SUBJECT REVIEW REPORT

DEPARTMENT OF BIOLOGICAL SCIENCES

FACULTY OF APPLIED SCIENCES
RAJARATA UNIVERSITY OF SL

13th to 15th November 2008

Review Team :

Prof. M. J. S. Wijayaratne, University of Kelaniya
Prof. Sanath Hettiarachchi, University of Ruhuna
Prof. S. Mohandas, University of Jaffna

CONTENTS

Page

1. SUBJECT REVIEW PROCESS

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

Key features of the subject review process include the critical analysis of the self evaluation report prepared by the academic department concerned, peer observation of teaching, observation of documents, observation of the facilities available, and gathering information on activities towards quality assurance through conducting discussions with as many stakeholders as possible.

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

Peer observation carried out during the review process includes observing teaching both in the theory and laboratory classes, and if possible in the field classes. The documents that are observed include, examples of student work, student handbooks, student handouts, lesson guides, statistics on student achievements and progress, samples of answer scripts, external examiners reports, peer evaluation reports, student evaluation reports, minutes of Departmental committees etc. The stakeholders with whom the discussions are carried out include the Head of the department, members of the academic and non-academic staff, undergraduate students, postgraduate students, alumni, academic administrators, and student 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. Prof. M.J.S. Wijeyaratne
   (Senior Professor of Zoology, University of Kelaniya)
2. Prof. Sanath Hettiarachi
   (Professor and Head of the Department of Botany, University of Ruhuna)
3. Prof. S Mohanadas
   (Formerly of University of Jaffna)

Prof. Wijeyaratne served as the Review Chair.

The Self Evaluation Report prepared by the Department was provided to the review team on 23rd October 2008 by the Quality Assurance and Accreditation Council of the University Grants Commission. The review team carried out the review process on 13th and 14th November 2008, and on 26th January 2009.

On 13th morning, the review team met the Vice-Chancellor together with the Chairman/Internal Quality Assurance Unit who is also the Dean/ Faculty of Applied Sciences and Head/ Department of Biological Sciences. The Vice-Chancellor at this meeting briefed the reviewers on the present situation at the University. Since the students have announced a protest week and were boycotting classes, the review team decided to observe teaching on a future date.

The review team then finalized the agenda for the review process with Head of the Department and the Dean of the Faculty. The Agenda for the review visit is given in Annexure 1. After finalizing the agenda, the review team and met the Head of the Department and other members of the academic staff. At this meeting, the Head of the Department explained the contents of the self Evaluation Report which was followed by a discussion. The review team had discussions with the members of the academic staff, technical officers, laboratory attendants, the members of the staff who are following postgraduate courses and supervising postgraduate work, demonstrators who are the alumni of the Department, student counselors and the present undergraduates following the B.Sc. General and Special degree programmes in Health Promotion and the B.Sc. General and Special degree programmes in Biology. The list of persons met is given in the Annexure 2.
Several documents were also perused. These included the Faculty handbooks, handouts given to students, minutes of the Departmental meetings, answer scripts, question papers, student feedback forms, peer evaluation reports etc. The complete list of the documents examined is given in Annexure 3.

The review team also examined the facilities available for teaching and learning. These included the lecture theatres, teaching laboratories, equipment, research laboratories etc. The list of facilities observed is given in Annexure 4.

On the 14th November, the review team gave a feedback of the findings to the Dean of the Faculty of Science, Head of the Department and other members of the academic staff.

Since the students were boycotting the classes on 13th and 14th of November 2008, the review team did not get an opportunity to observe teaching and meet some of the students. Therefore, the review team visited the Department again on 26th January 2009 and observed teaching in theory and laboratory classes as well as a field class and also met some of the B.Sc. (General) degree students.

A report will be prepared after the review visit incorporating the findings of the review team. In the report, the strengths and good practices were highlighted and the weaknesses will also be stated together with some recommendations. Each aspect will be given a judgment of good, satisfactory or unsatisfactory. The draft report will be sent to the Department and the feedback will be obtained. If there is disagreement with any judgment, it would be resolved by the Quality Assurance and Accreditation Council (QAAC) through discussion. The judgment will be submitted to the Standing Committee on Quality Assurance of the UGC for

approval. After its approval, the report will be published in the QAAC website, www.qaacouncil.lk. The Department has to improve the quality of the aspects that receive a judgment of unsatisfactory within 6 months of approving the judgments by the Standing Committee on Quality Assurance of the UGC.

