



PROGRAMME REVIEW REPORT

**Bachelor of Science Honours in Environmental Science
Department of Bio Science
Faculty of Applied Science
University of Vavuniya**

Site Visit Dates : 15th and 16th September, 2022



**Review Panel : Prof. L.D. Amarasinghe (Chair)
Dr. M.H. Haroon
Dr. P.S.K. Rajapakshe**

**The Quality Assurance Council
University Grants Commission, Sri Lanka**

University : University of Vavuniya

Faculty : Faculty of Applied Science

Programme: Bachelor of Science Honours in Environmental Science

Review Panel :

Name	Signature
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Date : 28th November 2022

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Section 1: Introduction

The Northern Province Affiliated University College (NPAUC) was established in 1991. Subsequently, by an order made under Section 22 of the Universities Act No. 16 of 1978, the Vavuniya Campus of the University of Jaffna was established on April 1, 1997, with two faculties, namely, the Faculty of Applied Science and the Faculty of Business Studies. The Faculty of Applied Science consists of two departments, namely, Bioscience (DoB) and Physical Science. The Faculty of Technological Studies was also established in 2020 by the Extraordinary Gazette No. 2160/43 dated January 30, 2020. At present, all three faculties offer twelve-degree programs of three- to four-year duration.

The Vavuniya Campus of the University of Jaffna was elevated to a separate state university and established as the "University of Vavuniya, Sri Lanka" by the extraordinary gazette issued on June 8, 2021. Accordingly, the University of Vavuniya became the 17th state university in Sri Lanka, effective from August 1, 2021. The University of Vavuniya expects to increase the student intake through the introduction of new study programmes and the establishment of the proposed faculties, namely, the Faculty of Medicine, the Faculty of Tourism and Hotel Management, the Faculty of Health Sciences, the Faculty of Aquaculture, Fisheries, and Marine Studies, the Faculty of Environmental Science, the Faculty of Livestock, the Faculty of Humanities and Social Sciences, and the Faculty of Graduate Studies.

The University of Vavuniya is located about ten kilometers away from Vavuniya town along the Vavuniya Mannar Road at Sopalapuliyankulam, Pampaimadu. The University owns one hundred and ninety five (195) acres of land. The University maintains a forest pocket and two minor tanks within this land area. The iconic landscape contributes to the university's signature to keep generations connected to the University of Vavuniya. It paves the way for a new collegiate experience for existing and prospective students.

The Department of Bioscience (DoB) The DoB has been a pioneer in offering a Bachelor's degree in Environmental Science to undergraduates since 1997. Since its inception, the Department has gone through several milestones. The objective of the Department is to train undergraduates to suit the modern trends in the industry, research, and the development of the national economy through the volume of learning as per the curriculum.

Degree programs offered by the Department of Bio Science: The Department of Bio Science initially offered a three-year General degree in Environmental Science until 2005. Then the four-year extended degree programme was introduced in 2006. Considering the discrepancies

in the procedure, the conditions were revised in 2011, and students were offered a special degree in Environmental Science (2+2) providing optional courses at level 4. According to employer and student feedback, a curriculum revision was made in 2019 to allow students to earn a BSc with honours in Environmental Science.

The Subject Review took place in 2008. Table 1 provides the summary of the recommendations of the review team and follow-up actions taken by the Department of Bio Science as evidenced by the Self-Evaluation Report submitted for programme review in April 2020

Table 1.1: Summary of the recommendations of the review team and follow-up actions taken by the Department of Bio Science as evidenced by the Self-Evaluation Report submitted for programme review in April 2020

No .	Recommendation	Action Taken
1	Establish Faculty level Curriculum Evaluation and Review Committee	Faculty level Curriculum Evaluation and Review Committee formed at 106th Faculty Board held on 7th July 2017.
2.	Consult as many relevant stakeholders as possible in future reviews/revisions of curriculum.	Stakeholders consulted in the curriculum revision in 2017. Five resource persons including two from the University of Peradeniya in the specialized fields of Forestry, Resource and Environmental Economics, one from the University of Jaffna with the specialized field in Zoology, one from CEA Director, HRM, Director, International Institute of Development Training, EML Consultants (Pvt) Ltd. Members of ALUMNI association. Those who have obtained jobs in different areas participated
3	Giving a credit value for auxiliary courses, while not taking them for GPA computation.	Credit value for auxiliary course units considered for GPA calculation after the curriculum revision in 2012.
4	Distribute the total workload more uniformly	The total workload of the credit valued course units is distributed uniformly (15 credits for each semester at all four levels)

5	Installation of ceiling/pedestal fans in the lecture halls.	Wall-mounted fans are installed in each lecture hall.
6	Use of part of the front wall of the lecture theatres as a projector screen	Actions taken as suggested.
7	Getting assistance of the students to make more specimens of better quality for the laboratories.	Specimens are changed from time to time. Students are also involved in specimen collection in a safer manner.
8	Exploring the possibility of allocating sufficient time in the timetable for library usage	The library is open till 7 O' o'clock during session time based on the students' request.
9	Obtaining expert advice on increasing bandwidth in a cost- effective manner	Bandwidth increased.
10	Encouraging students and providing facilities for more field visits	Field visits are increased - Students have been taken to textile manufacturing industry at the Industrial Zone, BOI, Katunayake, Moonland sanitary land fill at Nuwara Eliya, New Zealand farm, Ambewela, Plantation forestry, Nuwara Eliya. Udawalawa National park, Elephant transit home, Wasgamuwa National Park, Knuckles biodiversity range, Mannar coastal zone, wildlife reserve at Thaarapuram, Mannar in addition to the field visits provided within Vavuniya district.
11	Releasing the results at the faculty level as soon as the results of a few course units are ready.	Pre-boarding at the faculty level to release the results has been implemented since 2013. Once the marks for 2 -3 courses are ready, they will be released at the faculty-level pre-board. Also actions were taken at Campus level to release the results within three months of the last date of the exam.

