibre and excellence learning and research environment will ensure academic excellence and highest professional standard, nationally and internationally.ò

ng

neering is to acquire, promote, develop and disseminate nd its application to improve the quality of life and, in particular, to equip present and future generation with skills and attitudes to attain competence as professional engineers, and to interact with industry and community for sustainable development of humankind.ò

DCE offers a 4 year B.Sc.Eng. Degree in Civil Engineering recruiting 150 students annually. In addition DCE conducts part-time Postgraduate Diploma and Masters programmes in Structural Engineering, Geotechnical Engineering and Environmental & Water Resources Engineering. DCE also conducts part-time Postgraduate Diploma and Masters programme in Disaster Management in collaboration with the Postgraduate Institute of Science. The annual student intake for each PG programme is around 30.

3. AIMS AND LEARNING OUTCOMES

3.1. Aims

The course in Civil Engineering is designed to equip students with a thorough grounding of mathematics, engineering science, and technology, with a good understanding of the basic principles of core subjects in Civil Engineering, embracing theory, analysis, and design.
The course ensures a good grasp of the fundamentals of mechanical and electrical engineering, computing and software-based applications, communication skills, and complementary studies including economics, management, health, safety, risk, environmental issues, and industrial training in an engineering practice environment.

3.2. Learning Outcomes

The B.Sc.Eng. graduate specializing in Civil Engineering is thus expected to:

- have a deep understanding of engineering principles embracing theory, experiment, and design and be able to apply this knowledge and training in innovative and creative ways to develop solutions to complex engineering problems;
- be capable of effectively using appropriate engineering methods and tools including IT;
- be capable of successfully carrying out tasks as an individual and as a member of a team in multidisciplinary environments;
- be capable of effectively communicating technical information orally, in the form of drawings and reports, and using multi-media techniques;
- be critically aware of and sensitive to the impact of engineering activities on the physical, social, and industrial environments in Sri Lanka and elsewhere;
- be able to engage in independent learning and to keep abreast of new developments related to his/her field of expertise;
- be able to act professionally and ethically and take responsibility within the limits of his/her competence;
- be able to integrate the knowledge and understanding of mathematics, science, computer based methods, design, economic, social, and environmental context, and engineering practice to solve engineering problems of a complex nature;
- be able to manage and supervise other people;

e of engineering ï especially infrastructure planning and
vities in the economic and social development of the

- have the potential to eventually provide leadership and managerial skills for the successful management of engineering and other industrial and commercial enterprises.

4. FINDINGS OF THE REVIEW TEAM

4.1. Curriculum Design, Content and Review

- The DCE of UoP has introduced the semester based curriculum in 2001 replacing the traditional yearly system. New curriculum has been developed, in consultation and assistance from academia and professionals, to include all aspects of the semester system, and the continuous assessment fundamentals.
- Some positive aspects of the changes are the introduction of compulsory investigation project study and multidisciplinary design project for final year students.
- The changes have introduced much flexibility in the choice of modules covering a wider range of new topics such as management, law, finance, health and safety. It has also promoted more student-centred exploratory learning.
- Some good practices in the original programme continued in the revised curriculum are essential core contents, Industrial Training and Survey Camp.
- The system has eight semesters of 15 weeks each and one short semester of 5 weeks.
- Graduation requirements are laid down clearly for two categories, i.e. degree with class honours or general pass.
- First two semesters are considered as general program for all engineering students and required to earn a total of 36 credits with12 core modules in semesters 1 and 2.
- A short semester of 5 weeks is introduced after second semester for the benefit of students who do not earn necessary 36 credits required to register for specialization courses.
- Specialisation students are required to earn 78 credits from core modules, 15 credits from technical elective modules, 15 credits from general elective modules (with a minimum of 2 credits from each sub category of general elective modules) and 6 credits for industrial training module. The grades for all general elective modules and industrial training module are not counted for the Grade Point Average.
- Total credit requirement for degree with class honours is 150 and that for degree with general pass is 138.
- The curriculum has been designed to match and has been accepted with the accreditation requirements of Engineering Professional bodies such as ICE and IESL.
- Industrial training is recognized by IESL as a part of training requirement for the Corporate Membership of IESL.
- Some disadvantages have been identified in the continuous six month industrial training placements and corrected by re-implementing the former system of industrial training placements in order to provide varied experiences to students (two sessions of 3 months each, at the end of 2nd year and 3rd year).
- Module CE308 Civil Engineering Laboratory which spans over one semester has been divided into two modules and offered in two semesters, based on the feedback from students.

lization course have been put together as two modules semesters. Relevant theory modules are conducted in These two modules are planned such that all necessary laboratory work is completed within the given time period (2 hours for each laboratory session). Instruction sheets are provided to students well in advance so that they are expected to come to the laboratory sessions well prepared with necessary theoretical knowledge.