2. BRIEF HISTORY OF THE UNIVERSITY AND THE DEPARTMENT

The Rajarata University of Sri Lanka (RUSL) was established in November 1995 under section 21 of the Universities Act No.16 of 1978, by amalgamating the Affiliated University Colleges in Central, North-central and North-Western provinces. The main campus located in the historical town of Mihintale which is at a distance of about 10 km from Anuradhapura, a city of rich heritage and cultural value in the North-central province, covers about 140 acres of land dedicated primarily to academic, administrative and student facilities including residential, recreational and medical use. The university comprises the faculties of (a) Applied Sciences (b) Agriculture (c) Management Studies (d) Social Sciences and Humanities (e) Medicine and Allied Sciences. Since the university was set up with makeshift arrangements, the faculties have been locationally dispersed, the faculty of Medicine and Allied Sciences at Saliyapura, Faculty of Agriculture at Puliyankulama and the other three at Mihintale.

At the inception of the Rajarata University, the Central Province Affiliated University College (CPAUC) in Polgolla, located at a distance of 140 km from the main campus at Mihintale, Anuradhapura was amalgamated to the RUSL as its Faculty of Applied Sciences (FASc). The immediate task of the FASc at that time was to upgrade all the students of the CPAUC who had successfully completed their Diploma requirements, to the Graduate level. On this task the FASc was inaugurated on 10th January, 1997 to commence the third year Degree Program with a batch of 102 students, who subsequently graduated in 1998. The first batch of students who were directly sent by the UGC to follow the degree program was enrolled in November 1997.

After functioning for nearly 10 years at Polgolla, the Faculty was finally established in the premises of the main campus at Mihintale, on 16th January 2006 upon completion of Stage I of the building complex.

At present, the FASc consists of two Departments *viz:* Biological Sciences and Physical Sciences. The Department of Biological Sciences offers course units in the fields of Botany/Zoology/Biology/Health Promotion while the Department of Physical Sciences offers course units in the fields of Chemistry, Physics, Pure Mathematics, Applied Mathematics, Computer Science and Information & Communication Technology. All the courses are offered in the English medium. As such, the Faculty conducts a three-month intensive course and an ongoing course in English Language, for students to be competent to follow lectures and comprehend the courses taught by the two Departments. From its inception, the Faculty follows the course unit system. The programs are completed within 6 semesters in the case of 3-year degrees and 8 semesters in the case of 4-year degrees.

The Department of Biological Science offers course units for the following degree programs at present.

(a) B.Sc. (General) 3 year degree in Applied Sciences

(b) B.Sc. 4 year degree in Applied Sciences
(c) B.Sc. (Special) 4 year degree in Applied Biology
(Specialization area I : Biodiversity & Conservation)
(Specialization area II: Fisheries & Aquaculture Management)
(d) B.Sc. (Joint Major) 4 year degree in Biology & Physics
(e) B.Sc. (General) 3 year degree in Health Promotion
(f) B.Sc. (Special) 4 year degree in Health Promotion

At present the department utilizes the services of 7 permanent academic staff members, 2 temporary academic staff members and several visiting staff members. Two are on study leave bringing the total number of permanent academic staff members to 9. There are also 8 academic support staff members constituting of temporary demonstrators. The department serves a total student body of 378 including the students of the Physical science stream.

3. AIMS AND LEARNING OUTCOMES

3.1. Aims

The Department of Biological Sciences offers a variety of course units, which enable the students to get a better understanding and to develop the necessary skills in the subject areas of Botany, Zoology, Biology and Health Promotion.

The aims of the Department are to provide:

- a general understanding of Biological Sciences and Health promotion, and specialized knowledge in fields where faculty expertise is strong.
- curricula that prepare our students for suitable employment and post-graduate careers in science.
- an understanding of the nature and applications of Biological Science and Health promotion and knowledge to apply the ideas or processes learnt beyond the class room. Thereby, the department seeks to deliver the highest level of education in Biological Sciences and Health promotion disciplines.
- opportunities to develop knowledge, self confidence, oral communication, analytical, problem solving, thinking, information handling and learning skills of students through lectures, tutorials, practicals, industrial/ field visits etc.
- opportunities to develop self learning skills of students through seminar presentations, report writing, research projects etc. assigned to the students.
- encouragement to staff and students to be involved in research projects which would be beneficial to the surrounding community as well as the country.
- opportunities to enhance teaching skills to our academic staff through students' feed back and peer advice.
- counseling, guidance, facilities and a suitable environment for progressive learning to our students thereby motivating them.
- services to the surrounding community by conducting educational programs for G.C.E O/L and A/L students in the areas of Biological Sciences and Health promotion.
- community development programs in health promotion specially for the communities in the North Central Province.
- a critical understanding of the relationship between theory and practice in health promotion.

