SUBJECT REVIEW REPORT

DEPARTMENT OF ZOOLOGY

FACULTY OF SCIENCE
UNIVERSITY OF COLOMBO

12th to 14th September 2007

Review Team :
Prof. M. J. S. Wijayaratne/University of Kelaniya
Prof. (Ms.) Nalini Ratnasiri
Prof. S. Mohandas

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1. SUBJECT REVIEW PROCESS

University accountability for quality and standards is a key factor in promoting and safeguarding public confidence in Sri Lankan higher education. As higher education is a public good, universities must conscientiously exercise their responsibility for quality and standards. Subject review evaluates the quality of education within a subject or discipline. The following eight aspects are evaluated during the subject review process carried out in Sri Lankan Universities.

* Curriculum design, content and review
* Teaching, learning and assessment methods
* Quality of students including student progress and achievement
* The extent and use of student feedback, qualitative and quantitative
* Postgraduate studies
* Peer observation
* Skills development, and
* Academic guidance and counselling.

The subject review of the Department of Zoology, University of Colombo was carried out from 12th to 14th September 2007. The members of the review team were

Prof. M.J.S. Wijeyaratne, Senior Professor of Zoology, University of Kelaniya
Prof. (Mrs.) Nalini Ratnasiri, Retired Senior Professor of Zoology, Open University of SL
Prof. S. Mohanadas, Retired Senior Professor of Agricultural Chemistry

The important features of the subject review process are the preparation of Self Evaluation Report (SER) by the Department concerned on the discipline(s)/ programme(s) they offer, and the evaluation by the review team according to the aims and learning outcomes stated in the SER. SER prepared by the Department of Zoology, was studied by the review team before the review visit.

The review team evaluated the quality of education according to the aims and learning outcomes as outlined by the Department in the SER. The purpose of the visit was to test and consider the evidence provided by the Department and carry out the review process by having discussions with academic staff, non-academic staff and students, observing teaching and observing documents and facilities.

On the first day, the review team met the Dean of the Faculty of Science who outlined the course structure of the Faculty. Then, the agenda for the review process was finalized with the Head of the Department. The Head gave a presentation which concisely covered the matters referred in the SER. The review process was thereafter progressed according to the agenda outlined in Annex 1. During the review visit, the review team held meetings with the academic staff, non-academic staff, undergraduate students, postgraduate students, student counselors and academic counselor of the Department. The list of persons met during the review visit is given in Annex 2.
The review team observed the facilities available in the Department as well as in the Faculty for the students followings Zoology as a subject. The places visited by the review team are given in Annex 3.

The review team observed documents provided by the Department including the answer scripts, marking schemes, student works and lecture and practical handouts. The entire list of documents observed is given in Annex 4. The review team also observed teaching in a

Year 2 practical class, Year 1 Practical class and a Year 3 lecture. A power point presentation on field activities and a presentation given by a 4th year special degree student on her research project were also observed during the review visit. On the 3rd day, a meeting with the Head and academic staff of the Department was held to provide the feedback.

After the review visit, a comprehensive subject review draft report including the findings of the review team and recommendations will be submitted to the Department through the Quality Assurance and Accreditation Council (QAAC) of the University Grants Commission. This report clearly highlights the strengths and good practices found and describes any .weaknesses identified giving evidence to support the judgments made. If any aspect is found to be ***Unsatisfactory,*** action should be taken by the Department to remedy the problems identified within six months and report accordingly to the QAAC. Finally the review report will be published.

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

The University of Colombo, Sri Lanka was established in 1942 as the University of Ceylon, the first national University to be established in Sri Lanka. Its central campus was located at the Thurstan Road and the Faculty of Medicine, the successor of the Ceylon Medical College established in 1870s, at Kynsey Road. The Thurstan Road premises was the site of the early University College established in 1921. The University College was the external campus of the University of London.