- In the opinion of students, it would have been better if relevant laboratory sessions could be conducted together with relevant theory modules. However, DCE claims to provide the required theoretical knowledge at practical session where it is necessary. It is also explained that so far, the modules are implemented successfully. However, the progress is closely monitoring.
- The medium of instruction is English for all academic work.
- DCE has catered to a long felt need to ensure industry feed back on curriculum and many other benefits by establishing a Department - Industry Consultative Committee. 12 eminent persons from industry have consented to serve in this committee.

4.2 Teaching, Learning and Assessment Methods

Teaching and Learning Methods

- Each new student provided with the faculty handbook during the orientation week. It contains objectives of the B.Sc.Eng. degrees offered and their course structures and syllabi, rules and regulations of the degree, facilities available, services offered and general information. Faculty and DCE web pages have further information on above.
- Academic calendar is planned for the total period of the degree program. The new students are informed the date set for their graduation at their inaugural ceremony by the Dean. This has created a greater enthusiasm among students and they are motivated to support the programme go ahead with least disturbances.
- DCE can boast of a highly qualified academic staff covering most of the key areas in CE. They are undoubtedly academically very sound and effective. General Programme lectures are conducted by most senior academics.
- DCE disseminates knowledge to students through lectures, tutorials, laboratory/ field/ design/ discussion/ demonstration sessions. In addition, students may be requested to carry out design and research projects under the supervision of lecturers to promote their innovative and self learning skills.
- Students are provided with module sheets containing course outlines, name of lecturers, credit rating, pre-requisites, course objectives, learning out comes, brief syllabus and modes of evaluations as well as recommended texts/ references for reading. However, some module sheets lack expected learning outcomes and recommended text books.
- Printed notes and hand outs are distributed covering important sections of modules. Majority of lectures relevant to design and analytical modules are very effectively conducted by senior staff ñthroughò chalk and talk. Few lectures and discussion classes observed were effectively done.
- Group demonstration was adopted soon after the lecture to give some idea on the applications since the relevant practical classes are sometimes done in a subsequent semester.
- Group size for an experiment seems adequate except in a few instances where it was too large.

tisfactorily used by students in their project and resentations.

ible the teaching material and answers for tutorials and design assignments on the web for the benefit of students.

- The IT centre of EF and IT centre of University provide computer facilities for all students in the Faculty. These facilities can also be reserved for conducting computer based lectures. Postgraduate and project students are provided separate computer facilities in respective laboratories. Number of computers available in the Faculty IT centre is about 80 for common usage of all students in the EF.
- Allocation of funds for libraries has been drastically reduced. Therefore limited amount of funds available for journals and books. Library has adequate reading room facilities as well as vacant floor area for expansion with modern facilities.
- Adequate number of well furnished lecture halls equipped with OHPs and black boards are available (Main auditorium with a capacity of 600, three lecture theatres each of capacity 350, two lecture theatres each of capacity 250, two lecture theatres each of capacity 150, four lecture rooms each of capacity 75, two seminar rooms with AV facilities each of capacity 100, seven lecture rooms each of capacity 50). Multimedia projectors are made available to lecture theatres/ rooms on request.
- ELTU has a strong and effective relatively young staff and a fully equipped language laboratory which is used by unit to improve the learning skill. Also, it provides facilities for students to prepare for internationally accepted English proficiency tests.
- Special talks, seminars and field visits are also organized for upgrading the knowledge in various aspects in civil engineering.
- Residential facilities are provided for all 1st and 4th year students, while 2nd and 3rd year students whose permanent residences are located outside of 50 km radius are also provided if facilities are available. Therefore, many students have access to the facilities even in late hours.
- Group learning is encouraged among students by keeping two of the lecture theatres opened through out the night.
- During observations on teaching following strengths/ weaknesses were noticed:
  - Explanations given by lecturers are adequately clear and comprehensive.
  - Lecturers are capable to attract the attention of students during the lecture and discussion classes.
  - Content delivered is summarised by certain lecturers at the end of the lecture.
  - Though sound systems are not provided in most lecture theatres the lectures could be heard reasonably clearly by those in the back rows.
  - Use of audio visual aids seems to be limited in teaching.
  - Efforts are made to make the lecture and discussion sessions more interactive by prompting questions.
  - Students were interactive in the classroom only when prompted.
  - Small class size is more effective for discussion sessions.
  - Poor selection of colours for chalk used on green board.
  - Stand by power supply to lecture room is not satisfactory.
- The students highly commended some lecturers by name.
- The submission of practical reports immediately after practical sessions is a vast improvement and a positive measure; design classes lack such measures which avoid tendencies to duplicate.