- an understanding of how health beliefs, health practices and health chances are shaped by the historic, socio-cultural, economic, environmental, personal and policy environments.

- postgraduate training and skills in research .

3.2. Learning Outcomes

On successful completion of the programs offered by the Department, the students should have:

- understood the key concepts of Biological Sciences and Health promotion
- developed specific knowledge and understanding of applied areas of Botany,
- Zoology , Biology and Health promotion
- acquired practical / field techniques and skills to complement the theoretical
- knowledge.
- developed their personality from dependent to independent learning.
- acquired a range of abilities to observe the factors critically, analytically and collectively.
- gained the ability to assess a biological issue, to be able to dissect the important components of a situation and make objective conclusions.
- understood the way scientists approach a problem, the ways and methods to work and think through the solution.
- gained the ability to undertake scientific investigations and research studies.

In addition,

- **On successful completion of the B.Sc. degree programs in** Biodiversity & Conservation the **students should have obtained knowledge and understanding** in Biodiversity, its conservation and environment with a view to promote the sustainable use of natural resources and be able to advice or lead the public on issues of conservation of biodiversity.
- **3.2.10. On successful completion of the B.Sc. special degree program in** Fisheries and Aquaculture management, the **students should have obtained knowledge and understanding** in Fisheries and Aquaculture Management and in how to improve the fish production in the country through proper community based management, co-management of the fishery resources and thereby address the food security in the country.
- **3.2.11. On successful completion of the B.Sc. degree program in** health promotion, the **students should have obtained knowledge and understanding** in Health promotion and application of a critical and analytical approach to the principles and practices of health promotion, in public health and health management, in developing knowledge, skills and experience necessary to promote the health of populations and in the application of theory in the assessment of health policy intervention and development.

4. FINDINGS OF THE REVIEW TEAM

4.1. Curriculum Design, Content and Review

The Department of Biological Sciences offers courses for three year and four year degree programs in various formats leading to B.Sc. in Applied Sciences and B.Sc. in Health Promotion. The Health promotion Degree program is unique in Sri Lankan Universities and has started after a major curriculum revision that took place in 2005. The curriculum had

evolved from its original form which was in operation from 1998 to 2005 through frequent changes that occurred probably due to the specialization of the new recruits to the academic staff. The Department has been able to implement a major portion of the new curriculum from 2006. The Department had been contributing to the 3-year General Degree and was offering B.Sc. Special Degree in Applied Sciences which started in 2004 with the specialization of Biodiversity and Conservation. After the curriculum review, a new specialization was started in 2006 in Fisheries and Aquaculture Management. Two other specialization areas (Microbiology and Health and Environment) have been identified in 2005, but the Department has not been able to commence those due to the unavailability of sufficient qualified staff.

There are two other 4-year degree formats, *viz*. a degree with extended forth year (3+1) with an industrial/ field component in the final year and Joint Major Degree (2+2) in Biology and Physics. In addition, the entirely new degree program in Health Promotion was commenced as a result of the major curriculum revision. It was noted that the students are given the opportunity of switching between the different formats of the programs. However it was noted that only one student follows the joint major Degree and none is in the extended fourth year at the moment and the Faculty has to critically monitor the demand for these options for a couple of years and evaluate the cost effectiveness. Although the course units are chosen from the available basket of modules, setting timetables and scheduling examinations etc. would add to the already crowded schedule of academic staff. As the fourth year of the program with extended forth year provides industrial training which increases the employment opportunities, the Department should take an special effort to encourage the students.

The design of the curriculum in to Course Units is in agree with UGC guidelines (i.e. 90 credits for 3-year degree and 120 credits for 4-year degree and 1 credits is equivalent to 15 hrs of lectures and 30-45 hrs of practical/ field work). Students are allowed to take more than the minimum requirement of credits, so that they can learn additional subject areas to match their interests. Offering compulsory course modules of interdisciplinary nature is commendable. Students must elect one or two disciplines among computer science, physics and chemistry in addition to courses offered by the Biological Sciences Department. There are optional course units also on offer in such disciplines outside the major field of study. This is a necessity for the present/ future graduates to be successful in the completion in the job market. ***This concept of inter departmental and inter institutional collaboration in offering teaching programs is regarded as a good practice***.