The University of Ceylon located in Colombo was offering courses in Medicine, Law Agriculture, Veterinary Science, Arts and Science. Later, some of the Departments and Faculties were moved to the new site at Peradeniya. The Faculties of Agriculture and Veterinary Science and the Department of Law were the first to move to Peradeniya and it was followed by the Faculties of Arts and Oriental Sciences in 1952. The Faculty of Medicine remained in Colombo. The Faculties of Engineering and Science moved progressively to Peradeniya but continued to operate at the Thurstan Road premises too. mainly the postgraduate studies were carried out. Later, the Department of Law was brought back to Colombo and given the Faculty status. By late 1960s, the Colombo campus of the University of Ceylon was offering courses in Arts, Social Sconces, Law, Science and Medicine.
The National Council for Higher Education, established by the Higher Education Act of 1966 created the new University of Colombo, with its main sites at Thurstan Road and Kynsey Road. In 1972, by the Universities Act No. 1 of 1972, a single Universality was established and the University of Colombo became the Colombo Campus of the University of Sri Lanka. Subsequently in 1978, by the Universities Act No. 16 of 1978, the independent University status was given to each campus and thus the Colombo Campus of the University of Sri Lanka became the University of Colombo, Sri Lanka.

The Faculty of Science of the University of Colombo was formed with the advent of the University College. When the University of Ceylon was established in 1942, the Faculty of Science was one of its Faculties. Even when a section of the University of Ceylon was moved to Peradeniya, the Faculty of Science remained as one of the Faculties in Colombo.

From 1972, it was one of the Faculties of the Colombo Campus of the University of Sri Lanka and since 1978, it remains under the University of Colombo, Sri Lanka.

The Department of Zoology is one of the Departments of the Faculty of Science since its inception.

3. AIMS AND LEARNING OUTCOMES

3.1 Aims

The Department of Zoology, through its degree programmes aims to provide students with the necessary subject knowledge and understanding and develop relevant skills and attitudes in them. Zoology is offered as a subject for the three year B.Sc. General degree and the four year B.Sc. Special degree programmes offered by the Faculty of Science. In addition, the Department introduced Environment Science as a subject for both programmes in 2003. Through these programmes, the Department aims to provide

- a fundamental knowledge of the core areas in Zoology and Environment Science as well as in areas of specialization within the multidisciplinary scope of Zoology,
- skills in practical and laboratory applications, use of instruments and field techniques and their integration with theoretical knowledge,
- training in scientific research, literature review, analysis and critical thinking,
- training in communication skills (oral and written),
- opportunities for teamwork/group work,
- opportunities for community participation and
- exposure to ethical issues related to professional conduct, nature conservation, use of live animals in experimentation and modern developments & new technologies.

3.2. Learning Outcomes

On successful completion of the programme for the B.Sc. General degree offered by the Department, the students should be able to demonstrate

- a basic knowledge of core areas of Zoology, such as animal diversity, taxonomy, form and function, evolution, zoogeography, ecology and animal behaviour,
- laboratory and field skills, such as the use of a microscope, handling basic laboratory and field equipment, conducting field surveys and animal experiments in a safe, responsible and ethical manner,
- knowledge of basic concepts, applications and specialized practical skills relevant to areas of specialization within the multidisciplinary scope of Zoology, such as Parasitology, Immunology, Aquaculture, Environment Science, Conservation Biology, Pest Management and Ecotourism,
- a basic knowledge on concepts and applications related to some rapidly developing areas such as Molecular Biology and Bioinformatics,

- an ability to make short presentations, using relevant computer software and other visual aids and

- an ability to apply theoretical and practical knowledge and skills to 'real world' situations.

On successful completion of the B.Sc. Special Degree in Zoology, the student should be able to demonstrate, in addition to the above,

- an in-depth knowledge of theoretical and practical aspects related to the core areas of Zoology and specialized areas,

- ability to formulate a research project and gather, sort, interpret and analyse scientific data and present the findings both orally and in a written format and

- ability to review scientific literature.

In order to achieve these outcomes, the Department offers programmes that provide a unique learning experience by

- offering a variety of courses that provide basic knowledge in the core areas of Zoology in the first and second years,

- offering a variety of applied courses that build on these foundation courses and provide a greater depth of knowledge in specialized areas of Zoology, in the third and fourth years,

- incorporation of a variety of laboratory and field experiences in the programme at all levels, that enable students to develop different types of skills,

- providing opportunities within the programme for students to interact closely with qualified and experienced teachers of the department, other experts in specialized areas as well as the community and

- providing opportunities within the programme for students to develop communication skills (oral and written), research skills and to develop sensitivity towards ethical and other issues related to use of animals and conservation of nature, all of which are believed to contribute towards their overall personality development.

