

SUBJECT REVIEW REPORT

DEPARTMENT OF ZOOLOGY



***FACULTY OF SCIENCE
UNIVERSITY OF PERADENIYA***

22nd to 24th September 2008

Review Team :

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1. SUBJECT REVIEW PROCESS

The subject reviews, a component of the quality assurance programme carried out in Sri Lankan universities, evaluate 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 counselors.

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.

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 counseling

The review team consisted of the following members

1. Professor M.J.S. Wijeyaratne
(Vice-chancellor and Senior Professor of Zoology, University of Kelaniya)
2. Dr. Mrs. H.T.R. Jayasooriya
(Dean of the Faculty of Natural Science and Senior Lecturer in Zoology, Open University)
3. Dr. Mrs. N. Pallewatta
(Senior Lecturer in Zoology, University of Colombo)

Prof. Wijeyaratne served as the Review Chair.

The Self Evaluation Report prepared by the Department was provided to the review team on 19th August 2008 by the Quality Assurance and Accreditation Council of the University Grants Commission. The review team carried out the review process from 22nd to 24th September 2008.

On 22nd morning the review team met the Vice-Chancellor together with the Chairman/Internal Quality Assurance Unit, Dean / Faculty of Science, Head / Department of Zoology and the Chief Student Counselor / Faculty of Science. The Vice-Chancellor briefed the quality assurance activities of the University. The Dean / Science explained the present situation and future development plans of the Faculty of Science. The review team, after finalizing the agenda for the review process met the Head of the Department and all members of the staff. At this meeting, the Head of the Department and a member of the academic staff explained the contents of the self Evaluation Report which was followed by a discussion. The review team had discussions with the members of the academic staff, technical officers, laboratory attendants, postgraduate students, demonstrators who are the alumni of the Department, student counselors and the present undergraduates following the B.Sc. (Special) degree in Zoology as well as the B.Sc. (General) degree students who are following Zoology as a subject. The list of persons met is given in the Annexure 1.

Several documents were also perused. These included the Faculty handbook, handouts given to students, minutes of the Departmental meetings, answer scripts, question papers, student feedback forms, peer evaluation reports etc. The complete list of the documents examined is given in Annexure 2.

The review team also examined the facilities available for teaching and learning. These included the lecture theatres, teaching laboratories, equipment, research laboratories etc. The list of facilities observed is given in Annexure 3.

On the 24th September, 2008 the review visit was concluded by giving a feedback of the findings to the Dean of the Faculty of Science, Head of the Department and members of the academic staff.

After the review visit, a report was prepared incorporating the findings of the review team. In the report, the strength and good practices were highlighted and the weaknesses were also stated together with some recommendations. Each aspect was also given a judgment of good, satisfactory or unsatisfactory. The draft report would be sent to the Department and the feedback is 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.

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

The first University in Sri Lanka, which was the University of Ceylon, was established in 1942 in Colombo with the provision of the Ordinance No. 20 of 1942. The first Vice-Chancellor of the University of Ceylon was Sir Ivor Jennings. His main task was the establishment of the University at Peradeniya. However, due to various reasons, including

the 2nd world war, the transfer of Faculties from Colombo was delayed. On 6th October 1952, the University of Ceylon was officially declared open at Peradeniya. With the opening of the University, the Faculty of Arts and Oriental Studies was transferred to the present location together with the library and University administration. The Departments of Law, Agriculture, and Veterinary Medicine & Animal Science were also started functioning at Peradeniya while the Faculties of Science, Medicine and Engineering continued to be in Colombo pending the completion of 2nd and 3rd phases of the building programme. Subsequently, Department of Dental Surgery was transferred to Peradeniya in 1954, and the 2nd Faculty of Medicine was started in 1961. The 2nd Faculty of Science was also started in 1961. The Faculty of Engineering was transferred to Peradeniya in 1964. With those developments, the University of Peradeniya started functioning as a unitary University.

In 1972, with the enactment of the University Act No.1 of 1972, all Universities were amalgamated to one University, namely the University of Sri Lanka and the University of Peradeniya became the Peradeniya campus of the University of Sri Lanka. With the enactment of the Universities Act No.16 of 1978, the Peradeniya campus became the University of Peradeniya, Sri Lanka and started functioning as an autonomous University again. At present, the University of Peradeniya consists of 8 Faculties, namely the Faculties of Agriculture, Arts, Engineering, Science, Dental Science, Veterinary Medicine & Animal Science, Medicine and Allied Health Sciences. The total number of permanent academic staff as at 30/06/2007 was 667, of which nearly 60% had doctoral degrees and about 15% were Senior Professors and Professors. The University admits the highest number of students each years and for 2007/2008 academic year the total number admitted was 2375 which is about 12% of the total intake to Sri Lankan Universities.