The curriculum of the first two years in all formats of the degree contains the basic courses that impart a broad knowledge in Botany, Zoology and Biology which is required to proceed to the specializations in the third and forth year courses in depth knowledge and skills are provided.

The number of credits available in the Department of Biology for B.Sc. Applied Sciences is 149 whereas the number for B.Sc. in Health Promotion is 101 with a few overlapping course units. As revealed during the visit to the Department the total number of credits offered by the Department is 247, not 195 and 120, respectively as reported in the SER.

The diversity of courses offered by the Department and the mobility between different Degree programmes are commendable.

The content of the curriculum was perused during the visit to the Department and the Reviewers were satisfied with it. The contents of each course unit provide in-depth subject knowledge. At the commencement of each unit, the students are encouraged to do extra reading and a list of reference material has been provided. Supplementary material is usually provided in all courses and these include laboratory schedules and manuals. The syllabi made available to Reviewers are in line with the objective put forward by the Department. Although the diversity of courses is highly satisfactory, whether the students would get the full benefit of this is doubtful because of the limited number of staff available offer 247 credits. From among these units, 41 credits have been made available to students following Physical Science stream. It was revealed that, although the academic cadre is 11, the Department obtains the services of a large number of visiting staff. The figure given to us was 24. Nevertheless the staff expressed their concerns about the getting such assistance due to the reluctance of such staff to come regularly as the University is located in isolation.
It is noteworthy that the Faculty has a Curriculum Development, Evaluation and Monitoring Committee which meets regularly and makes recommendations to the Faculty.

In relation to the curriculum design, content and review, the judgment of the team is GOOD.

4.2. Teaching, Learning and Assessment Methods.

Teaching and Learning Methods

Teaching and learning methods are aimed at equipping the students with necessary knowledge and skills. The review team noted that a variety of teaching and learning strategies are used. These include lectures, practical classes, tutorial, field classes, self learning, group work, industrial visits and computer based learning.

The use of hand-outs and visual aids is commendable. The Faculty library has a good collection of books well as videos required for teaching and learning.

The students appear to be using the library regularly. The library is kept open for extended hours during the examination period.

The computer lab also provides sufficient facilities. The students use these facilities well for the teaching learning process.

The laboratory facilities available for students are satisfactory. The practical classes are designed to acquire a range of subject specific skills. The students' work observed by the review team indicates that the students acquire necessary subject specific skills.

However, the review team noted that the learning outcomes of each course unit are not given in the prospectus. Most of the students were unaware of the learning outcomes of the course units they follow. In some instances the lectures are held at the end of the semester at a stretch while students were not having work at the begging of the semester. This is mainly due to postponement of lectures.

In some practical classes especially in the subject area of Zoology the practical workload appears to be too heavy. The students have to spend many hours outside the normal allocated time to complete some of the Zoology practicals.

The interaction between staff and students was observed to be good. The students can come and meet their teachers at any time of the day.

The workload of teachers is too high because the work done by 3 departments in other universities is done by one department with limited number of teachers. Therefore the senior teachers do not have much time for research and postgraduate supervision.

Assessment strategies

The Assessment strategies are both formative and summative. These have been designed to assess the knowledge and skills of the students. The variety of assessment methods including quizzes, continuous assessments, mid semester examinations is used by the Department to assess the students. In addition, field reports, tutorials and presentation skills are also assessed.

The students are aware of the methods of assessment at the beginning of the course unit.
All question papers are moderated internally by a senior member of the academic staff.

Certain % of the continuous assessments, quizzes and other assessments contribute to the final mark. However, the weight given to some assessments is low so that the students appear to be absent for such assessments and work hard for the end semester examination.
Review team was informed that no second marking in being done for the end semester examinations of the 1st and 2nd years. The Department may strongly consider introducing 2nd marking for these exams. This can be done internally by another member & the academic staff.

The review team did not find the use of marking schemes when marking answer scripts.
Further, there was no evidence that marks given to practical records by the Demonstrations are randomly checked by senior members of the academic staff.

In relation to the teaching, learning and assessment methods the judgment of the team is SATISFACTORY.