4. FINDINGS OF THE REVIEW TEAM

4.1 Curriculum Design, Content and Review

The Faculty of Science had revised the curriculum in the 2003 having taken into consideration the current trends in education development, changing national trends in employment opportunities and the necessity to introduce new methods of teaching and learning.

This revision added two new subjects namely, biochemistry and environment science, increasing the total number of subjects available in the bioscience stream to five, which

included chemistry, plant science, zoology and the two new subjects – Biochemistry and Environmental Science. With this revision, students who opted to follow zoology had five subject combinations to choose from in the first year. These were:

1. Zoology, Plant science and Chemistry
2. Zoology, Plant science and Biochemistry
3. Zoology, Chemistry and Biochemistry
4. Zoology, Plant science and Environmental science
5. Zoology, Chemistry and Environmental science

Due to very few students opting to register for some of the subject combinations, the faculty had decided to discontinue Environmental Science as a subject and reduce the number of subject combinations. At present, the students who gain admission to the Biology stream have three subject combinations to choose from the first year. These are:

1. Zoology, Plant science and Chemistry
2. Zoology, Chemistry and Biochemistry
3. Plant science, Chemistry and Biochemistry

Curriculum has been designed with a view to initially providing fundamental knowledge of Zoology followed by knowledge in the applied aspects. Most core areas of Zoology are included in the curriculum with the exception of Cell Biology, Genetics and Animal development. The non-inclusion of these core areas of study in the Zoology curriculum may be a result of the guidelines set out by the Faculty which requires the Department to offer course units worth 10 credit hours each in the first three years comprising six credit hours of core course units and four credit hours of optional courses. It was observed that the Department of Plant Science offers course units in Cell Biology and Genetics in the first year. It is advisable to give Zoology students the opportunity to register for these course units. The Faculty may consider making these as common Biology courses. Animal development may be offered as an optional Zoology course unit in the first or second year.

It is noteworthy that the Zoology curriculum is planned to develop the relevant scientific knowledge of students along with the necessary skills and the desired attitudes. The development of attitudes using Zoology as a vehicle is well illustrated in the course unit ZL 2006 – Modern Application in Zoology and Ethical Concerns.

There has been a praiseworthy effort by the staff towards curriculum review leading to reorganization and innovation in the Department of Zoology. As a result, many new course units have been developed. The Department has also developed many course units in the subject of Environmental Science. However, the review team noted that all stakeholders are not consulted in reviewing the curriculum.

The Zoology curriculum undoubtedly provides the students the knowledge in most of the core areas in zoology along with the laboratory and field skills acquired through a variety of activities. The fourth year students who register for the course unit on Research Project develops the skills of gathering, interpreting and analysing data along with the ability to find answers to problems.

The review team was of the view that the aspect of curriculum design, content and review can be judged as GOOD.

4.2 Teaching, Learning and Assessment Methods

The review team noted that the Department employs a wide range of teaching, learning and assessment methods in order to achieve the intended learning outcomes. In addition to traditional lecturing carried out using the white board, the other teaching and learning methods employed include tutorials, group assignments, individual assignments, oral presentations, field classes, laboratory practical classes, seminars, discussions, debates and maintenance of field diaries. Use of variety of teaching and learning methods helps not only to enhance knowledge but also to develop subject specific skills as well as interpersonal skills. As such, the use of variety of teaching and learning methods is commendable.

Use of computers based teaching methods, at least by 50% of the teachers is commendable. The Department may consider incorporating computer based teaching and learning methods to more course units.

The review team noted that the work load is balanced as the credit based modularized system is operated in the entire Faculty. Although the Department has identified the separation of practical from theory classes as a weakness, taking remedial action through proper coordination of theory and practical classes may be considered.