12	Persuading the UGC to increase student intake.	Requested UGC to increase the student intake to 75
13	Organizing community-based programmes with students and giving wide publicity	Students are engaged in 1. E-waste collection during the environmental week in October, collaborating with CEA regional office Vavuniya. 2. Dengue control collaborating with MOH office, Vavuniya. 3. Survey at hospitals regarding hospital waste collection in the North and East provinces. The students are hired by an NGO which carried out a project on hospital waste management. 4. Students contribute to improving the educational level of the G.C.E (O/L) and G.C.E (A/L) students in the rural backward area in Mullaitivu. 5. These environmental science undergraduates formed a committee called ENSOC and contributed to educating the society in various ways.
14	Improving the Faculty website.	The Faculty website was improved and updated. IQAC has a separate website at the faculty level linked with IQAU, University of Jaffna
15	Giving more opportunities for students to take part in national level activities	Students are engaged in 1. E-waste collection during the environmental week in October, collaborating with CEA regional office Vavuniya. 2. Dengue control collaborating with MOH office, Vavuniya. 3. Survey at hospitals regarding hospital waste collection in the North and East province. The students are hired by an NGO which carried out a project on hospital waste management. 4. Students contribute to improving the educational level of the G.C.E (O/L) and G.C.E (A/L) students in the rural backward area in Mullaitivu. 5. These environmental science undergraduates formed a committee called ENSOC and educated the society in various ways.

16	Monitoring student progress	Academic counsellors are appointed, and the students are allocated to each academic counsellor which is communicated to students and to the academic counsellors. Two quizzes are conducted during the 7th week and the 14th week respectively. The quiz paper was given to each student and commented on individually and discussed. The attendance was calculated during mid of the semester and the students who had less than 80% attendance were individually called and advised to ensure regular attendance. With that, they are warned that they cannot sit for the exam if their attendance is less than 80% at the end of the semester.
17	Discussing the comments, suggestions and other feedback obtained from moderators and second examiners at the curriculum review committee meetings	Summary of the comments, suggestions and other feedback obtained from moderators and second examiners discussed at the departmental meetings and reported to Faculty Board. Documented at IQAC.
18	Obtaining feedback for the lectures and practical classes regularly from the general and special degree students	Student feedback obtained at the end of each course unit from all batches of students, statistically analysed and reported to the respective staff members for further improvement.
19	Practising peer evaluation in a formal manner	Practising peer evaluation using a template approved by the Faculty Board
20	Consulting potential employers regarding the skills they expect from the graduates of the department	Consulted the employers and got the information about the skill required in 2012 and the course curriculum was modified accordingly

21	Carrying out more field visits Same as #10?	Respective staff of relevant course units arranged field visits within Vavuniya and outside Vavuniya district as well. Students have been taken to the textile manufacturing industry at the Industrial zone, BOI, Katunayake Moonland sanitary land fill at Nuwara Eliya, New Zealand farm, Ambewela, Plantation forestry, Nuwara Eliya. Udawalawa National Park, Elephant transit home, Wasgamuwa National Park, Knuckles biodiversity range, Mannar Coastal Zone, National Aquatic Resources Research and Development Agency (NARA), Negombo for mangrove vegetation, Dehiwala Zoological Garden, wildlife reserve at Thaarapuram, Mannar in addition to the field visits within Vavuniya district.
22	An academic advisor to appoint at the faculty level	Senior academics are appointed as academic counsellors at departmental level and the students in all four batches are assigned to each of them. Academic advisors are appointed at the faculty level to facilitate to find out opportunities for postgraduate programmes by the Lecturer (probationary).
23	A Career Guidance Unit to be established in the Campus and to conduct activities	A Career Guidance Unit was established in the Campus and activities such as career fairs were conducted
24	Installing a suggestion box outside the department	A suggestion box is installed, and actions are taken to solve student issues.

Section 2: Review Team's Observation on the Self-Evaluation Report (SER)

According to the original schedule, the 1st Program Review (PR) of the Bachelor of Science with Honours in Environmental Science degree at the Vavuniya Campus of the University of Jaffna, was due in 2020. Accordingly, the CQA of the Vavuniya Campus prepared the SER covering the period 2015 to 2020 and sent it to QAC in an electronic version and a hard copy. However, due to the COVID-19 pandemic situation, the next steps of the PR were postponed by the Quality Assurance Council (QAC) in consultation with the university authority. Finally, in the middle of the year 2021, all three parties (QAC, Vavuniya Campus, and reviewers) agreed to conduct the review online. The CQA of the Vavuniya Campus has made significant efforts to prepare the SER in line with the guidelines of the QAC (PR Manual 2015), in consultation with all the stakeholders. The electronic version of the SER was made available through the QAC Management Information System [<https://www.eugc.ac.lk/qac/>]. Electronic forms of the evidence were also made available by the CQA of the Vavuniya Campus through the Document Management System.

In general, the SER and evidence documents were accepted as reasonable. It was noted that the evidence of contribution under each criterion was satisfactory.