4.3 Quality of Students including Student Progress and Achievements

The students are admitted to the Faculty of Applied Sciences of the Rajarata University of Sri Lanka through the UGC following the normal criteria applied to other Universities in Sri Lanka. As also observed in many other Faculties of Science/ Applied Science, this Faculty has not been able to register the full complement of students. Although the laboratories in the Department of Biological Sciences can accommodate 60 students at a time, the maximum number of students per batch at this moment is 30 in the present first year. As such the Faculty has been compelled to call for lists of students from the UGC in attempting to fill the vacancies. Although there no mention to the dropouts in the SER, it was evident that many student who register would leave the University as vacancies occur in more popular places. Therefore the Department has a formidable task to popularize the Degree programs by a

variety of approaches. This inevitably leaves a population of students who have not faired very well in their Advanced Level Examination. The numbers of students following the two specialization areas in Special Degree in Applied Sciences is satisfactory considering the total number of admitted number of students and the enormous workload of the academic staff. As mentioned above, the continuation of joint major Degree has to be critically assessed if the number of students registered.
Although the University is located in the North-central Province, only 18.75% of the students from this province have gained access to follow the Biological Sciences in RUSL. It is worth exploring the reasons behind this as this will help in future development plans of the Department. The courses are conducted in English and therefore students find the English courses by the ELTU as very important and they are of the view that these should be improved and made attractive to learn. The curriculum design and delivery is satisfactory in view of providing the students with necessary information and skills. The interdisciplinary nature of several common compulsory courses and optional courses would certainly contribute to reach this objective. A reasonable emphasis is given to practical component and also to engage students in mini-projects other than the research work within the specialization areas. Writing and communication skills are looked after by report writing and seminar presentation as integral parts of some course units.

The student progress is monitored by continuous assessments, mid semester examinations with a view providing an opportunity for students to assess their standing and make necessary adjustments before they are evaluated at the end semester practical and theory examinations. It is commendable that the staff takes special efforts to analyse marks of the individual students and a batch as a whole I order to monitor the progress. Graphical presentations of the results of such analysis were seen on notice boards of some staff members. One such graph was also presented in the SER which shows improvement of average GPA of three batches of students from year one to year four. Special attention is given to needy students when necessary.

Although the intake of students needs to be improved, both qualitatively and quantitatively, 99% of the biology students have graduated over the last 5 years. Although the actual figures were not seen by the Reviewers, the failures may be very few, especially considering the small number of enrolled students. It was reported that 30% of graduated pass out with Honours Degree (GPA >2.90). The ratio between Special Degree and General Degree in the third year is 08:27, a situation that needs to be improved if the number of staff with postgraduate qualifications increases.

Although sufficient laboratory facilities are available, the number of Demonstrators is marginal particularly because the Department is engaged in effectively two Degree programs in addition to two specializations in Special Degree in Biological Sciences. This is critical if the University happens to take its full complement of students.

The support services (eg. ELTU, Computer facilities, library, sports, Health) are at a satisfactory level and students should be motivated to make the maximum use of these.

In relation to the quality of students, student progress and achievements the judgment of the team is GOOD

4.4. Extent and use of Student Feedback

The Department obtains qualitative student feedback about the academic programme and the requirement of infrastructural facilities at various forums such as departmental meetings, Faculty Board meetings, practical sessions, lectures & tutorial classes and field visits. This is possible as the student number of a batch is less than 50. Students expressed happiness about their interaction with teachers and higher authorities.

The Department has perceived the importance of quantitative student feedback. The teaching process is evaluated by students using a questionnaire. The questionnaire includes feedback on several aspects of teaching and learning such as student awareness of learning outcomes, organization & clarity of the lecture, motivation & interaction of the lecturer, speed & audibility of the lecture, etc. Student feedback data obtained by the lecturer have been analyzed to identify the strengths and weaknesses of each staff of the department. The Review Team recommends that the same practice may be extended to visiting staff as well as for practical classes. The outcome of the quantitative student feedback is discussed at departmental meetings for others to share the information to strengthen the academic programmes.

In relation to the extent and use of student feedback the judgment of the team is GOOD.

4.5. Postgraduate Studies

Due to shortage of staff in comparison to courses taught by the Department, much cannot be expected in the way of organizing postgraduate courses. However the available few of the senior staff is strongly encouraged to apply for research grants and start a research culture by registering students in postgraduate Degrees. The Reviewers learned that the appointees to the post Temporary Demonstrators are the best students in the respective batch, their appointments may be extended up to two years and some of them are very keen on research. Therefore a stage is set for initiating postgraduate research supervision with minimal funds.
It was also reported that a few members are teaching at PGIM and PGIA. One lecturer has finished her Ph.D. in waste water management. One probationary lecturer in health promotion is researching for his M.Phil. Degree at the University of Peradeniya and the other has received a NSF grant for his M.Phil. work. One demonstrator has also commenced her M.Sc. in biodiversity, ecotourism and environmental management.