The learning outcomes of some course units were found to be available in documented form. However, in most cases, these were not documented. Nevertheless, the review team was informed that these were informed to the students at the beginning of the course unit. The Department may consider, documenting the learning outcomes for every course unit together with the syllabus.

It was noted that the list of recommended reading material is available in documented form only for some course units. These may also be given in documented form for every course unit. The Department may consider preparing student guides for every course unit incorporating the expected learning outcomes and recommended reading material.

The syllabus and the methods of assessment were available for every course unit in documented form, which is commendable.

The Department uses variety of assessment methods. The assessment methods were also found to be suitably balances. It was noted that the different skills identified in learning outcomes are also assessed.

It is commendable that the question papers are moderated by senior staff members or by experts outside the University. The preparation of the marking schemes at the time of setting the questions is also commendable. However, the review team noted that there are no continuous assessments except for few course units where mid-semester tests are held. The Department may strongly consider introducing continuous assessments to all course units and providing the marks of such assessments to the students during the semester, i.e., before they sit the semester end examination.

The review team noted that the Department has a sufficient number of academic staff who are well qualified in the relevant fields. Most of the technical staff are also well experienced and trained in laboratory techniques. The human resources available is noted by the review team as a strength.

With the allocation of space from the Department of Chemistry, it appears that at present the Department has overcome their space problem. The review team noted that a room is provided even to each technical officer. The teaching laboratories were also noted to be heavily under-utilized. Each laboratory which has an area of 13,000 -21,000 ft^2 is utilized only for 6 hours per week. The lecture theatres are located in the building facing the cricket ground and the review team noted that the lectures are disturbed due to the use of loudspeakers in the ground. The authorities may strongly consider not allowing the use of loudspeakers in the ground, because it disturbs the learning environment. The lectures are also disturbed because the students frequently walk in the adjoining corridor. The review team noted that this disturbance can be minimized by curtaining the windows located on the side of the corridor.

The IT facilities available to students were also found to be not sufficient. The Department Computer Centre has only 4 computers that are in working order. The review team also noted that the Department does not have a laptop computer even to fix to the multimedia projectors. The authorities may consider providing these facilities so that the quality of teaching and learning could be further increased.

It is the view of the review team that the aspect of teaching, learning and assessment methods could be judged as 'SATISFACTORY'

4.3. Quality of Students including Student Progress and Achievements

The review team noted that the mean Z score of the students who enter the Biological Science stream of the University of Colombo, at the G.C.E. (Advanced Level) examination is higher than that of the students who enter the Biological Science stream of other Universities. Although 100 -120 students are admitted to the Biological Science stream, only about ⅓ of them select Zoology as a subject. Therefore, although there are 18 members of the academic staff, the number of students in the B.Sc. General degree classes averages 40 per year and in B.Sc. Special degree classes it averages 10 per year. This gives a student:staff ratio of 3:1 which is far bellow the accepted ratio of 10:1 in the Science Faculties. Therefore, the Department may strongly consider a strategy to attract more students.

The review team noted that the GPA of the students selecting Zoology for their B.Sc Special degree is very high. Some of the students when selected for more than one subject opt for Zoology. In the recent past, the best student in the Faculty of Science has also selected Zoology as her special degree subject. It was revealed that a very high percentage of the scholarships awarded by outside donor agencies to B.Sc. Special degree students, such as the MIND Scholarship is won by Zoology special degree students. As such, the quality of students who follow the B.Sc Special degree in Zoology was noted to be good.

At the discussions with the students, it was revealed that during the first few weeks of the first year, specially during the orientation programme, the senior students discourage the new students from selecting Zoology as a subject saying among other things, that there are no employment opportunities, less opportunities for higher studies when Zoology is followed and also scoring marks is difficult etc. The review team was informed that some of these senior students happen to be Physical Science students. Therefore, the Department may strongly consider giving information on the real situation to the new entrants, spending more time during the orientation programme.

Student progress was also found to be good. Large number of publications has been resulted from student research, which is highly commendable.

The review team noted that every student who has passed out with a B.Sc. Special degree in Zoology during the last 5 years is either employed or reading for a higher degree.