The Faculty of Science

The first batch of students to the Faculty of Science of the University of Peradeniya was admitted for the academic year 1961/62. This batch comprised of 40 Biological Science Students and 76 Physical Science students. At the initial stages, some of the staff from the Faculty of Science at Colombo moved to Peradeniya while direct recruitment was also carried out. The faculty at that time consisted of 5 departments. The two branches of the Faculty of Science of the University of Ceylon, which functioned at Peradeniya and Colombo, were under common administration and had common curricula and examinations.

At present, the Faculty of Science consists of 8 Departments and Science Education Unit. The 8 Departments are the Departments of Botany, Chemistry, Molecular Biology & Biotechnology, Geology, Mathematics, Physics, Statistics & Computer Science and Zoology. As of 30/07/2007, the Faculty had 105 members of permanent academic staff of which 63 (60%) had Ph.Ds and nearly 23% were Senior Professors and Professors. The total number of students in the Faculty is 1364 of which 1119 are following the B.Sc. (Special) degree and 27 are registered for the B.Sc. Applied Science degree.

Department of Zoology

The Department of Zoology of the University of Peradeniya was established in July 1961. It is the second Department of Zoology to be established in Sri Lanka.

It was one of the five Departments of the newly constituted Faculty of Science. During the first few years the Department of Zoology in Colombo administrated the Department of Zoology at Peradeniya. During the period 1963-1965 the Department of Zoology at Peradeniya had its own staff of 3 members, headed by Dr. Hilary Cruz. The Special Degree

Programme in Zoology at Peradeniya University commenced in 1965 with a batch of six students.

The cadre in the Department of Zoology increased with the increased intake of students to the Biological Sciences stream. The first Chair in Zoology was established in 1964 and Dr. H. Cruz became the very first Professor of Zoology at the University of Peradeniya. In the year 2000, a second Chair in Applied Zoology was established and Dr. F. P. Amerasinghe became the first Professor of Applied Zoology.

For many years, Zoology formed one of the 3 subjects (along with Botany, Chemistry /Geology) offered in the Biological Sciences stream. With the introduction of the Course Unit System in 2000, there was a decline in the number of students offering Zoology in the 2nd and 3rd years of the Degree programme as they are given the option to follow several other courses. However, there was hardly any change in the number of students opting to follow the Special Degree in Zoology.

Currently, Department of Zoology is one of the seven Departments in the Faculty of Science. The present cadre of the Department comprises 15 academic staff members, 07 technical officers, 04 laboratory attendants and one labourer.

The total number of B.Sc. (General) degree students who are following Zoology is 24. The total number of students enrolled for B.Sc. (Special) degree courses are 35.

The subject combination of the students following Zoology and the number of students enrolled for each combination are given in the Table 2.1.

Table 2.1. Subject combinations available to Zoology Students.

| Subject Areas / Combinations | Number of Students Enrolled. | | | | | |
|-------------------------------------|------------------------------|---------|-----------|---------|-----------|---------|
| | 2002/2003 | | 2003/2004 | | 2004/2005 | |
| | General | Special | General | Special | General | Special |
| Zoology/Chemistry | 2 | 7 | 1 | 3 | 1 | |
| Zoology/Botany/Chemistry | 8 | 7 | 10 | 2 | 1 | 7 |
| Zoology/Chemistry/Statistics | 1 | | | | | |
| Zoology/Chemistry/Molecular Biology | | 1 | | 6 | | 2 |
| Zoology/ Geology/Chemistry | NA | NA | NA | NA | NA | NA |

(NA- Combination not available to Zoology Students but available to Botany students)

3. AIMS, LEARNING OUTCOMES AND PROGRAMME DETAILS

3.1 Aims

The aims and objectives of the teaching programme and the learning outcomes in the Department of Zoology are directed at providing students with subject knowledge and skills

that would enable them to be confident and independent learners as their programme of study progresses.