evaluated by continuous assessments, mid semester amination.

- Marks assigned for each component is given to students at the beginning of the lecture series.
- Continuous assessment marks are mainly given based on the studentôs performance in the laboratory/ filed/ design/ tutorial sessions. This is in the range of 20% ï 30% for many modules.
- One hour examination is conducted at the mid of the semester and allocated 20% of marks for many modules. Two hour examinations are conducted at the end of semester and each allocated 50% ï 60% of marks.
- Each examination paper is moderated by another senior academic to ensure questions are clear, relevant and coverage is appropriate. No evidence could be found on submission of model or skeleton answers to moderators along with examination paper.
- As per SER a moderator assigned for each semester to monitor the progress of the course through scrutinizing the course outline, assessment scheme, examination papers and marking schemes, and final grades. However DCE has not documented the feedback and action taken.
- It is noted that there are no external examiners to evaluate the degree programme in a broader perspective.
- Most of the questions are of descriptive type. In some cases, few multiple choice questions are also included. Open book examinations are also conducted especially for design modules.
- Presentations and viva voce examinations are also conducted for several modules including industrial training. These are evaluated mainly by panels of academics.
- 80% attendance is a requirement. The students with poor attendance are not allowed to sit for end semester examination. They are issued a grade F for such cases. These student should follow the module again and sit for the examinations as a repeater.
- Examination results are released to students within 2 ï 3 weeks. Students highly appreciated the timely release of results.
- To earn the credits for a module, a grade of C should be obtained. However, a student who satisfies the GPA requirement is allowed to earn credits for a limited number of courses with grades below C but above F.
- In order to maintain the transparency in evaluation process, the results are displayed on department notice board 2 ï 3 days before submitting to examination unit by the Module Coordinators. The students are given the opportunity to meet Module Coordinators to submit any claims for higher grade than the grade received. The Module Coordinators will take necessary actions to recheck the answer scripts and marks calculations and make corrections if applicable. However, no mechanism is established to report to HOD whenever any such change is done.
- Final GPA is calculated using the GPA values of all semesters in the specialization course incorporating an equal weight. Credits earned at the General Programme are not considered for the final GPA. Minimum Final GPA for the award of degree is 2.00. GPA for the award of class honours are given in the student hand book.

ogress and Achievements

l by the UGC for the FE, 150 are selected to the DCE based on studentsô preference and performance during the first two semesters which are common to all students. The student preference for DCE has been either 2nd or 3rd position in the recent past. Students thus selected have had average GPAs (as at end of 2nd semester) of 2.9, 2.82, 2.8 and 3.05 in 2005, 2006, 2007 and 2008 respectively. Students are made aware of the CE programme and its prospects prior to their application for streams.

- As per Dean FE input quality of students has room for improvement. Average Z score of the intake to the faculty were not available.
- Industry day is organised every year for A/L students from 4 neighbouring provinces. A faculty level committee has been established for popularising the Engineering degree programme offered by FE of UoP.
- At the meeting held with a cross section of 1st, 2nd and 3rd year students (final year students were on industrial training, therefore not available) it was evident that the measures taken by the DCE to develop their soft skills, particularly the communication skills have been very successful.
- The students of the DCE have consistently maintained high academic standards. The high quality of the students is reflected in the final examination results as a large majority of the students have obtained classes as shown in the table below.

Year	2005	2006	2007	2008
First class	5	13	3	7
Second class (Upper div.)	44	28	32	30
Second class (Lower div.)	73	77	71	52
Third class	14	9	14	25
Ordinary Pass	5	3	4	9

- Prof. E.O.E. Pereria Gold Medal is awarded to the most outstanding student graduating from the FE. Following prizes are available for those who perform at highest level in subjects offered by DCE.