Section 3: Description of the review process

The review team comprised of three reviewers: Professor Mrs. L.D. Amarasinghe from the Faculty of Science, University of Kelaniya [Chair], Dr. M.H. Haroon of the Department of Chemical Sciences of the Faculty of Applied Sciences of the South-Eastern University of Sri Lanka and Dr. P.S.K. Rajapakshe of the Department of Environmental Management of the Faculty of Social Sciences & Humanities of the Rajarata University.

As the first step of the Programme Review (PR), the Faculty was required to submit the SER as a hard copy and electronic form. The desk evaluation commenced virtually on September 10, 2021, and ended on September 12, 2021. Before the completion of the desk evaluation, a meeting was held with all members of the review team to discuss the independent scores given by each reviewer. It was observed that independent scoring by team members was very consistent. There was hardly any disputable issue in the desk review. However, due to the Covid-19 situation, the review team completed the online desk evaluation individually and submitted the overall evaluation score sheet to the QAC via email.

In order to face the prolonged challenge of the COVID-19 situation, the QAC later developed a comprehensive Management Information System for PR (MIS PR) to communicate with all stakeholders involved in the PR. [<http://www.qac.ugc.ac.lk/main.php>]. This feature aided all parties in exchanging information and communicating, as well as reviewers in entering marks in desk evaluations. The evaluation proper was conducted based on the evidence uploaded in the MIS, and the final score sheet was automatically calculated.

The SER written by the Faculty was available for the reviewers through the MIS PR. Together with the SER, a summary of Commendations and Recommendations of the previous subject review held in 2008 was also made available for the reviewers.

The PR process started with a virtual meeting with the Director of QAC. The first meeting of the QAC Director with the review chairpersons and team members of PR was an awareness session to familiarize chairpersons and members of review teams with the MIS PR, the new online review platform for Programme Reviews, on 26th January 2022. On March 25, 2022, another meeting was held to clarify matters further. This meeting was followed by several e-mail communications and subsequent meetings of review team members with team chairs.

Having prepared a tentative program for the stakeholder meetings according to the guidelines provided by the Director, CQA, the Faculty of Applied Science, and the review team

finalized the program. The stakeholder meetings to review the Bachelor of Honours degree programme in Environment Science offered by the Faculty of Applied Science, took place via Zoom the whole day on 13th June 2022. The review chair and the two members had virtual meetings with Heads of Departments, the Dean of the Faculty, Academic members in the permanent cadre, the Librarian, Technical staff, Academic support staff, Directors of units such as SDC, CGU, QAC, Gender Cell, Senior Student Counsellor, undergraduate students, Staff of the English Language Teaching Department, each of a minimum 20 minutes and maximum 30 minutes.

During the stakeholder meeting online, the team discussed the involvement of academic staff in maintaining the quality of the degree program and their involvement in the program review process.

At the meeting with student counselors, inquiries were made on the connectivity of the student counselors with the students and their involvement in counseling students. The coordinator of the Gender Center informed that they have initiated awareness activities on gender equity and equality at the university. The stakeholder meetings with all categories of staff and the students ended by 4.00 pm.

After several postponements of the site visit due to the Country's situation, the final date was fixed as the 15th and 16th of September to visit the Faculty to observe the facilities.

The review team first met with the Director, CQA, and the Coordinator of the Faculty Internal Quality Assurance Cell (IQAC) on the 15th, at the Hotel Oviya in Vavuniya. The CQA director described the progress of the quality assurance mechanism of the University in general and the support and guidance given to the Faculty to enhance the quality and relevance of the study programmes. He also explained the changes that have taken place since the submission of the SER to date.

A whole day programme on the site visit commenced on 16th September. First, the review team met the Vice Chancellor, Registrar, and Bursar along with the Director/CQA at the VC Office. The Chairperson explained the purpose of the visit and the VC described the history of the University and the progress made toward the improvement of the quality of the degree programmes offered.

The review team then met the Dean of the Faculty of Applied Science, the Heads of Departments, SER writing team members, and academic members of the Department at the Faculty Board room. The former Dean made a comprehensive presentation about the Faculty

and the two departments. The preparation for the review process under the guidance and purview of the former Dean of the Faculty should be commended since the new Dean had been appointed very recently. Academic, research, outreach, and administrative activities of the Faculty were discussed with them.

The review team then visited the Examination Branch and had a discussion with the DR/Examinations over the examinations and evaluations procedures, confidentiality, time taken to release the results, etc. It was observed that the division provides efficient and satisfactory service even with limited human resources. The team subsequently visited the IQAC office of the Faculty. The Faculty coordinator explained the actions taken by the centre to enhance the quality and relevance of the study programmes with the guidance of the Director/CQA of the University.

The team also met the Director/ CGU at the CGU office and discussed the annual plan of the Career Guidance activities and the annual financial allocation for the CGU. It was noted that the allocation for CGU activities was inadequate and no funds were allocated for OBT activities for the students. Subsequently a meeting was held with the Director/SDC and it was revealed that the SDC organized many activities dedicated to academic and non-academic staff to enhance the quality of teaching, and research as well as the smooth functioning of administrative activities.

The team then went around the university premises and observed the facilities available in lecture halls, laboratories, IT, and the support centre for persons with disabilities. Thereafter, the team visited the DELT and met the Head and teaching staff of the Department. They explained the measures taken by the Department to enhance the English language skills of the students.

The team then got an opportunity to meet the students and had a very cordial meeting with the student representatives from different batches. After the purpose of the visit was explained, they expressed their views freely and in a constructive manner. They specially stated the curriculum should be more practical- oriented and the current two months of industrial training is not adequate. Students also complained about the quality of the meals in student canteens and the current prices are beyond affordable for many of the students. They also expressed that the facilities available for sports activities were also not adequate and there is no permanent Director and adequate permanent instructors in the Physical Education Unit.