The Department aims to provide:

1. an opportunity to develop the students' competence in a wide range of courses in Zoology and subject specialist skills in an environment with modern facilities
2. encouragement to students emphasizing the importance of acquiring general and transferable skills such as written and oral communication, presentation and IT skills required for life long learning process.
3. a range of courses that will enable the students to understand the interdisciplinary nature of Zoology in the web of life and the interactions of animals from an ecological, evolutionary and economic perspective.
4. a good knowledge of major themes in modern Zoology in order to prepare them for higher studies in different disciplines of Zoology.
5. an opportunity to students to access and evaluate information on Zoology and develop skills in zoological techniques, in data analysis and synthesis, and in presentation and communication skills.
6. opportunities to our staff to develop their teaching methods based on their own research areas and communicate contemporary Zoological science in a compelling way not only to the undergraduates but to all others through lectures, workshops, services on boards, outreach to schools, print and electronic media, and other appropriate endeavors. Also encourage the development of Zoology related fields in science through service with professional societies, editorial boards, foundations, and funding agencies.
7. advise undergraduates on the structure of their degree programs, postgraduate research, and careers.

3.2 Learning Outcomes

Zoology, being a life science depends heavily on laboratory and field based teaching and learning strategies in order to understand and explain the complex web of life. Particular emphasis is paid to taxonomy and ecology of Sri Lankan fauna and its status and conservation. Teaching and learning outcomes are aimed at training students to develop observational powers, inquiry and conduct scientific investigations and thereafter be able to communicate and disseminate the findings in a scientific manner through presentations, reports and publications.

General Degree Programme in Zoology:

On successful completion of the General Degree programme in Zoology the students should:

1. have a broad understanding of the diversity of the animal world comprising the invertebrate and vertebrate fauna; through a study of their classification, biology and ecology.
2. have a knowledge of the evolutionary, ecological and physiological principles, theories, and concepts pertaining to animals
3. have a knowledge of the processes in embryonic and later development of animals.
4. have a knowledge of the principles of genetics and their applications in hereditary and associated human diseases.
5. be able to extract information from print and electronic sources, critically examine them and present the information in a logical and a meaningful manner.
6. have the ability to work as a team, have leadership skills acquired through group work; conducted in the field and laboratory.

Special Degree Programme in Zoology:

On successful completion of the Special Degree programme in Zoology the students should:

1. have a working knowledge of taxonomy, biology and ecology of important invertebrate and vertebrate groups and their phylogenetic relationships.
2. have a specific knowledge in applied fields of Zoology and a comprehensive knowledge of the Sri Lankan fauna, its ecology, distribution, status and conservation efforts.
3. be able to undertake laboratory and field investigations and thereby acquire hands on experience in a range of specific zoological skills.
4. be able to gather data, analyze using statistics, interpret and present the findings.
5. develop scientific communication skills in writing and oral presentation.
6. develop skills in problem solving and the ability to think and work independently.
7. develop a range of skills that are transferable and usable in research, teaching and administration that would provide employment in their chosen fields.

4. FINDINGS OF THE REVIEW TEAM

4.1 Curriculum Design, Content and Review

Curriculum content is of sufficient breadth and depth. It reflects adequate academic standard and enables students to achieve intended learning outcomes identified in the Self Evaluation Report. The syllabuses help to provide required knowledge and develop subject specific and generic skills.

All core areas identified in the Subject Benchmark Statements are covered. There is sufficient flexibility in selecting courses. In addition, there are interdisciplinary elements as well as multidisciplinary elements in the curriculum.

Course Units are offered at different levels, which enable the students to gradually build up their knowledge and understanding in the subject.

However, there was no evidence for consulting potential employers in curriculum design. Similarly, there was no evidence for consulting alumni as well as present students in curriculum design. Students have also not given any feedback on curriculum content.

Although the skills to be developed from practical courses were clearly identified, learning outcomes for each and every course unit have not been identified.

The student feedback form was not designed to get student's view on the curriculum content.

The present Curriculum facilitates employment. It is commendable that courses on Fisheries, Zoological techniques, Applied parasitology and Environmental biology are introduced. However, the Department may consider introducing more courses of applied nature, such as ornamental fish culture, as the facilities available for such courses are good.

It is commendable that the curriculum is reviewed regularly. New course units, which incorporate new developments and enhance employability are introduced regularly to the curriculum.

The aspect of curriculum design, content and review could be judged as "GOOD".