Name of Award	**Criteria**
CA Hewavitharana Memorial Prize	Highest GPA at the B.Sc.Eng.
Ceylon Development Engineering Prize	Highest GPA at the B.Sc.Eng. in CE
A Thurairajah Prize for Geotechnics	Best performer with Geotechnics
EOE Pereira Prize for Sructures	Best performer with Structures
HB de Silva Prize for Surveying	Best performer with Surveying
M Amaratunga Prize for Strength of Materials	Best performer with Strength of Materials
MP Ranaweera Prize for Finite Element Methods in Solid Mechanics	Best performer with Finite Element Methods in Solid Mechanics
MP Ranaweera Prize for Computer Aided Structural Design	Best performer with Computer Aided Structural Design

- DCE has been successful in producing high quality graduates and majority of them have secured employment related to their specialization in public and private sector

good academic performance, find admission with full sities.
registered for professional examinations and obtained student membership of IESL.

4.4 Extent and Use of Student Feedback

- The establishment of staff student liaison committee, though started only this semester is a welcome step. DCE intends to have regular meetings to obtain useful student feedback from students.
- At the end of a course module, the respective teacher is evaluated by means of a formal questionnaire. This questionnaire is administered in the absence of the relevant lecturer. The questionnaires are analysed and results made available to the lecturer concerned. Department averages for different aspects are also made available to all members of the staff.
- Useful feed back is said to be forthcoming through the membership of the Civil Engineering Society (CES) which comprises of undergraduate and postgraduate students and academic staff of DCE.
- DCE has not made any effort in the past to document student feedback obtained through different sources and the corrective action taken to rectify shortcomings.

4.5. Postgraduate Studies

- DCE conducts part-time Postgraduate Diploma and Masters programmes in Structural Engineering, Geotechnical Engineering and Environmental & Water Resources Engineering. The department conducts part-time Postgraduate Diploma and Masters programmes in Disaster Management in collaboration with the Postgraduate Institute of Science. The annual student intake for each programme is around 30. These programmes are conducted on Fridays and the weekends.
- Despite the strong academic staff and excellent laboratory facilities DCE has only 4 candidates (2 PhD & 2 MPhil) pursuing PG research degrees. This seems inadequate.
- Other than a few MOUs there are no formal linkages with foreign universities. Such formal links could enable graduate overseas employment/ research, staff development, sabbatical leave and international recognition.
- The presentations of multidisciplinary and research projects of students were of high quality one being a current traffic problem in heart of the city of Kandy needing much attention and a solution. The extension of this work with the support and concurrence of the stake holders would undoubtedly bring about desirable results. Bone Implant ï Bio Medical project too is a very praiseworthy humanitarian project. Thus these projects would require much support and sponsorship.
- Through various collaborative research and development programmes, the academic staff members of the DCE interact with local industries and other research organisations in and outside the country.
- The academic staff members of the department are actively engaged in providing consultancy and advisory services to local industrial and research organizations. The department also plays an active role in providing services and facilities on materials testing, metallurgical examinations, hydraulic investigations, environmental impact assessment studies, model testing and studies, calibration of equipment, soil and site

transportation management to major industries and enable adequate marketing of services DCE could offer as well as distribution of a fair share of profits earned through such services for the staff and the DCE prevent reaping its full potential.

- Academic staff has published a large number of articles in national and international journals.

4.6. Peer Observation

- DCE operates a peer observation system for the identification of strengths and weaknesses of delivery of courses using a standard form. The observations of the peer on aspects such as planning and organization, clarity and pace of the delivery, are made available to the lecturer concern.
- The observations are communicated to the Head of the Department and records are kept at headôs office.