The team also visited the library and observed the facilities available for the students. It is observed that very limited space is available in the current library, but the new library building is under construction. The team also visited the Self Access Learning Centre which facilitates the students for their self- learning activities and the Manuscript Centre for final year students who are carrying out their research. Also had a discussion with the Director, UBL cell and she explained the future plan and initiatives for commercialization of innovations of the staff and the students.

The team then met the administrative executives including the SAR of the Faculty, DR of the students and welfare division, and Marshall of the University, and discussed the administrative procedures, student accommodation, and other welfare facilities, controlling ragging, etc and they explained the measures taken so far. The team also visited the IT Centre and server room. It was found that the Faculty maintained an up-to-date website and the LMS was also functioning well except for a few course units.

Finally, the team visited the student hostels located around 1km distance from the university premises. The team was aware that the University only provided accommodation for first and final year students and it was observed that the facilities needed to be improved in the hostels.

Section 4: Overview of the Faculty Approaches to Quality and Standards

The Faculty's approach to quality and standards is highly satisfactory. The Faculty has taken many steps to enhance the quality of the teaching and learning process of the students. The Dean of the Faculty is highly concerned about this.

Further, the Internal Quality Assurance Cell (IQAC) of the Faculty of Applied Science has been established under the Centre for Quality Assurance (CQA) of the University, for internalising the quality aspects of teaching and learning. Functions of the IQAC are coordinated by a senior academic with some academic members of the Faculty and it is provided with the required facilities for functioning. The IQAC conducts regular meetings with the relevant authorities of the Faculty to discuss quality-related matters of the Faculty. The Director participates in the Faculty meeting representing the CQA and they discuss quality-related matters at the Faculty.

The CQA of University of Vavuniya, which is responsible for the quality assurance of the University was established strictly in adherence to the Internal Quality Assurance Manual (2013) of the UGC and the IQA circular of 4/2015. The CQA is managed by the Director and its administrative and financial controls are managed by a Management Committee chaired by the Vice Chancellor.

There are many well-established centres at the University and the Faculty ensures the program quality. The Faculty's commitment to quality enhancement and excellence is noteworthy, and the quality assurance can be adjudged as highly satisfactory.

Section 5: Judgement on the Eight Criteria of Programme Review

Criterion 1: Programme Management

Scope:

The following aspects directly related to study programme management were assessed during the review: organisational structure, governance and management procedures; Strategic/Action Plan and implementation; management capacity and procedures; by-laws relating to examinations, disciplinary procedures, student unions; duty lists and Codes of Conduct for staff and Charter for students; curriculum development and internal quality assurance mechanism and procedures; curricula revision process, and adherence to national guidelines/reference points; teaching and learning and assessment procedures; adherence to Outcome-Based Education- Student-Centered Learning (OBE-SCL) approach in education provision; academic counselling, student counselling, welfare mechanisms and procedures; national and international partnerships and national and international visibility; provisions for accommodating and assisting students with special needs; measures to promote gender equity and equality, by-laws to deter any sexual and gender-based harassment; and measures and strategies to adopt the policy of zero-tolerance to ragging.

Of the 27 standards of Criterion 1 (Programme Management), 05 standards were given a score of 3 each, 20 standards scored 2, and 2 standards scored 1. In total, Criterion 1 has achieved a raw criterion-wise score of 57 out of 81 and therefore, the calculated actual criterion-wise score is 106. The strengths and weaknesses of the Programme Management (Criterion 1) are summarised below.

Strengths

- The Faculty has an organisational structure adequate to facilitate its management and implementation of core functions; teaching and learning, program design and development, and student support.
- The Action Plan of the Faculty is up to date, well implemented, and in alignment with the University's Strategic Plan.
- Required information is readily available for new students through the student guide/handbook at the beginning of the programme
- The standard management procedures that the Faculty adopts which are in line with Standard Operational Procedures (SoPs), are satisfactory.

- The Faculty ensures greater transparency, teamwork, participation, and a high level of commitment.
- The Faculty runs programmes on the annual academic calendar
- The University offers an induction program for all new students to facilitate students' transition from school to university
- The Faculty has established a Faculty Quality Assurance Cell in 2017 with well-defined functions and operational procedures
- The Faculty/Institute adopts a clear policy and procedure for programme approval and implementation so that students can complete their education without any disruption
- Facilities for cultural and aesthetic activities have continued since 2000 and facilities have gradually developed within the university premises
- There are appointed mentors and adequate student counselors for the study program
- The Faculty adheres to well-developed by-laws (matters pertinent to examinations, student discipline, and policies for effective programme management)
- The Faculty has an up-to-date website with all the necessary information
- The staff and students use LMS at a satisfactory level
- The required training for staff of the Faculty has been identified and delivered by the SDC.
- The curriculum is in line with SLQF and SBSs

Weaknesses

- Continuous monitoring of the teaching and learning process is done only through student feedback which includes questions to assess lecturers' performances. However, no evidence was available for monitoring the implementation of the feedback
- The Faculty does not have a comprehensive system in place for identifying performance and rewarding staff
- Lack of participatory approach in the Faculty's governance and management
- Standard facilities for sports activities should be further improved within the university premises.
- The best mechanism for evaluating in-plant-training needs to be improved with more credit weightage.
- The Faculty currently lacks a Management Information System (MIS).
- Although the Faculty ensures gender equity and equality (GEE), a mechanism should be developed to deliver the best services to all categories of staff and students.