4.2 Teaching, Learning and Assessment Methods

Teaching and Learning Methods

The review team noted that audio-visual techniques are used in some classes. However, in some of the classes observed, no audio-visual equipment were used. Some teachers used only the blackboard and white chalk. Some did not even use coloured chalk. In one lecture, the review team noted that the subject matter taught were not those expected to teach in that module as they were too basic. When the syllabus was examined, it was found that the subject matter taught were those to be taught in a previous year module. The students could have been asked to refer their earlier notes and those required to be taught in that course could have been taught. However, some teachers used coloured chalk and their teaching was good. Even with peer observation, it appeared that some teachers have not improved.

It was noted that handouts given to students and variety of teaching methods were used. These are commendable.

The review team noted that learning outcomes for theory courses were not properly identified. However, the skills that are expected to be developed were well identified.

The availability of sufficient amount of teaching material collected by the staff members is highly commendable. There is a very good collection of museum specimens which was preserved and curated well. It is commendable that the Department had established fish tanks and ponds stocked with Sri Lankan fish which can be used for teaching purposes.

The review team was of the view that with these resources, some courses could be introduced to the general public which will help to generate some income too.

Teaching and learning environment is good. The students have free access to internet. Students informed that it is better to make available more copies of some text books in the library. Handouts are given in practical classes as well as in theory classes.

Review team noted that the technical and other non-academic staff is highly dedicated and committed. Providing more training for technical staff would be further beneficial. This may be arranged by the Faculty.

Assessment Methods

Use of a variety of assessment methods is commendable. The assessment methods are both formative and summative and have been designed in accordance with the learning outcomes identified in the Self Evaluation Report.

The question papers are moderated by the Head of the Department. The Department may consider getting them moderated by senior teachers who are experts in the field or by outside experts.

As a Faculty policy, second marking is not carried out. The Department may seriously consider getting this policy amended.

Review team noted that marking schemes are used only in some instances. The Department may seriously consider using marking schemes for all course units.

It is commendable that the students are given an opportunity to discuss with the teachers the answers they have written when they are not satisfied with the grade they have obtained.

Assessment methods are clear to students. Student work loads are reasonable in most cases. However, in some practical classes, students spend lot of time outside the class to complete them. The Department may consider taking action to resolve this issue.

The review team noted that by one of the teachers full marks were given to incomplete answers in some cases. This was evident by the answers given in one of the mid term tests/quizzes for explaining benthos. Such cases clearly indicate the necessity for second marking and use of comprehensive marking schemes when marking answer scripts.

The aspect of teaching, learning and assessment methods is judged to be “SATISFACTORY”.

4.3. Quality of Students, including Student Progress and Achievements

Quality of students is good and their progress is also satisfactory. The standards of English of students is satisfactory.

Students’ achievements are satisfactory. The rates of completion are also satisfactory.

The review team noted that students develop intended skills identified in the Self Evaluation Report. However, since no learning outcomes are clearly indicated, the review team was not in a position to judge whether learning outcomes of each course unit are achieved. However, the learning outcomes given in the Self Evaluation Report are achieved.

The Department may consider conducting a tracer study to find out the first permanent employment of students, the time they spend to get the 1st permanent employment and also the views of the employers regarding the quality of the graduates.

The student’s progress can be monitored during a course unit because of the availability of assessment methods such as quizzes tests, etc. Similarly, since practical records are marked and given to students, their progress can be monitored in that way too.

The review team noted that there is a significant decrease in student numbers from the 2nd year onwards. This is due to high flexibility in selecting courses. The Department may consider attracting more students to follow Zoology course units because facilities are available to cater to a larger number.

The aspect of quality of students, their progress and achievements can be judged as “GOOD”.

4.4. Extent and Use of Student Feedback

The review team observed the attempts made to obtain feedback from students during academic years 2006/ 2007 and 2007/ 2008. Copies of the questionnaire titled as “ Course / Instructor evaluation” had been made available to students following 13 course units ranging form level 100 to level 400. The copies of student feedback and a brief qualitative report were made available to the review team.

Use of a structured questionnaire to get student feedback is commendable. However, the feedback is mainly obtained on the teaching process and not on the module or the programme.

Student views regarding the conduct of courses were found to be good. The students had suggested certain improvements to the teaching and learning process which was noteworthy.

Although there is a section to provide any other comment very few or no student have given such comments. Other mechanisms to get student feedback such as student-staff committees are not used.

There is no evidence for action taken as a response to student feedback. Students also are unaware that action is taken in response to their comments.

There is no evidence that student feedback is discussed at the Departmental committees.

The review team felt that a mechanism should be established in the department to inform students the action taken for their suggestions.