The review team was informed that the B.Sc. General degree graduates who get employed first are those who have followed Zoology as a subject. This may possibly be due to the fact that when Zoology is followed, the interpersonal skills including team work skills and presentation skills, are well developed.

It is the view of the review team that the aspect of quality of students including student progress and achievements could be judged as 'GOOD'.

4.4. Extent and Use of Student Feedback

The Department obtains qualitative student feedback about the academic programmes and infrastructure facilities at various forums. As the student number is between 40-50 in a batch it is possible to interact with every student at lecture theatres, practical laboratories, field visit sites, etc to obtain this feedback on the quality of academic programmes, teaching methods and the quality of other facilities.

The method adapted by the Department to obtain quantitative student feedback on course units and teachers is the use of an evaluation form (questionnaire). The responses of the students had been analyzed on each aspect of the questionnaire. This is a good practice and this can be further strengthened if the same course unit is annually analysed by the same lecturer to monitor the progress. The review team strongly recommends that the outcome be discussed with the Head of the Department or at a departmental meeting for others to share the information to strengthen the academic programmes.

It is the view of the review team that the aspect of extent and use of student feedback could be judged as GOOD.

4.5. Postgraduate studies

The Department of Zoology offers a taught MSc programme in Environmental Science and provides opportunities for suitably qualified graduates to work towards the research degrees of MPhil and PhD.

Although 112 students have registered for the MSc programme, from 1999 to 2007, the number of students who have completed all requirements for the award of the MSc degree cannot be considered as satisfactory. The same is true for the MPhil and PhD degrees where only 2 out of 16 students have been awarded the MPhil degree and 6 out of 13 students have been awarded the PhD degree. However, the review team noted that the reasons for the low rates of completion of postgraduate degrees are mostly beyond the control of the Department.

The review team observed that the maximum period for completion of postgraduate degrees is not stipulated. This may also had led to the very long time taken to complete the degree. Therefore, the Department/Faculty may consider imposing restrictions on the maximum time for completion.

The interview with several postgraduate students revealed several problems encountered by them. Foremost among them was the inordinate delay in the purchase of consumables particularly chemicals needed for research. The students also indicated that completion of course work and holding of examinations must be done on scheduled times. The Review Team recommends that the Department find solutions to these problems faced by students.

The programme structure and content of the MSc degree in Environmental Science was found to be good and also the students have the opportunity to exit the programme at the Diploma level if they so wish to. This is also a good feature. This programme obtains the services of experts in the field of environmental science from outside the university as well which enriches the programme.

The Review Team noted the wide expertise and experience of the academic staff of the Department and wishes to recommend the introduction of new taught postgraduate programmes in areas relevant to national development.

The Department offers wide opportunities for research degrees which is highly commendable. The academic staff members have obtained considerable number and amount of both local and foreign funds for research which have resulted in the development of high quality research facilities.

The number of publications/communications resulting from the postgraduate studies within the last 8 years has been 55 and 39, respectively, which is also commendable.

It is the view of the review team that the aspect of postgraduate studies could be judged as GOOD.

4.6. Peer Observation

It was observed that the importance of the peer observation process has not been identified by the Department.

However, peer observation in the Department is done to some extent trough moderation of question papers, second marking of answer scripts and group marking. Further, the review team noted that peer observation of the junior staff, mainly the Demonstrators, is carried out by a senior teacher during the laboratory classes.

The review team wishes to recommend that peer observation at lectures be discussed at the departmental meetings in order to perceive the importance of peer observation practices by each and every member of the academic staff. An evaluation questionnaire to be used for peer observation has to be prepared and approved by the Department and preferably by the Faculty.

The feedback of peer observation may be done between two lecturers on a mutual understanding basis. The academic staff member giving the feedback can answer the questions in the evaluation form and in addition may provide his/her comments on how to rectify, if any drawback is identified.

Peer observation report and the students feedback reports on the performance of the lecturer at lectures can be correlated to develop a staff development programme for the lecturer concerned.

It is the view of the review team that the aspect of peer observation could be judged as SATISFACTORY.