- The Faculty has well-written policies to prevent ragging. However, such policies should be thoroughly implemented and actions taken be well documented.

Criterion 2: Human and Physical Resources

Scope

The following aspects are reviewed and assessed under this criterion - staff cadre and adequacy, human resources profile, competency profile of academic staff; staff capacity building programs, staff appraisal, and reward mechanisms; adequacy of teaching and learning facilities; training and learning resource centers for learning English as a second language; ICT resources for academic pursuits, library resources, and career guidance services; and institutional mechanism and facilities for promotion of social harmony and ethnic cohesion.

Of the 12 standards of Criterion 2 (Human and Physical Resources), 2 standards were given a score of 3 and 10 standards have scored 2. In total, Criterion 2 has achieved a raw criterion-wise score of 26 out of 36 and therefore, the calculated actual criterion-wise score is 72. The strengths and weaknesses of the Human and Physical Resources (Criterion 2) are summarized below.

Strengths

- Library is available within the faculty premises with limited space. However, a new library building is under construction.
- All the students in the study programme are given an equal opportunity to gain access to cultural and aesthetic activities.
- Motivated and well-qualified academic staff is available for core subject areas for the design, development and delivery of academic programme (s) and courses
- A sufficient number of lecture halls and spacious laboratories are available to cater to the current student population
- A Department of English Language Teaching (DELT) unit located on the faculty premises, with adequate staff and resources
- A Medical Center for the well-being of the university community with a Medical officer

Weaknesses

- Adequate training on Student-Centered Learning/OBE, should be provided for the academic staff through SDC in a regular manner. Integration of the outcome of such training into the curriculum should be implemented and monitored regularly.

Criterion 3: Programme Design and Development

Scope

A program of study is defined as a stand-alone approved curriculum followed by a student, which contributes to a qualification of a degree awarding body. Where a programme is made up of more than one self-contained, formally structured unit, those are referred to as courses/modules.

The academic Programme of study should reflect University, Faculty, and Department mission, goals, and objectives. It should be offered according to needs analysis based on an audit of existing courses and programs, market research, liaison with industry, national and regional priorities, and according to approved procedures. Subject Benchmark Statements (SBS) and requirements of professional bodies act as valuable guides/external reference points when formulating a structure and content of a new degree programme. The curriculum is outcome driven and equips students with knowledge, skills, and attitudes to succeed in the world of work and for lifelong learning.

Programme design is initiated by describing the graduate outcomes of the programme followed by a clear mapping of course/module outcomes to the programme outcomes. Learning outcomes are developed and described with reference to a particular level of study based on (in compliance with) the Sri Lanka Qualification Framework (SLQF). All programme outcomes should be clearly aligned with course outcomes, content, teaching/learning, and assessment strategies (constructive alignment). Programmes should seek to engage students in a variety of learning activities that would encourage diversity, flexibility, accessibility, and autonomy of learning, and produce compatibility between curriculum, student-centred teaching methods, and assessment procedures. Essentially the final curriculum is an interaction between learning outcomes, methods of assessment, teaching methods, and content.

Good Practice is to consider not only the curriculum areas of study but also the intellectual, practical, and transferable skills that should be developed and assessed at each level using the

level descriptors in the SLQF to establish a standard for each level of study. There should be an effective process for regular monitoring and review of the design, development, and approval of programmes of the 24 standards of Criterion 3 (Programme Design and Development), 5 standards were given a score of 3, 18 standards have scored 2 and 1 standard a score of 1. In total, Criterion 3 has achieved a raw criterion-wise score of 52 out of 72 and therefore, the calculated actual criterion-wise score is 108. The strengths and weaknesses of the Programme Design and Development (Criterion 3) are summarized below.

Strengths

- This study program is designed to provide theoretical knowledge, practical skills, problem-solving and creative thinking skills to the undergraduates.
- The study programme provides a one-semester research project, a short-term industry exposure programme and field visits for the students.
- Curriculum revision has been undertaken in regular intervals of 5-6 years and the recent Curriculum Revision was done in 2019 by incorporating SLQF – 2015
- The curriculum has been developed by getting the views of internal and external experts, and alumni
- The ILOs of the course units are realistic, deliverable, and feasible and are mapped to PLOs and the Graduate Profile.
- Clear evidence is available for stakeholder participation in programme planning, design, and development, as well as for programme evaluation.
- In many course units, the practical part is incorporated as a component of the theory portion.
- The IQAC is established in the Faculty, and it operates in alignment with the CQA.
- The IQAC conducts regular meetings with the members to discuss quality aspects and conducts student feedback and satisfaction surveys.
- Student progress and success rates, students' satisfaction/students' feedback, and employability rate of the programme are high.
- The student handbook includes all the information required by students.

Weaknesses

- PLOs have not been included in the handbook for the study programme.
- English language courses are offered only at Levels 1 and 2 but not offered at Levels 3 and 4 as elective courses.

- The study programme provides both a one-semester research project and a two-month exposure to the industry during the second semester. Students struggle to complete both tasks in one semester.
- No guidelines are available for differently-abled students in course design, delivery, and assessment.
- Internal monitoring strategies to collect student feedback and peer review by IQAC to evaluate and improve courses need further improvement.
- Even though the course blueprint mapping is there, constructive alignment of ILOs is not observed.
- Lack of mechanism in monitoring outcomes of the programme.
- Strategies to implement Outcome-Based Education (OBE) and SCL have been implemented to a certain level in the curriculum. However, there are no guidebooks on OBE and SCL made by the CQA.