The review team also noted that the Head of the Department has initiated a good practice of meeting special degree students weekly. The review team was of the view that this could develop into a staff student committee where staff of the department meets regularly both general degree and special degree student representatives. It is also recommended that minutes of such meetings are maintained and circulated among all participants so that students and academic staff maintain a record of improvements and developments to the teaching and learning process of the department. .

It was noted that the questionnaire titled “Course / Instructor Evaluation” was formulated well and included the necessary questions to evaluate the process of teaching for a particular course. Yet another good practice recognized in the questionnaire was the inclusion of the section on student self evaluation of his / her learning process and expectation.

However the questionnaire did not include any attempts to obtain a feedback on the course content. The review team recommends that the evaluation form be revised, to include a section to obtain a feed back on course content. This would enable an instructor to obtain an overall judgment on his teaching and areas he need to improve in presenting or emphasizing for better understanding of the subject content.

The review team was also of the view that informal discussions during practical classes between the students and staff is a good way of obtaining a feedback on course content and recommends that the good practice of having a senior academic present in practical classes throughout the session to be continued.

Overall the staff of the department had accepted the importance of student feedback in improving teaching and learning process and showed a positive attitude towards continuing the process of obtaining student feedback.

The Faculty may consider getting feedback from students at the Faculty level and analyzing them at the Faculty level and conveying the result to the relevant teacher through the Head of the Department, within 2 week of completing the semester end assessment for that module.

The aspect of extent and use of student feedback is judged to be “SATISFACTORY”.

4.5 Postgraduate Studies

Review team noted that the members of the academic staff are involved in postgraduate research supervision and teaching through the Postgraduate Institute of Science, affiliated to the University of Peradeniya. Academic staff have obtained many research grants from national and international donor agencies and carry out many research activities. Considerable number of students have carried out and are carrying out postgraduate studies under the guidance of senior staff members.

Postgraduate students can meet their supervisors as and when required. Supervisory arrangements are satisfactory.

Funding for Postgraduate students is also satisfactory.

The facilities available are also good. Postgraduate students can have access to internet without any difficulty. However, there appears to be some difficulties in getting relevant literature and also getting some of the equipment repaired when they breakdown.

Staff members have published large number of research papers in local and international journals which is evident for high capacity for research among the staff. It is commendable that they use their capabilities and experience to develop postgraduate studies in the Department.

Only few postgraduate students were met by the review team. Data on time taken to complete the degree were not available for the review team. However, there was evidence that some students do not complete the degree within the stipulated time. This is mainly due to the difficulties faced by the students which are beyond the control of the Department. Completion rates were good.

The aspect of postgraduate studies can be considered as “GOOD”.

4.6. Peer Observation

It is commendable that peer observation of teachers has been commenced.

No major weaknesses in teaching had been identified among members of the academic staff. However there were many constructive suggestions for improvement which the review team thought would definitely the teachers.

The Department may consider employing a mechanism to ensure that the peer observation enhances the quality of teaching of all teachers. The department may consider revising the peer observation questions and also taking follow up action.

The methodology of reporting on peer observation was found to be good. Some teachers mentioned that they learnt good practices in teaching from others after the initial session on peer observation. Hence the review team is of the view that peer observation could be continued effectively in the department.

The questions set by the teachers are moderated by the Head of the Department. Further the teaching of temporary staff in the practical classes is peer observed by the senior teachers.

There is no mechanism to monitor the progress of a teacher after peer evaluation.

The aspect of peer observation is judged to be “GOOD”.

4.7. Skills Development

The skills that are to be developed in the graduates are well identified.

The teaching and learning approach especially in the laboratory classes is designed to develop a variety of subject specific skills as well as generic skills required from a university graduate.

Diverse methods are used to assess the skills.

Although skills that are to be developed in practical classes are well identified, the skills that are to be developed in theory courses are not well documented. This is mainly because learning outcomes of theory courses are not identified.

There is no evidence that the potential employers are consulted on the desired skills. No industrial training is given to students.

Facilities available to develop IT skills are also good. All students the review team met use internet as a source of information to supplement their lecture notes.

The B.Sc. (Special) degree students were given training in production of bioplastics and in taxidermy, which is commendable.

The aspect of skills development is judged as “GOOD”.

4.8 Academic Guidance and Counseling

It was observed that the Department implements many practices for academic guidance for students. Some of these practices are as follows.