In relation to the postgraduate studies the judgment of the team is UNSATISFACTORY.

4.6. Peer Observations

It was observed that the importance of the peer observation process has been perceived by the department and a formal peer observation process has commenced in 2008 using an evaluation form. The peer observation has been done between two lecturers on a mutual understanding basis. The peer giving her/his response in addition can comment on how to rectify, if any drawback is identified. A copy of the peer observation report is handed over to the Head of the Department and a file is maintained for this purpose but it has been not discussed at head of department meetings.

The peer observation report and the student feedback report of the same lecturer can be correlated to develop a staff development programme for the lecturer concerned, if required.
The Review Team noted that the department engages peers for moderation of question papers and second marking of the answer scripts.

In relation to peer observations the judgment of the review team is SATISFACTORY.

4.7. Skills Development

The review team noted that the curricula are designed to facilitate the development of subject specific as well as transferable skills. The introduction of an English course and the course on Introduction to computer as compulsory courses help to develop the English language skills and IT skills. Further the courses such a laboratory techniques in biology which is given in year 1 also help to acquire important laboratory skills. Further, the practical classes in each course unit help to acquire subject specific skills.
However, it was noted that the skills that are to be developed are not identified in the learning outcomes of each course unit. Incorporation of field visits to the teaching learning process also helps to develop skills such as leadership qualities, ability to work in groups etc.
Further, the requirement of submitting reports, project work also helps to develop report writing skills as well as presentation skills.

The assessment criteria are also designed to evaluate the skills developed.
The research skills could be developed by the students who are the B.Sc. (Special) degree.
There is no consultation of the employers regarding the skills they expect from graduated.

In relation to the skills development the judgment of the team is GOOD.

4.8. Academic Guidance and Counseling

When new students are recruited, they are provided with the faculty handbook and an orientation programme is being conducted during the first week of their entry. The hand book provides information about the University, Faculty, Departments, subjects offered, subject combinations, academic programmes and details of course units. On the first day of the orientation programme, the Vice-Chancellor, Dean of the Faculty, Heads of Department, Career Guidance Officer and Senior Student Counselor address the students. At this programme an introduction is given to the students on various departments in the faculty, the courses offered by the department, and the selection criteria to offer the subject concerned for the general degree and special degree programmes.

On discussion with final year students, they expressed that the path for the entry to the special degree may be explained in more detail at the beginning of their first year studies. The Review Team noted that this can be achieved by academic counselors or personal tutors appointed by the department.

Whenever students encounter personal problems it has been found that the students can meet the faculty student counselors, faculty senior student counselor or any staff member to this effect. In addition there is a Chief Student Counselor for the university to attend to the student welfares. The student counselors have attended workshops related to student counseling. However there is nobody to function as a professional counselor. For health

related problems students can approach University Health Centre or lecturers attached to the Health Promotion programme of the department.

There is a Career Guidance Officer who facilitates students by giving trainings/seminars on job related matters. Third year students who belongs to the first batch of the health promotion programme expressed that they urgently require career guidance and awareness seminars with prospective employers and other stakeholders.

In relation to academic guidance and counseling the judgment of the team is GOOD.

Based on the observations made during the visit by the Review Team and as per the facts discussed above the judgments given to those eight aspects under 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
Extent and Use of Student feedback, Qualitative and Quantitative	Good
Postgraduate Studies	Unsatisfactory
Peer Observation	Good
Skills Development	Good
Academic Guidance and Counseling	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

Good Practices/Strengths:

1. Curriculum is very extensive and designed to meet the objectives
2. It follows the UGC guidelines on credit requirements for Degree programmes
3. The design of the biological science curriculum allows the student to select from various formats and allows transfer among the formats
4. Offers unique Degree programme in B. Sc. in Health Promotion
5. Interdisciplinary courses are offered with inter-departmental and inter-institutional collaboration
6. Major curriculum has taken place in 2005 and since then amendments have been made periodically as necessary to suit the expertise in the Department
7. Curriculum revision is carried out in consultation with stakeholders.
8. Availability of foundation courses in the first year followed by specialization in the subsequent years
9. High flexibility in selection of course units

10. Continuous improvement of courses

Weaknesses

1. Due to the variety of course modules offered, students have difficulty in the selection of relevant course modules and the Faculty ha not been able to function according to a timetable

Judgment: Good

2. Teaching, Learning and Assessment Methods

Good Practices/Strengths:

1. Use of variety of teaching and learning methods
2. Use of hand-outs
3. Use of Visual aids
4. Use of variety of assessment methods
5. Use of continuous assessment methods
6. Assessment of skills as well as knowledge
7. Use of un-announced quizzes
8. Informing the students at the beginning of the course the methods of assessment
9. Moderation of question papers
10. Promoting discussion and questioning during the lectures

Weaknesses

1. Learning outcomes of each module not clearly indicated in the prospectus
2. In some practical classes, workload is high
3. Postponement of lectures to the last days of the semesters
4. No second marking of answer scripts of some course units.
5. Theory courses taught after field work
6. Some course units are postponed to 2nd semester and evaluated with 2nd semester courses
7. Workload of the teachers is very high. This results in the dependence of visiting lecturers for most of the courses facing many problems such as postponing of lectures and not releasing results on time.

Judgment: Satisfactory

3. Quality of Students, including Student Progress and Achievement

Good Practices/Strengths:

1. The staff is keen in analysis of the progress of the students
2. Nearly 100% of the students have graduated during the last five years
3. Students are provided with satisfactory support services (eg. health, recreation, IT facilities)
4. The medium of instructions is English
5. Mechanisms are in place to provide various skills to the students

Weaknesses

1. The Department has been able to register only less than 50% of the total number of students that it can accommodate

Judgment: Good

4. Extent and Use of Student Feedback

Good Practices/Strengths:
1. Obtaining qualitative student feedback is in practice.
2. Obtaining quantitative student feedback procedure has begun.

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

Judgment: Good

5. Postgraduate Studies

Good Practices/Strengths:
Nil

Weaknesses
1. Only a few staff with postgraduate qualifications
2. Staff do not have much time to spend on postgraduate teaching and supervision due to high load of undergraduate teaching workload
3. No postgraduate courses offered

Judgment: Unsatisfactory

6. Peer Observation

Good Practices/Strengths:

1. Obtaining peer observation procedure has begun.
2. Moderation of question papers
3. Observation of teaching of junior teachers by senior teachers

Weaknesses:
1. Peer observation data not correlated with the student feedback responses for staff development programme of the lecturer concerned.

Judgment: Good

7. Skills Development

Good Practices/Strengths:
1. Designing of the curriculum to facilitate the development of subject specific skills as well as generic skills
2. Giving a 3 months intensive English course
3. Giving an introductory course of computers as a compulsory course

4. Providing a course of laboratory techniques in Biology during the 1st year enabling the B.Sc. (General) degree students also to develop these skills
5. Use of field classes, which help to develop various generic skills such as working in groups and leadership qualities
6. Introduction of courses that need the working with the community which helps to develop various skills needed in day to day life.

Weaknesses

None

Judgment: Good

8. Academic Guidance and Counseling

Good Practices/Strengths:

1. Availability of student handbook.
2. Availability of an organized orientation programme.
3. Availability of Student Counselors for counseling.

Weaknesses:

1. Non-availability of academic advisors or personal tutors.

Judgment: Good

6. RECOMMENDATIONS

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

1. The Department is encouraged to
   - seek more stakeholder consultation on curriculum development
   - identify streams of studies by pooling available course units in order to guide students in selecting course units and to minimize problems in scheduling academic and examination schedules
   - analyze the demand for course modules and different formats of Degree programme in order to make necessary adjustments to reduce workload for academics

2. The Department may consider
   - indicating in writing the learning outcomes, suggested reading material, methods of teaching and learning, and the assessment methods together with the course contents in the prospectus.
   - reducing the workload in some practical classes
   - conducting the lectures as scheduled without postponing them to the last days of the semester
   - introducing second marking to all course units
   - establishing 3 departments namely the Department of Botany, Zoology and Health promotion instead of one Department
   - Increasing the cadre positions to get sufficient numbers of teachers considering the high workload.

3. The Department may consider
   - making a program to popularize the Degree programme among the students who qualify to proceed to University education

4. The Department may consider
   - obtaining quantitative student feedback procedure may be extended to practical sessions as well to visiting academics.
   - findings of the student feedback practice may be discussed at staff meetings.

5. The Department may consider
   - initiating action to start a research culture as early as possible, perhaps providing the opportunity to few demonstrators interested in postgraduate programmes by research.
   - getting more staff as the teaching workload of the present staff is very high. By increasing the present staff numbers, staff time can be utilized to develop postgraduate studies.

6. The Department may consider
   - correlating peer observation data with the student feedback responses for staff development programme of the lecturer concerned.
   - discussing the findings of the peer observation practice at staff meetings.