Criterion 4: Course / Module Design and Development

Scope

Courses are components of a programme of study offered in consistence with the programme objectives to culminate in student attainment of ILOs of the respective course. Courses are designed according to approved policies and procedures of the Senate. The course curriculum is an interaction between aims and objectives, learning outcomes, content, teaching methods, and methods of assessment. Course design also takes into account the needs of differently abled students, wherever applicable. Courses have clear course specifications that are accessible to students. Course credits conform to the guidelines prescribed in the SLQF. The Department strives to improve courses to enhance learning outcomes and achievements of students through regular monitoring and review processes.

Of the 19 standards of Criterion 4 (Course/Module Design and Development), 14 standards were given a score of 2, and 5 standards scored 3. In total, Criterion 4 has achieved a raw criterion-wise score of 43 out of 57 and therefore, the calculated actual criterion-wise score is 113. The strengths and weaknesses of the Course/Module Design and Development (Criterion 4) are summarized below.

Strengths

- Curriculum revision has been undertaken with the participation of external and internal experts.

- Well-designed university approved guidelines for course design and development are used.
- The course learning outcomes are mapped to the programme learning outcomes and the graduate profile.
- The SLQF and SBS have been used in course design and development.
- Handbooks are in place and students can access them online.
- Course specifications are communicated to students at the beginning of each semester and it is available on the Faculty website.
- IQAC was formed in 2017 and engages in a variety of activities to improve quality.
- Course delivery incorporates modern technology and teaching learning strategies to a satisfactory level
- The Department gets the service of internal and external examiners in assessment, and second marking has been practiced.
- Sufficient evidence is available for the use of student feedback and peer evaluation for the improvement of course assessment and evaluation.
- collaborative, creative, and interpersonal communication and teamwork aspects of learning are well addressed.
- Multi-disciplinary courses have been introduced to the curriculum to promote soft skills among the students.
- A wide range of assessments are in place for self-directed learning and collaborative learning

Weaknesses

- Curriculum planning documents and course proposal forms/ course approval policy approved by the Curriculum Revision Committee but not the Curriculum Development Committee (CDC).
- Student-centered learning is not incorporated adequately into the courses, to get students actively involved in the learning process.
- PLOs are mapped with the graduate profile but, not with SLQF learning outcomes.
- PLOs are not included in the student handbook.
- Minutes of the CDC are not maintained or not available.
- Lack of professional accreditation for the programme.

Criterion 5: Teaching and Learning

Scope

Teaching and learning are inherently intertwined, and this necessitates a holistic approach. The goal of quality teaching-learning is to improve the quality of the learning experience of students that would enable them to achieve the intended learning outcomes. The teaching and learning process should be student-centered in keeping with outcome-based education (OBE). The choice of different teaching methods may even be of greater significance to what students learn than the content that is being taught. Faculty should match students' needs with multiple learning opportunities using teaching techniques to engage students actively in the learning process. This would ensure that students are successfully equipped with the knowledge, skills, attitudes, and values required after they exit. Teaching learning strategies, assessments, and learning outcomes are closely aligned so that they reinforce one another. Quality teaching is informed by feedback loops that provide measures of success and proactive measures to overcome difficulties that are identified.

Of the 19 standards of Criterion 5 (Teaching and Learning), 8 standards were given a score of 3; 10 standards scored 2 and 1 standard scored 1. In total, Criterion 5 has achieved a raw criterion-wise score of 45 out of 57 and therefore, the calculated actual criterion-wise score is 118. The strengths and weaknesses of Teaching and Learning (Criterion 5) are summarized below.

Strengths

- The teaching and learning processes of the Faculty were based on its mission, goals, and curriculum requirements
- The Faculty has provided course specifications and timetables before the commencement of the academic semester
- The Faculty adopts effective and innovative teaching-learning practices
- The Faculty used different strategies for blended learning, such as seminar presentations, group-based activities, field visits, case studies, etc. to enhance the student's involvement in learning, via the LMS.
- To some extent teachers integrate appropriate research and scholarly activities into their teaching
- Course specifications are available for most of the courses

- The CGU facilitates the enhancement of soft skills of students by conducting different programmes
- The Faculty has recently adopted a policy on GEE and Male/female students are treated equally giving equal opportunities.
- There are adequate elective course units providing flexibility in the selection of the courses

Weaknesses

- Teachers did not adequately integrate research outcomes in teaching and learning
- Final year students are not adequately exposed to diverse areas of industry for their research
- Staff work norms and workload were not properly calculated and monitored
- Lack of defined policy/set of criteria for excellence in teaching to evaluate the performance of teachers
- Evidence on student feedback and peer observation is provided only for some of the course units, and no follow-up actions were evident.
- Peer evaluation of academic staff and follow-up action is not adequate.
- Incorporation of student feedback in curriculum revision is recommended
- In some instances, external examiner reports/follow up actions are lacking

Criterion 6: Learning Environment, Student Support, and Progression

Scope

Learner support services address the identified needs of students and enhance a supportive learning environment aimed at student success in higher education. The learner journey from pre-entry to alumnus is characterized by a concern for student access, learning, progress, and success in achieving the programme outcomes. Policies and strategies are in place relating to a range of services that help all students to develop, reflect on, and articulate the skills and attributes they gain through their co-curricular experience. Student support services are systematically assessed using student learning outcomes, faculty and staff input, and other appropriate measures in order to improve the effectiveness of these services. The faculty facilitates the use of technological innovations in the educational transaction to enrich the learning experiences it provides to students and staff. Students are supported adequately by the provision of a range of opportunities for tutoring, mentoring, counselling, and stimulation of peer support structures to facilitate their holistic progression. The Department provides

adequate support for SCL and OBE of the 24 standards of Criterion 6(Learning Environment, Student Support and Progression), 8 standards were given a score of 3, 14 standards scored 2 and 2 standards scored 1. In total, Criterion 6 has achieved a raw criterion-wise score of 54 out of 72 and therefore, the calculated actual criterion-wise score is 75. The strengths and weaknesses of the Learning Environment, Student Support, and Progression (Criterion 6) are summarized below.