- Use of the Faculty Hand book which is given to each new entrant,
- Appointment of personal advisors to the students,
- Available of introductory program and orientation by the Dean / Science ,
- Display of schedules of academic activities on notice boards in the department,
- Giving feedback on mid-semester evaluations,
- Giving prior notice of examination schedules and
- Staff student interactions at lectures, practical classes etc.

However it was observed that there are no academic counselors at the Departmental level. The presence of academic counselors within the Department for assisting students will sustain the interest of students in Zoology and could contribute towards providing better academic guidance and counseling.

The Faculty has a senior student counselor and student counselors who assist students in matters unrelated to academic activities. However, some of them do not have training in professional counseling. The review team was of the view that the student counselors should be trained in professional counseling.

The aspect of academic guidance and counseling is judged as “GOOD”.

5. CONCLUSIONS

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

1. Curriculum Design, Content and Review

Strengths / Good practices

1. Curriculum helps to achieve intended learning outcomes stated in the Self Evaluation Report.
2. Modularized course unit system
3. Course contents with adequate breath and depth.
4. Flexibility in selecting course modules
5. Availability of opportunities to develop subject specific skills as well as generic skills
6. Covering of all core areas identified in subject benchmark statements
7. Regular revision of curriculum
8. Identification of skills that are to be developed in laboratory classes
9. Incorporation of course modules of applied nature into the curriculum which facilitates employment.

Weaknesses

1. Non-consultation of potential employers and alumni in curriculum revision.
2. Non-identification of learning outcomes of each and every course

2. Teaching, Learning and Assessment Methods

Strengths / Good practices

1. Use of audio-visual aids
2. Provision of printed learning material to studies
3. Availability of good collection of teaching material
4. Availability of IT facilities and learning resources to students in fairly sufficient amounts.
5. Dedicated Technical and other non-academic staff
6. Identification of skills that are to be developed in laboratory classes
7. Moderation of question papers
8. Formulation of questions to achieve learning outcomes identified in the self evaluation report
9. Use of many assessment methods
10. Incorporation of field classes into the teaching learning process

Weaknesses

1. Non-availability of second examines
(No second marking of answer scripts)
2. Non-following the syllabus by some teachers when teaching
3. Non use of marking schemes by some teachers

4. Non-identification of learning outcomes of many courses
5. Unbalanced work loads in some practical classes

3. Quality of Students, including Student Progress and Achievement

Strengths/ Good Practices

1. Monitoring of student progress through continuous assessment and marking practical records
2. Availability of opportunities to improve English knowledge and IT skills
3. Availability of opportunities to improve generic skills
4. High completion rates

Weaknesses

1. Significant decrease in student numbers from the 2nd year onwards
2. Non availability of a proper mechanism to retain students in Zoology.

4. Extent and Use of Student Feedback

Strengths / Good Practices

1. Use of course / instructor evaluation forms to get feedback at the end of each course module
2. Weekly meeting of the Head of the Department with the special degree students
3. Informal discussions with students during practical classes and field classes to get feedback
4. Presence of student representative at the Faculty Board to discuss issues regarding academic matters

Weaknesses

1. No formal staff-student liaison committees to obtain students' feedback
2. No evidence of communication of action taken in response to the feedback of students
3. No evidence that student feedback is discussed at the Departmental level.
4. Student feedback questionnaire is not designed to get a feedback on course contents
5. Student feedback is obtained by the teacher himself / herself (Not by the Faculty office)

5. Postgraduate Studies

Strength / Good practices

1. Availability of qualified staff
2. Availability of sufficient facilities
3. Satisfactory supervisory arrangements
4. Large number of research publications by staff
5. Freely available access to internet to get sufficient reading material
6. Location of the Postgraduate Institute of Science within the university premises
7. Availability of research grants obtained by academic staff by outside donor agencies
8. Satisfactory completion rates
9. Dedicated non-academic staff who is willing to help postgraduate studies

Weaknesses

1. Delay in getting equipment repaired

6. Peer Observation

Strengths / Good Practices

1. Carrying out peer observation and giving the feedback
2. Providing constructive suggestions for improvement of teaching
3. Moderation of question papers
4. Observing teaching of temporary staff by senior teachers.