4.7. Skills Development

- A 12-week intensive teaching programme in English is provided by the ELTU of the university to all students admitted to the faculty to bring up their language skills to a level that will enable them to follow lectures, write reports, carry out written and oral instructions, respond orally and in writing, and face examinations in English.
- Further instructions in written and oral skills are imparted through the three credit modules QE101: English I and QE102: English II (covering communication through reading, listening, writing and speech). These modules are intended to promote report writing skills and presentation skills. General electives, EF519: Written English for communication, and EF520: Effective communication in English through speech, are also available for further development of these skills.
- Oral and written communication skills are also developed through presentations, interviews and reports periodically planned for evaluation of projects, coursework and training experience.
- Number of group projects included in the curriculum help to improve skills in team-work, team management, leadership, motivation, delegation and negotiation.
- The Civil Engineering Society (CES) of the department is actively involved in organising field trips and site visits to major civil engineering projects, sports activities, seminars, talks, social get-togethers, etc. Availability of a well planned annual calendar of events and delegation of, organising them to different groups of students under the guidance of staff members ensure maximum participation. These activities help to develop leadership qualities, team-work, etc of students.
- Engineering Students Union (ESU) organizes many welfare activities. ñArunellaò is an activity organized by the students to help needy students financially and help students in A/L classes in rural areas.
- UoP has extensive facilities for sports a fair percentage of students take part in sports activities, which too help to develop their soft skills in addition to physical fitness.
- Industrial training programme helps students to interact with industry and lead them to develop their application, management, intellectual and leadership skills. However finding good placements and the ability to ensure all-round training in the discipline were hindering the success of the industrial training process. The six month training period is

ning periods to ensure wider area of training. However many disadvantages for students and not often favoured

- Positive impact on development of soft skills through numerous measures taken by the DCE was evident from the high level of communication skills observed during the discussions with student groups and high level of presentation skills and quality demonstrated at project presentations.
- DCE is yet to introduce a mentoring programme for its students. Students too were eager to have such a programme.

4.8. Academic Guidance and Counseling

- Advice and counselling is available for students throughout their stay in the university at many levels.
- FE appoints an academic advisor to each student when they join the faculty to start their studies. This advisor provides all the necessary guidance a student needs during his first year.
- For the students who are selected to the DCE at the end of the general programme, new academic advisors are appointed for the next three years of their specialization programme period. These advisors are appointed from among the permanent academic staff of the department. The academic advisor offers guidance on academic and administrative matters as well as advice on personal difficulties. The advisors are provided module grades of students at end of each year to enable them to monitors studentsôperformance throughout their progression in the degree programme.
- The Vice Chancellor appoints a few academic staff members of the faculty on the recommendation of the Dean of the FE as Senior Student Councillors to look into the welfare of the students in the faculty. Students have access to them during their grievances in the areas of both academic and personnel.
- The university has established a Counselling Unit, too. It provides a counselling service through which professional help is available to the students.
- Students are encouraged to discuss their problems either academic or personal with one of the above advisors/councillors.
- Students claimed that there is hardly any ragging and appreciated the year planner being implemented and adhered to.

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

viewed	Judgment Given
Curriculum Design, Content and Review	Good
Teaching, Learning and Assessment Methods	Good
Quality of Students including Student Progress and Achievements	Good
Extent and Use of Student feedback, Qualitative and Quantitative	Satisfactory
Postgraduate Studies	Good
Peer Observation	Satisfactory
Skills Development	Good
Academic Guidance and Counseling	Good

5. CONCLUSIONS

1. Curriculum Design, Content and Review

Strengths/Good Practices

- The curriculum has been developed, in consultation and assistance from academia and professionals, to include all aspects of the semester system, and the continuous assessment fundamentals.
- DCE follow the accepted norm of 138/ 150 credits for a four year general / honours degree.
- Curriculum has been designed to cover all the major areas required of a civil engineer.
- The curriculum has been planned to be broad based to cover the wider job market for its graduates.
- Curriculum includes; multidisciplinary and research projects and industrial training for a total period of 6 months, all of which have many components to develop subject specific and soft skills of students.
- The medium of instruction is English for all academic work.
- Accreditations obtained from IESL and 4 other relevant institutions in UK including ICE.
- Strong DICC has been initiated to ensure continuous industry feedback to update the curriculum to suit the changing needs.

Weaknesses

- DICC meetings have not been held yet.

2. Teaching, Learning and Assessment Methods

Strengths/Good Practices

- New students provided with the faculty handbook which contain course objectives syllabi and all necessary information, during the orientation week.
- Availability of highly qualified academic staff with competence for effective teaching.
- Availability of highly equipped laboratories and computer facilities.
- Provision of course outlines and assessment criteria for all course modules.