Strengths

- The Faculty adopts a student-friendly administrative, academic, and technical support system creating a conducive environment for teaching and learning
- All new students are provided with an induction programme
- The Faculty provides an effective learning environment through multimedia, whiteboard, computer laboratories, and there is a self-access learning center.
- Students' support services are functioning properly.
- The LMS system is effectively functioning except for a few courses
- Regular training programmes on ICT and library services are available to staff and students through SDC and CGU
- The Faculty facilitates academic interactions between peer helpers/ mentors, senior guides, and students
- Students are encouraged in co-curricular activities: sports, aesthetics, cultural, etc
- Strong interaction between students and the staff
- Complaints and grievances are facilitated via a suggestion box and timely action is taken
- Student grievances are addressed to some degree

Weaknesses

- A well-functioning student help desk is not available
- The 2 month industrial training period is not sufficient
- Meetings with student-oriented societies should be increased and well-coordinated
- Obtaining evidence of follow -up and student feedback must be made more regular.
- There is no formally established faculty Alumni Association. Some programmes are conducted in an ad-hoc manner
- Poor records on accurate figures on graduate employability. No regular surveys on graduate employability and feedback
- Interaction between students and student counselors should be enhanced
- Training for students' counselors is not adequate

Criterion 7: Student Assessment and Awards

Scope

Assessment of student learning has a central role in both programme design and in the learning environment of the student. Good practices in assessment involve policies and procedures relating to standards of performance as prescribed in the SLQF. Rigorous assessment procedures are a principal resource for the maintenance of standards.

Assessment is used as a tool to promote learning and support the academic development of students. Faculty involved in assessment need to ensure that assessment strategies are linked to the ILOs and that their assessment practices are fair, valid, reliable, and feasible with provision for regular and prompt feedback on student progress.

Information about assessment, including ILOs, assessment strategies, processes, methods and schedule of assessment tasks, and criteria for assessment is published in print and online and communicated to all students. The Department ensures that University's Regulations, Rules, By-laws, and guidance on assessment procedures are explicit, and consistent while ensuring confidentiality and integrity. Mechanisms are operated to monitor and review Faculty's academic provision in relation to assessment.

As the key findings of the review process, the following strengths and weaknesses were identified as special points in the study programme.

of the 17 standards of Criterion 7 (Student Assessment and Awards), 5 standards were given a score of 3 and 12 standards have scored 2. In total, Criterion 7 has achieved a raw criterion-wise score of 39 out of 51 and therefore, the calculated actual criterion-wise score is 115. The strengths and weaknesses of the Student Assessment and Awards (Criterion 7) are summarized below.

Strengths

- Marking schemes are prepared for the evaluation process and are used for both internal and external assessments.
- All information relating to the results is entered so they can be retrieved easily for decision-making.
- Infrastructure facilities were available to a certain extent to entertain the differently abled students in the Faculty, though such students have not been enrolled so far in the degree programme.

- There was a confidential result processing and saving system at the examination unit.
- Adequately descriptive transcripts were made available for the students after graduation.
- Detailed assessment strategies are stated in the course contents, so students are made aware of the types of assessments used in each course unit.

Weaknesses

- Feedback on the results of the assessment, particularly on continuous assessment, is not conducted regularly.
- The feedback on course evaluation and teaching and learning activities is not regularly used for improvement of teaching.

Criterion 8: Innovative and Healthy Practices

Scope

The Department's policy and strategy for promoting and fostering innovative and healthy practices and the extent of use of such practices are assessed. Innovative and Healthy practices are considered as practices that would lead to the enhancement of the quality of training and learning experience and the students' outlook: use of ICT-platform to facilitate multi-mode delivery and student-centered learning; use of Open Educational Resources (OER) to complement undergraduate teaching; institutional mechanism to promote faculty engagement in research, innovation and postgraduate research, and its contribution to enhance quality of undergraduate training; performance appraisal system and reward mechanisms for staff, international collaborations and exchange of students and staff; student participation in co-curricular activities and institutional national level competition in sports, aesthetic activities and innovations; faculty-industry linkages and use of work-based and industry placement as a part of learning for undergraduates; adoption of policy and practice of credit transfer mechanism; strategies adopted for maintaining academic standards of the study programme; organizational arrangement to promote community and industry engagement/social mobilization programmes, and income generation initiatives to diversify sources of funds.

Of the 14 standards of Criterion 8 (Innovative and Healthy Practices); 9 standards have scored 2 and 5 standards have scored 1. In total, Criterion 8 has achieved a raw criterion-wise score of 23 out of 42 and therefore, the calculated actual criterion-wise score is 27. The strengths and weaknesses of the Innovative and Healthy Practices (Criterion 8) are summarized below.