The Department may consider

- appointing academic advisors or personal tutors at the departmental level.

7. ANNEXES

Annex 1. AGENDA FOR THE REVIEW VISIT -

Day 1 :13th November 2008

08.30 – 09.00	Meeting of Review Panel with QAA council Representatives
09.00 – 09.15	Discuss the agenda for the visit
09.15 – 10.15	Meeting with Vice-Chancellor / Chairman, Internal QA unit / Dean / Head of the Department / Faculty QA cell
10.15 – 10.30	***Tea***
10.30 – 11.30	Department Presentation on the Self Evaluation Report
11.30 – 12.30	Discussion
12.30 – 13.30	*Lunch*
13.30 – 14.30	Meeting with Department Academic Staff
14.30 – 15.30	Observing Department Facilities
15.30 – 16.30	Observing other Facilities (Library, Computer Centre) ***(Working Tea)***
16.30 – 17.30	Brief meeting of Reviewers

Day 2 :14th November 2008

09.00 – 09.30	Meeting with Postgraduate Students and Staff
09.30 – 10.30	Meeting with Undergraduate Students
10.30 – 11.30	Observing Documents ***(Working Tea)***
11.30 – 12.30	Meeting with Technical staff and other Non-Academic Staff
12.30 – 13.30	***Lunch***
13.30 – 14.30	Meeting with Student Counselors
14.30 – 15.30	Meeting with Special Degree Students
15.30 – 15.45	***Tea***
15.45 – 16.15	Reviewers Private Discussion
16.15 – 17.00	Meeting with Head and Staff for Reporting
17.00 – 18.00	Report Writing

Day 3 :26th January 2008

09.00 – 09.30	Observing Teaching – Lecture (3rd Year – Biodiversity & Conservation IT)
09.30 – 10.00	***Tea***
10.00 – 10.30	Observing Teaching – Lecture (2nd Year – General Microbiology)
10.30 – 11.00	Observing Teaching – Lecture (4th Year – Culture & Preparation of Ornamental Aquatic Plants)
1100 – 12.30	Observing Field Class (3rd Year – Health Promotion)
12.30 – 13.30	***Lunch***
13.30 – 14.00	Observing Practical Class (2nd Year – General Microbiology)
14.00 – 15.00	Meeting with Undergraduate Students
15.00 – 15.30	Reviewers Private discussion
15.30 – 15.45	***Tea***
15.45 – 16.30	Meeting with Head and Staff for Reporting
16.30 – 17.30	Report Writing

Annex 2. *THE PERSONS MET*

Prof. K.A. Nandasena	Vice-Chancellor
Dr. Mrs. Manel Gunasekera	Dean/ Applied science
Dr. Mrs. T,V, Sundarabarathy	Head/ Biology

Members of the Permanent Academic staff
Temporary Demonstrators
Alumni
Technical Officers
Laboratory attendants
Labourer
Computer Application Assistant
Student Counselors
B.Sc. Special Degree Students
B.Sc. General Degree 1st year students
B.Sc. General Degree 2nd year students
B.Sc. General Degree 3rd year students

Annex 3. THE DOCUMENTS OBSERVED

Peer observation reports
Teacher evaluation forms completed by students
External examination papers

Prospectus for students – Applied Science	2007/2008
Prospectus for students – Applied Science	2006/2007
Prospectus for students – Applied Science	2005/2006
Prospectus for students – Applied Science	2003/2004
Prospectus for students – Applied Science	2002/2003
Prospectus for students – Health promotion	2004/2005
Prospectus for students – Health promotion	2005/2006
Prospectus for students – Health promotion	2006/2007

Charts and data showing student progress
Abstracts of Annual Research Session 2007
Lecturer profile
Faculty corporate plan
Documents pertaining to curriculum revision
Documents pertaining to stakeholder consultation in curriculum revision
Notices for students
Approved lists of examiners
Lists of lecturers in charge of each practical class
Assessment criteria
Marking schemes
Practical handouts
Samples of student work
Samples of marked answer scripts
Report of individual and group reports

Annex 4. FACILITIES OBSERVED

Faculty auditorium
Mini library – Health promotion
Faculty Computer Centre
Audio-Visual Room
Faculty language laboratory
Botany laboratory
Mini library – Botany
Laboratory equipment – eg. Autoclave, Incubators, Binocular microscopes, Microtome, Digital presenters
Equipment room
Zoology laboratory
Mini library – Zoology
Library
Lecture halls