4.7. Skills Development

The SER indicated that skills development is an important aspect of the aims and learning outcomes of the Zoology course units. Skills in practical applications, use of instruments, field techniques, literature surveys, gathering, analysing and interpreting data, communication skills, both oral and written, and team/group work skills were all evident particularly in fourth year students. The review team was highly impressed by the presentation of a fourth year student.

The teaching and learning activities the Department uses to develop the skills in the students at all levels is praiseworthy.

It is the view of the review team that the aspect of skill development could be judged as GOOD.

4.8. Academic Guidance and Counselling

The faculty handbooks provides an insight into the university, faculty, subjects offered, academic programmes, subject combinations, and details of the course units offered in the available combinations. The handbook further provides details on evaluation procedure and degree awarding criteria. The handbook also outlines the career guidance unit, university health centre and the types of student societies available at the university. When new students enter the Faculty, an orientation programme is conducted and at this programme, the Dean of the Faculty of Science, Head of the Department of Zoology, Academic Advisors and Student Counsellors address the students. At this programme, an introduction is given to the students on the Zoology courses available in the first year and the selection criteria for offering Zoology as a subject in three-year B.Sc. General degree and the four-year B.Sc. Zoology Special degree programmes.

Whenever students encounter personal problems they can meet the student counsellors or any staff member to this effect. In addition, Health Centre of the university attends to health problems. All the staff appears to play a proactive role in guidance and counselling being willing to meet the students to address their problems at all the time. In general, a conducive environment exists for students to feel comfortable and well guided during their academic period.

It is the view of the review team that the aspect of academic guidance and counseling could be judged as GOOD.

5. CONCLUSIONS

5.1 Curriculum Design, Content and Review

Strengths/Good Practices

1. The Zoology curriculum includes courses in most core areas of Zoology and applications of Zoology.
2. All courses are designed to impart the necessary knowledge and also develop skills.

3. Introduction of optional courses to develop ethical concerns and correct attitudes in students.

Weaknesses

1. The curriculum does not include core areas of Biology such as Cell Biology, Genetics and Animal development. Therefore, some students in the Biology stream do not have the opportunity to develop a holistic approach to biology.

2. When review the curricula, all stakeholders are not consulted.

5.2. Teaching, learning and assessment methods

Strengths/Good practices

1. Use of a wide range of teaching, learning and assessment methods
2. Use of Computer based teaching methods for at least some course units
3. Balanced work loads
4. Availability of the syllabus and methods of assessment in documented form for every course unit.
5. Assessment of different skills, which are identified in learning outcomes.
6. Moderation of questions and Second marking of answer scripts.
7. Use of comprehensive marking schemes for marking
8. Availability of large number of qualified staff
9. Availability of large space for teaching purposes

Weaknesses

1. Learning outcomes and recommended reading are not documented for every course unit.
2. No continuous assessments for some course units
3. Poor teaching learning environment
4. Under-utilization of space
5. Poor IT facilities
6. Lack of some important teaching equipment.

5.3. Quality of student including student progress and achievements

Strengths/Good practices

1. Recruitment of students with high Z Scores to the Biological Science Stream.
2. Recruitment of students with high GPA to the B.Sc. Special degree programme in Zoology
3. Satisfactory completion rates
4. Satisfactory progress
5. Good achievements by students
6. Publication of many research papers based on student research
7. High employability of graduates

Weaknesses

None

5.4. Extent and Use of Student Feedback

Strengths/Good practices

1. There is a clear procedure to obtain both qualitative and quantitative student feedback
2. The quantitative student feedback has been statistically analysed
3. The analytical reports are made available to the staff.

Weaknesses
1. Periodic feedbacks on the same lecture series is not obtained

5.5. Postgraduate studies

Strengths/Good practices
1. Availability of both taught and research degrees
2. Availability of local and foreign funding for postgraduate research
3. Availability of well equipped research laboratories
4. Possibility of students to exit at Diploma level
5. The use of experts from outside university to teach courses
6. Availability of qualified staff.