Strengths

- The curriculum includes a research project of 6 credits
- On some occasions, undergraduate research findings are published in journals and conference proceedings
- The Faculty encourages the conduct of co-curricular activities- social, cultural, and aesthetic through the student union, student societies, etc
- The LMS is utilized by both students and staff for their teaching-learning process as well as for assessments
- Research is facilitated by giving research grants, having annual research sessions, and international conferences.

Weaknesses

- No progression on introducing self-financing external/postgraduate programmes
- The mechanism for the use of generated funds was not available
- Do not have a well-defined credit transfer policy
- Encouragement for students to attend various competitions is not adequate.
- The research culture of the faculty is not at an acceptable level
- Annual research excellence award scheme is prepared for staff. However, this has not been implemented during the period under review
- No clear guidelines/policy approved by the Senate and the UGC for the fallback option as per the evidence given. It seems the prospectus provides evidence of an early exit procedure.

Section 6: Grading of overall performance

Table 6.1: Assessment Criteria and Scores

ID	Criteria	Score	Maximum Score	Review Completed	Weighted minimum score	Weightage	Actual score
1	Programme Management	57	81	27/27	75	150	106
2	Human and Physical Resources	26	36	12/12	50	100	72
3	Programme Design and Development	52	72	24/24	75	150	108
4	Course/Module Design and Development	43	57	19/19	75	150	113
5	Teaching and Learning	45	57	19/19	75	150	118
6	Learning Environment, Student Support and Progression	54	72	24/24	50	100	75
7	Student Assessment and Awards	39	51	17/17	75	150	115
8	Innovative and Healthy Practices	23	42	14/14	25	50	27
Total on a thousand scale							734
%							73.4

B

Good

As shown above, each of the 8 criteria scored more than the minimum weighted score. However, the review team felt that Criterion 8 was the weakest among all. The overall percentage value scored was 73.4%

Therefore, a grade of **B (Good)** is assigned to this programme.

Section 7: Commendations and Recommendations

The review team commends the Faculty for the comprehensively compiled SER, and the preparation for the review process was notable. The majority of documents cited in the SER could be traced.

Commendations:

- The curriculum revision that the Faculty has followed is substantial, following the recommendations of the first review done in 2008.
- Students benefit as the feedback of continuous assessments is delivered to them on time on certain occasions.
- The FAS ensures greater transparency and unified teamwork in its management and activities while exhibiting a high level of commitment.
- Teaching strategies were found to be in harmony with the Mission and Action Plan of the FAS. Course modules and time schedules are communicated to students before the commencement of the academic activities of the semester.
- The student handbook gives comprehensive coverage of courses offered, examination procedures and grading mechanisms, award schemes, graduating requirements and supporting services.
- The program aligns satisfactorily with the mission, goals, and objectives of the university, as well as the expectations of the stakeholders. The course ILOs are realistic, deliverable, and feasible, and they match the program ILOs.
- Teachers practice multifaceted teaching, assisting students to acquire knowledge and sharpen practical skills. Soft skills are embedded in many courses, facilitating early employment.
- Satisfactory-level usage of LMS and ICT prevails among the students and the staff, enhancing avenues for their career development.
- The content, appropriateness, and effectiveness of teaching and student learning outcomes are measured through student feedback and peer evaluation. The feedback taken from students for course evaluation and teaching and learning activities, even though not done regularly, is analyzed and communicated to the respective staff concerned with the improvement of the degree program.
- Many training programs are conducted by the SDC for both academic and non-academic staff.
- Ragging is kept under control to a certain extent by the joint efforts of academic staff, student counselors, mentors, and the Marshal.

- Multicultural programs are conducted to promote social harmony and ethnic and cultural cohesion among students.
- Initiation of the Harmony Centre for all ethnic categories of student functions and ceremonies.
- Well established Self Learning Centre, Computer Assisted Language Laboratory, and CALL Laboratory of DELT, facilitate student self-learning.
- The University Business Link (UBL) encourages student and staff research on mushroom cultures and apiculture etc.
- Smooth functioning of CGU, GEE centre, and subject societies with well-organized activities.
- Cordial personal relationships among students and staff lead to coherence in the campus community assuring higher productivity and uninterrupted, smooth functioning of academic activities.
- The university now has ownership of 160 acres of land.

Recommendations:

- Establish a Curriculum Development Committee (CDC).
- Regular follow-up actions are necessary for student course evaluation and, teacher evaluation for further improvement.
- The Industrial Training component requires an extended period of time worth at least 2 credits. A University Industrial Centre is recommended.
- Introduce a Senate and UGC approved fallback option in the degree programme for students who are unable to complete the degree in the given time period.
- Alumni interactions and their support are informal and at a personal level only. An Alumni Association should be established, constitutions formulated and its interaction with the FAS should be strengthened.
- A credit transfer procedure should be adopted by the Faculty/University
- MoUs could be signed both with local institutes and foreign universities.
- Work norm calculation and reporting must be formularized.
- Implementation of the existing academic staff excellence awarding system is proposed.

Section 8: Summary

The final assessment is based on the guidelines given on pages 80-81 of the Manual for Review of Study Programs. The Faculty's commitment to quality enhancement and excellence is satisfactory and the quality assurance can be adjudged highly satisfactory.

The review team's assessment of the level of accomplishment of quality expected of an academic programme based on the grading of overall performance is indicated in the Table in Section 6, which provides detailed information on the calculation of the grade.

According to the table in Section 6, each of the 8 criteria did score more than the minimum weighted score. However, it was noted that criterion 8 scored the lowest among the 8 criteria. The overall percentage value scored was 73.4%.

Therefore, a grade of **B (Good)** is assigned to this programme.