- mportant sections of modules.
- erial on the web.
- tinuous assessment and end of semester examinations.
- Availability of a strong and effective ELTU, equipped with a language laboratory.
- Availability of satisfactory common facilities such as; Lecture theatre/ room, library, IT, recreation, residential, etc.
- Availability of support staff (TOs and Lab Attendants) with experience.
- Evaluation of performance by continuous assessment, mid semester and end of semester examinations.
- Provision of marks assigned for each component at the beginning of the lecture series.
- Moderation of examination papers by another senior academic to ensure questions are clear, relevant and coverage is appropriate.
- Course coordinators make available the results to students prior to submitting them to head of the department or Examination Unit.
- Timely release of examination results (within 3 weeks).

Weaknesses

- Expected learning outcome and recommended text books are not provided for some course modules.
- Limited use of available audio-visual equipment.
- Limited amount of funds available for journals and books.
- Non submission of model or skeleton answers to moderators along with examination paper.
- Non availability of external examiners to evaluate the degree programme in a broader perspective.

3. Quality of Students, Students Progress and Achievement

Strengths/Good Practices

- 2nd or 3rd Most preferred field of specialization for high-achievers in the first two semesters.
- Has secured sponsorship of Gold medals and prizes for the best performing students.
- Some students register for professional examinations and obtain IESL students membership.
- Availability of employment for most graduates even before graduation.
- Pursuance of postgraduate studies by a fair number of graduates,
- Very high rate of success of graduation and over 95% obtain classes.

Weaknesses

- FE of UoP is not the first choice of most AL students.

4. Extent and Use of Student Feedback

Strengths/Good Practices

- Teacher evaluation questionnaires by students analysed and provided to relevant teachers, along with the department average for different aspects.
- Establishment of a staff student liaison committee

e meetings held. However, it is noted that this committee

- Follow up action on teacher evaluation not discussed with a senior staff member or documented.
- Non transparency of corrective action taken on student feedback

5. Postgraduate Studies

Strengths/Good Practices

- Availability of 4 postgraduate programmes and about 60 PG students.
- Availability of number of research projects with high relevance and potential for regional/ national development.
- Active participation of academic staff in consultancy work.
- Publication of large number of articles in national and international journals.

Weaknesses

- Insufficient consultation with academia and industry on the identification of focus areas for research.
- Absence of sufficient number of research students in the department.
- Absence of a cell to market in the department and administer of services that could be offered by the EF.
- Absence of a mechanism to provide a fair share of income generated through services to the staff and the DCE to motivate them.

6. Peer Observation

Strengths/Good Practices

- Acceptance by academics and initiation of a peer observation process.

Weaknesses

- No documentary evidence of sharing of good practices.
- No documentary evidence of corrective action on peer feedback.
- Absence of documentation of good practices to ensure continuity.

7. Skills Development

Strengths/Good Practices

- Availability of a 10 to 12 week effective intensive teaching programme in English for incoming students.
- Availability of many other modules to further improve communication skills in English.
- Inclusion of internship programme, a multidisciplinary and research projects, and number of group projects in the curriculum to help improve soft skills.
- Availability and students making use of extensive facilities for sports.
- Availability of an active CES which conduct numerous activities to develop skills of students.

gramme for students.

8. Academic Guidance and Counseling

Strengths/Good Practices

- Availability of academic advice and counselling for students throughout their stay in the university at many levels.
- Availability of an academic advisor to each student throughout their stay in the university.
- Availability access to senior student councillors during any grievance in the areas of both academic and personnel.
- Availability of a Counselling Unit within the university, for students to obtain professional help.
- Availability of a CGU headed by the lecturer in charge of industrial training.

6. RECOMMENDATIONS

1. Arrange the inaugural meeting of the recently established Department - Industry Consultative Committee and ensure proper maintenance of minutes and formulate mechanisms to enable smooth implementation of recommendations made.
2. Seek assistance from funding agencies to enhance the computer facilities of the faculty.
3. Seek assistance from funding agencies to equip library with modern facilities. (computer facility with Internet Access).
4. Solicit assistance from expatriate alumni to provide books.
5. Use of modern teaching methodologies using multi-media projectors and OHPs along with handouts should be further promoted.
6. Introduce measures taken for submission of practical reports immediately after the practical session, for design classes as well.
7. Provide examination paper to moderators with course content, expected learning outcomes of the modules and skeleton answers in addition to the marking scheme.
8. Initiate evaluation of the degree programme in a broad perspective by a competent external examiner. External examiner need to be provided with Aims and Learning Outcomes; Curriculum and its review process; Teaching, Learning and Assessment Methods; Module sheets; Question papers with skeleton answers; Sample answer scripts etc.
9. Award of a 3rd class may sound derogatory. However in order to include this category among the class honours it could be incorporated by extending the lower limit of the second class lower division.
10. Extend awareness of academic strengths, laboratory resources, extra ordinary university environment and industry interactions of FE among advanced level students, through activities such as open days, seminars at schools, using mass media.
11. Conduct regular staff student liaison committee meetings and duly maintain their minutes for record and follow up action. It will be preferable if the meetings are held once a month at least during the initial period for a year or so. Circulation of a detailed specific agenda would be effective.
12. To display corrective action taken on student feedback on a separate notice board or through the e-learning system.