Weaknesses
1. Problems of delay in purchasing chemicals etc. on time.
2. Delays/non-completion of programmes of study by students

5.6. Peer Observation

Strengths/Good practices
1. Peer observation of junior staff at laboratory classes
2. Moderation of question papers and second marking

Weaknesses
1. No peer observation of lectures..
2. The importance of peer observation is not discussed at a forum

5.7. Skills Development

Strengths/Good Practices
1. Consideration of the development of necessary skills as a learning outcome in all courses.
2. Incorporation of teaching and learning methods in all courses that result in skills development.
3. Assessment of the skills acquired by students

Weaknesses

none

5.8. Academic Guidance and Counseling

Strengths/Good practices
1. Availability of updated students' Handbook.
2. Availability of an organized student guiding and counseling system
3. Availability of a trained professional counselor attached to the university as a full time officer.

Weaknesses
None

The judgments given for the eight aspects of the subject review are as follows

Aspect Reviewed	Judgment Given
Curriculum design, content and review	Good
Teaching, learning and assessment methods	Satisfactory
Quality of students including student progress and achievements	Good
Use of student feedback, qualitative and quantitative	Good
Postgraduate studies	Good
Peer observation	Satisfactory
Skills development	Good
Academic guidance and counselling	Good

The overall judgment is suspended

6. RECOMMENDATIONS

The review team would like to make the following recommendations in order to further improve the quality of education in the Department.

1. The Department may consider providing each student a Handout/Guide containing learning outcomes, syllabus, evaluation criteria and recommended text for every course unit.

2. It is recommended to have continuous assessments for all course units as it was noted that continuous assessments are carried out only in some course units.

3. It is also recommended to improve the teaching learning environment because teaching and learning activities are heavily disturbed at present. The windows of the Lecture theatre may be curtained. It is also recommended that the loudspeakers should not be allowed in the ground.

4. The Department may also consider employing a suitable strategy to attract more students. The facts such as high employability of Zoology graduates due to much emphasis on skills developments may be highlighted at the orientation programme of the new recruits. Similarly, publicity may be given on the higher education opportunities and employment opportunities available to Zoology graduates. The information on the Zoology graduates who are employed may also be provided to the student community.

5. It is strongly recommended to improve the IT facilities available to the students.

6. The Department may also consider using computer based teaching methods in more course units.

7. It is recommended that peer observation of lectures be commenced.

8. It is recommended that all staff members be encouraged to take student feedback through

the questionnaire and the results be discussed with the Head of the Department.

9. The numbers of copies of the recommended textbooks in the library need to be increased.

10. At the beginning of the first year each student may be assigned with a staff member who will act as his/her personal academic advisor to discuss difficulties in academic and personal matters.

11. It is recommended to establish a staff-student committee to make a forum to discuss various academic and welfare issues.

12. All students in the Biological Science stream offering Zoology as a subject be given the opportunity to acquire basic knowledge about other living organisms, their functioning and interactions.

13. The core courses in Zoology should include Cell Biology, Genetics and Animal development .

14. Reviewing curricula should be done with the participation of all stakeholders

7. ANNEXES

Annex 1 - Agenda for the Subject Review Visit

Day 1: Wednesday 12th September 2007

8.00 – 8.30	Private meeting of review team with QAAC Representatives – NBLT - 2
8.30 – 9.00	Discuss the agenda for the visit – NBLT 2
9.00 – 9.30	Meeting with the Dean, Faculty of Science – NBLT – 2
9.30 – 11.00	Department presentation on Self Evaluation Report – NBLT – 2
11.00 – 12.00	Meeting with undergraduate students - Year 1 – NBLT – 3
12.00 – 13.00	*Lunch*
13.00 – 15.00	Observing teaching – Practical Class – Year 2 – Second year laboratory
15.00 – 16.00	Meeting with academic staff – NBLT – 2
16.00 – 17.00	Observing departmental facilities
17.00 – 17.30	Brief meeting of reviewers – NBLLT – 2