Weaknesses

1. Non-availability of a mechanism to monitor the progress of teachers after peer evaluation

7. Skills Development

Strengths / Good Practices

1. The skills that are to be developed in graduates are identified
2. Laboratory classes are designed to develop variety of subject specific skills
3. Incorporation of field classes to the teaching learning process
4. Availability of opportunities to develop generic skills such as communication skills, English language skills and IT skills
5. Skills are assessed using diverse methods

Weaknesses

1. Skilled to be developed in theory courses are not identified
2. Employers are not consulted on the desired skills
3. No industrial training is given to the students

8. Academic Guidance and Counseling

Strength / Good Practices

1. Appointment of personal advisors to each student
2. Providing Faculty Handbook to every student on the day of admission to the University.
3. Orientation programme by Dean
4. Display of schedule of academic activities on notice boards
5. Providing feedback to students through mid-semester evaluation in time
6. Providing guidance through interaction in practical classes

Weaknesses

1. No academic counselor at the Department level
2. No formal training on counseling to student counselors

Based on the observations made during the review visit, the eight aspects of the subject review were judged as follows

| Aspect Reviewed | Judgment |
|---|-----------------|
| Curriculum Design, Content and Review | Good |
| Teaching, Learning and Assessment Methods | Satisfactory |
| Quality of students, including Student Progress and Achievement | Good |
| The Extent and Use of Student Feedback | Satisfactory |
| Postgraduate Studies | Good |
| Peer Observation | Good |
| Skills Development | Good |
| Academic Guidance and Counseling | Good |

6. RECOMMENDATIONS

The review team would like to make the following recommendations for the future development and continuous quality improvement of the programmes offered by the Department.

1. Curriculum Design, Content and Review

The Department may consider

1. consulting all state holders, including alumni, present students and potential employers when revising curricula.
2. identifying learning outcomes for each course unit and making them available students also
3. introducing more courses of applied nature
4. incorporating more field visits into the teaching learning process

2. Teaching, Learning and Assessment Methods

The Department may consider

1. instructing the staff members to strictly follow the syllabus when teaching.
2. introducing 2nd marking by a senior teacher of the Department or an external examiner. Since course unit system is in operation, the 2nd examiner can spend 2-3 days in the Department for 2nd marking.
3. use of marking schemes by every teacher when marking and providing these to the 2nd examiners.
4. providing training to technical staff on laboratory safety, minor repairs of equipment and hardware of computers.
5. moderating question papers by senior teachers and/or outside experts.

3. Quality of Students including Student Progress and Achievement

The Department may consider

1. carrying out a tracer study of alumni
2. introducing a system of awarding Prizes and Medals for students' achievements.
3. incorporating more field work to the curriculum so that the subject becomes more popular is addition to developing interpersonal skills

4. Extent and Use of Student Feedback

The Department may consider

1. revising the course/instructor evaluation form to include an assessment on the course contents
2. establishing a staff-student committee to obtain feedback on the teaching and learning process.
3. conducting regular meetings of the staff-student committee and maintaining minutes of such meeting to ensure follow up action.
4. identifying and establishing a mechanism to inform students regarding solutions implemented related problems in academic activities.
5. continuing the good practice of having senior academics participating in practical sessions.
6. collecting student feedback forms by the Faculty office and analyzing them quantitatively and producing results to the teacher through the Head of the Department.

5. Postgraduate Studies

The Department may consider

1. providing more facilities to obtain relevant literature in consultation with the librarian
2. taking steps to get the equipment, needed for research repaired quickly when they breakdown. This may be done in consultation with the higher authorities.

6. Peer Observation

The Department may consider

1. reviewing the process of peer observation within the faculty and agree on faculty guidelines/evaluation form for peer observation.
2. continuing the good practice of peer observation in the future involving all academic staff.
3. establishing a mechanism to monitor the progress based identified on weaknesses and suggested improvements.

7. Skills Development

The Department may consider

1. introducing an industrial training module into the curriculum.
2. consulting potential employers regarding the desired skills of graduate.
3. Identifying learning outcomes of all courses so that the skills to be developed are well described.
4. Introduction a career guidance programme at the faculty level.

8. Academic Guidance and Counseling

The Department may consider

1. Continuing with the formal and informal practices of providing academic guidance already in place in the department.
2. Appointing academic counselor for the department for formal academic guidance.
3. Providing training on personal counseling to student counselor.