teaching during the first half of the semester to enable
n corrective action. This could also be done through the

14. Provide financial assistance to local faculty staff undertaking local research to obtain overseas exposure for short duration. IRQUE project could possibly assist such a move.
15. Promote interaction with industry to promote industry based research and their sponsorship.
16. Establish formal links with foreign universities.
17. Extend identified student projects with potential for further development with sponsorship and support from university and industry.
18. Establish a cell that will enable adequate marketing and administration of services DCE could offer. Also lobby the University Council to provide a fair share for the staff and the DCE to motivate them.
19. Amend the peer review process to include a discussion session between the pair to identify corrective actions.
20. Communicate weaknesses as well as good practices to the Head of the department to be discussed at a staff meeting for the benefit of all staff members.
21. Evolve a flexible criterion for industrial training on the total period a trainee spends in one training organisation (continuous period of six months only at organizations which provide training on many required aspects), so as to ensure the training would be mutually beneficial and effective to the trainee and the training organisation.
22. EF along with other engineering faculties and the IESL to request ICTAD officially, to make provision of structured and supervised training to undergraduates, a prerequisite for ICTAD grading of contractors, in order to promote transfer of technology as an obligation of contractors.
23. Initiate a mentoring programme for students.

EW VISIT

DAY 1 - 10/21/2009 (WEDNESDAY)

0830 - 0900 hrs	Meeting with VC /Private meeting of review panel and QAA council
0900 - 0930 hrs	Meeting with the Dean and Head
0930 - 1000 hrs	Discuss the agenda for the visit/review
1000 - 1030 hrs	Tea
1030 - 1130 hrs	Department presentation on the self evaluation report
1130 - 1230 hrs	Discussion with academic staff
1230 - 1330 hrs	Lunch
1330 - 1500 hrs	Observe department laboratory facilities
1500 - 1530 hrs	Observing teaching [CE 306 - Design class (DO II)]
1530 - 1545 hrs	Tea
1545 - 1645 hrs	Observe library, Engineering workshop, ELTU and Computer centre,
1645 - 1730 hrs	Meeting with undergraduates
1730 - 1800 hrs	Brief meeting of reviewers

DAY 2 - 10/22/2009 (THURSDAY)

0830 - 0915 hrs	Observing Teaching ï Lecture [CE 201 (11), CE 306 (7)]
0915 - 1030 hrs	Observing documents (Working tea)
1030 - 1115 hrs	Meeting with technical staff and other non-academic staff members
1115 - 1200 hrs	Meeting with postgraduate students
1200 - 1330 hrs	Lunch
1330 - 1415 hrs	Observing practical class [CE 314 - LABORATORIES]
1415 - 1500 hrs	Observing Teaching ï Discussion classes [CE 201 (3), CE 202 (2)]
1500 - 1515 hrs	Tea
1515 - 1600 hrs	Meeting with recent graduates
1600 - 1645 hrs	Studentôs presentation
1645 - 1700 hrs	Presentation on CES
1700 - 1730 hrs	Brief meeting of reviewers

DAY 3 - 10/23/2009 (FRIDAY)

0900 - 0930 hrs	Observing field work [CE 203; Field Class]
0930 - 1000 hrs	Observing Teaching ï Visit to Industrial Training Unit and EEU facilities
1000 - 1015 hrs	Tea
1015 - 1100 hrs	Meeting with Student Counsellors/ Academic Advisors/ Personal tutors
1100 - 1130 hrs	Reviewers private discussion
1130 - 1230 hrs	Meeting with head and staff
1230 - 1330 hrs	Lunch