Day 2: Thursday 13th September 2007

9.30 – 10.30	Observing teaching – Lecture – Year 3 – Zoology Seminar Room
10.30 – 11.00	Meeting with undergraduate students – Year 2 – Zoology Seminar Room
11.00 – 11.30	Observing documents – NBLT - 2
11.30 – 12.30	Meeting with technical staff & other non-academic staff - NBLT – 2
12.30 – 13.30	*Lunch*
13.30 -14.00	Meeting with undergraduate students – Year 3 (General Degree) – NBLT 2
14.00 – 14.30	Observing teaching – Practical Class – Year 1 – First Year Laboratory
14.30 – 15.30	Meeting with Special degree students (Final Year) & presentation of research project – NBLT – 2
15.30 – 16.30	Meeting of reviewers – NBLT - 2
16.30 – 17.00	Meeting with Special degree students (Third Year) – NBLT – 2
17.00 – 18.00	Meeting with postgraduate students – NBLT – 2

Day 3: Friday 14th September 2007

9.00 – 10.00	Reviewers' private discussion – Zoology Seminar Room
10.00 – 11.00	Meeting with student counselors & academic advisor – Seminar Room
11.00 – 11.30	Observing teaching – Lecture – Year 1 – OBLT
11.30 – 12.30	Meeting with Head & Staff for reporting – Seminar Room
12.30 – 13.30	*Lunch*
13.30 – 17.00	Report writing – Seminar Room

Annex 2 - List of persons met during the review visit

Prof. R.L.l.C. Wijesundara -Dean/Science
Mrs. D.N. de Silva, -Head/Zoology
Prof. W.D. Ratnasooriya -Senior Professor of Zoology
Prof. S.W. Kotagama –Professor of Environmental Science
Prof (Mrs.) Y.N.A. Jayatunga -Professor
Dr (Mrs.) P.K.N.T.S. Pallewatte -Senior Lecturer
Dr W.S. Premawansa -Senior Lecturer, Student Counselor
Dr. (Mrs.) P.V. Randeniya -Senior Lecturer
Dr. D.K. Weerakoon -Senior Lecturer, Academic Counselor
Dr P.N. Dayawansa -Senior Lecturer
Dr. W.B. Yapa -Senior Lecturer, Student Counsellor
Dr. (Mrs.) L.D.L. Pieris -Senior Lecturer
Dr. (Mrs.) M.R. Wijesinghe -Senior Lecturer
Dr. (Mrs.) D. Wickramasinghe -Senior Lecturer
Mrs. C. Dangalle -Lecturer
Mrs. G. Harendra -Lecturer
Mrs. A.I. Kamaladasa -Probationary Lecturer
Dr. D.M. Suratissa -Curator
Technical Officers (Four)
Laboratory attendants (Five)
Clerk (One)
Year 1 Students who are following Zoology
Year 3 B.Sc Special degree students
Year 4 B.Sc Special degree students
Year 3 B.Sc general degree students who are following Zoology
Ph.D. Students (Three)
M.Phil. Students (One)
M.Sc. Students (Four)

Annex 3 - The places visited during the review visit

First year teaching laboratory
Second year teaching laboratory
Third year laboratory for the B.Sc. General degree students
Third year laboratory for the B.Sc. Special degree students
Fourth year laboratory
Biochemistry laboratory
Research laboratory I
Research laboratory II
Immunology laboratory
Environmental laboratory
Staff rooms of the academic staff members
Research laboratories of the academic staff members
Rooms given to the Technical Officers
Museum
Departmental Computer Centre
Animal House

Faculty Computer centre

Faculty Library

Annex 4 - The document observed by the review team during the review visit

Faculty handbook 2007/2008
Lecture schedule
Lecture handouts
Practical schedule
Practical handouts
Syllabuses
Tutorials
Student feedbacks
Marking schemes
Question papers
Answer scripts marked by examines
External examiners reports
Marks sheets
Minutes of the Departmental meetings
Dissertations of B.Sc. Special degree students
Dissertations of M.Sc. students
Dissertations of Ph.D. students
Details on first destination of students
B.Sc research project tittles 2002-2007
Literature review titles 2002-2006
List of publications resulted from undergraduate research 2003-2006
Research papers published by postgraduate students
By-laws and regulations of the B.Sc degree programme
Examination guidelines
Syllabuses of course units
Power point presentations on field visits
Evidence for skills development -photographs, CDs
Evidence for community outreach programmes -Posters, CDs, Photographs
Field based practical records
Field note books
Computer based teaching assignments
Learning outcome of some course units
Seminar presentation