7. ANNEXES

Annex 1. AGENDA FOR THE REVIEW VISIT

Day 1: Monday 22nd September 2008

- 08.30 - 09.30 am - Meeting with the Vice-Chancellor; Chairman / IQA unit; Dean / Science; Head / Zoology; Head / Faculty QA cell.
- 09.30 – 10.00 am - Discuss the Agenda for the visit
- 10.00 – 10.30 am - Tea
- 10.30 – 11.30 am - Department Presentation on Self-Evaluation Report
- 11.30 – 12.30 pm - Discussion
- 12.30 – 01.00 pm - Lunch
- 01.30 – 02.30 pm - Meeting with the Academic Staff of the Department
- 02.30 – 03.00 pm - Observing Teaching-Practical Class: ZL 301 Histology
- 03.00 – 04.00 pm - Observing Departmental facilities
- 04.00 – 04.30 pm - Observing other facilities (Science Library & PGIS)
- 04.30 – 05.00 pm - Meeting with 3rd Year Undergraduate Students
- 05.00 – 05.30 pm - Brief Meeting Reviewers

Day 2: Tuesday 23rd September 2008

- 09.00 - 09.30 am - Observing Teaching-Lecture ZL 213 Animal Ecology
- 09.30 – 10.00 am - Observing Documents
- 10.00 – 10.30 am - Observing Practical Class: ZL 404 Applied Parasitology
- 10.30 – 11.30 am - Observing Documents (Tea)
- 11.30 – 12.00 pm - Meeting with 3rd year (Special) Degree undergraduate students
- 01.00 – 02.00 pm - Observing 4th year Students Presentations
Meeting with 4th year (Special) Degree Students
- 02.00 – 3.00 pm - Meeting with Postgraduates Students
- 03.00 – 04.00 pm - Meeting with Technical staff and other Non-academic Staff
- 04.00 – 04.30 pm - Brief Meeting of Reviewers

Day 3: Wednesday 24th September 2008

- 08.00 - 08.30 am - Observing Teaching-Lecture ZL 201 Animal Ecology
- 08.30 – 09.00 am - Meeting Student Counselors, Academic Advisors (All Academic Staff)
- 09.00 – 09.30 am - Observing Teaching Lecture ZL 411 Wildlife Management
- 09.30 – 10.00 am - Meeting with 2nd year Students ZL 201/213
- 10.00 – 10.30 am - Tea
- 10.30 – 11.00 am - Meeting with the Demonstrators
- 11.00 – 11.30 am - Reviewers Private Discussion
- 11.30 – 12.30 pm - Meeting with Head and Staff for Reporting
- 12.30 – 01.30 pm - Lunch
- 01.30 – 05.30 pm - Report Writing

Annex 2. THE LIST OF PERSONS MET DURING THE REVIEW VISIT

Vice-Chancellor
Dean / Science
Chairman / International Quality Assurance Unit
Chief Student Counsellor of the Faculty of Science
Head of the Department
Members of the Academic staff
Temporary Demonstrators
Postgraduate students
2nd year undergraduate students
3rd year undergraduate students
4th year Special degree undergraduate students
Technical Officers
Laboratory attendants

Annex 3. DOCUMENTS OBSERVED

Faculty Handbooks for Academic years 2002/2003, 2003/2004, 2005/2006 & 2006/2007, 2007/2008 and 2008/2009
Information on student grades
The areas in which the students specialized for the B.Sc. (Special) degree in Zoology
Samples of marked answer scripts
Marking schemes of some teachers
Dissertations of the B.Sc. (Special) degree students
Examples of student hand-outs for practical classes
Practical schedules
Practical handouts
Handouts for theory classes
Minutes of the Departmental Committee meetings
Example of teacher training material on developing and, planning lessons
The titles of postgraduate courses offered by the Department of Zoology
Completion rates for some courses
Minutes of meetings of the Boards of Study
Samples of student feedback forms
Samples of peer evaluations

Annex 4. FACILITIES OBSERVED

General degree laboratories (2)
Entomology laboratory
Parasitology / Nematology laboratory
Molecular Entomology laboratory
Aquatic biology and Biodiversity laboratory
Museum
Smithsonian Insect collection
ISDF (Invertebrate Systematic and Diversity Facility) data base
Wet lab containing aquaria
Outdoor fish tanks
Outdoor animal house

Computer Room
Proposed Centre for Biodiversity
Laboratory teaching equipment
Audiovisual equipment
Computer room
Reading room
PCR room
Research equipment

Annex 5. LIST OF TEACHING SESSIONS OBSERVED

1. Practical class:ZL 301 – Histology
2. Lecture: ZL 213 Animal Ecology
3. Practical Class: ZL 404 – Applied Parasitology
4. Lecture: Animal Embryology
5. Lecture: ZL 411 – Wildlife Management