



Programme Review Report



Cluster of Study Programmes

Bachelor of Science Honours in Microbiology

Bachelor of Science Honours in Molecular Biology and Plant Biotechnology

&

Bachelor of Science Honours in Zoology

Faculty of Science

University of Kelaniya, Sri Lanka

Site Visit Dates: 16th & 17th December 2024



Review Panel: Prof. RGSC Rajapakse(Chair)

Prof. Chamalie Nahallage

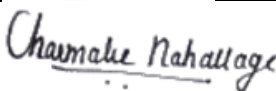
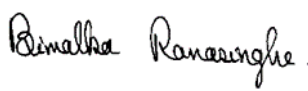
Dr. RMSBK Ranasinghe

Prof. SR Weerakoon

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

University : University of Kelaniya, Sri Lanka
Faculty : Faculty of Science
Programmes : Bachelor of Science Honours in Microbiology
Bachelor of Science Honours in Molecular Biology and Plant Biotechnology
Bachelor of Science Honours in Zoology

Review Panel:

Name	Signature
Prof. RGSC Rajapakse (Chair)	
Prof. Charmalie Nahallage	
Dr. RMSBK Ranasinghe	
Prof. SR Weerakoon	

Date: 2025-01-31

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Section 1: Introduction to the Programme

The University of Kelaniya was established in 1959 under the provision of the Vidyodaya and Vidyalankara University Act No. 45 of 1958. One of the faculties planned to be established at that time was the Faculty of Science (FoS) in Dalugama premises with two academic departments, namely the departments of Mathematics and Geography. Although these two departments were established in 1959, during the period 1959 – 1962, a Dean was not appointed to the Faculty of Science and students were also not enrolled. In October 1967, the Faculty of Science (FoS) was re-established with six academic departments, viz., Departments of Botany, Chemistry, Industrial Management, Mathematics, Physics and Zoology. Two more academic departments viz, Department of Microbiology and Department of Statistics and Computer Science were established in 1990 and 1999 respectively to strengthen the process of producing graduates to cater to the national needs. A Software Engineering Teaching unit was established in 2018. Hence, as at present, FoS comprises of eight Departments of Study and a Teaching Unit. [SER, UoK (2020)].

Honours degree programmes initiation

The first batch of 57 students was admitted in 1967 to follow the three-year Bachelor of Science (General) Degree Programme (BSc General) under two study streams, viz. Physical Science (PS) and Biological Science (BS). The first BSc (Special) degree of four-year duration (2 year + 2 year) in BS stream commenced in 1974 with BSc (Special) degree in Zoology and later special degrees were commenced by other Departments/disciplines. [SER, UoK (2020)].

Table 1.1: Number of students enrolled in Honours degree programmes/Faculty by 2020 – Break down in years:

Year	Academic Year	BSc Honours in Microbiology	BSc Honours in Zoology	BSc Honours in Molecular Biology and Plant Biotechnology	Total
2020	2018/19	07	07	04	18
2019	2017/18	08	07	04	19
2018	2016/17	07	08	04	19
2017	2015/16	07	10	04	21
2016	2014/15	07	10	03	20

Source: FQAC Head (2024)

Table 1.2: Numbers graduated from the programme over the past five years:

Year	BSc Honours in Microbiology	BSc Honours in Zoology	BSc Honours in Molecular Biology and Plant Biotechnology	Total
2020	08	07	04	19
2019	06	08	04	18
2018	07	10	04	21
2017	07	10	03	20
2016	07	10	03	20

Source: FQAC Head (2024)

The FOS/UoK submitted the SER in June 2020 and the proper review was conducted only in 2024 (documentary evidence and site visit) due to covid pandemic and the situation in the country. The review team observed while carrying out the review that many improvements have been initiated after submission of the SER, perhaps matters identified during the process of writing the SER. It is commendable that such actions are being taken to overcome the drawbacks or gaps identified. Thus, as advised by the Director QAC/UGC the reviewers took into consideration the evidence provided during the site visit up to November 2024 for this review round.

Note: The term faculty is used in referring to cluster B3 for ease of use in this report unless specifically referring to a department offering honours degree in the cluster.

Section 2: Observations on the Self-Evaluation Report (SER)

The SER has been prepared according to the guidelines given in the 2015 Manual for Review of Undergraduate Study Programmes of Sri Lankan Universities and Higher Education Institutions. Formal SER working group Leaders/members were appointed at the 359th Faculty Board of Science (FBS) held on 08.05.2019 to write one SER for BSc and Environmental Conservation and Management degree programmes as a cluster programme review and terms of reference (TOR) were approved. However, FBS later decided at its 366th meeting held on 13.12.2019 to write a separate SER for “**BSc and BSc Honours degree programmes (Biological Science)**” as one cluster, hence a steering committee was appointed; working group members were re-appointed to serve in the working committee, and team leaders for each of the criterion in the PR Manual remained unchanged.

Eight teams representing academic, administrative, academic supporting, non-academic staff members had been formulated. TOR had been developed for the SER writing team. Each team was responsible for preparing the tables based on the criteria, standards and collecting sources of evidence. IQAC and AR/Science supported the process to prepare the SER.

All the eight group leaders had been nominated by the Faculty Board to participate in the SER writing workshop, which was held in Colombo on November 26, 2019. The members, after the workshop at Colombo, thoroughly studies the Manual for Review of Undergraduate Study Programmes in Sri Lankan Universities and Higher Education Institutions by UGC (December 2015) in order to analyze and interpret the claims. The leader of the working groups together with the group members compiled the information related to respective criterion. The evidence has been presented alongside the standards and criteria in the appendix of the SER. SER team members were aware of the interpretations and discussions on the assigned criterion.

The complied draft SER was overviewed, corrected and edited by several senior academics of the faculty. Their comments were incorporated. Finalized SER was submitted to UGC with the approval of the Dean/FoS.

Documentations

The data collecting for each criterion had been done by the members of the group. The FoS has adequate human resources equipped with required competencies for design, development and produce SER on the stipulated time.

Section 3: Description of the Review Process

The arrangements have been made by the University Grants Commission (UGC) to review programmes of studies in the Sri Lankan Universities and the Higher Education Institutions under the Quality Assurance Framework of the UGC, and the University or Higher Education Institution can apply for reviewing the respective programme/s. The QAC of the UGC in agreement with the authorities of the programme of study to be reviewed, decides on a review team as well as a schedule for the review. The Faculty of Science of the University of Kelaniya requested to review the cluster programme which includes the three-degree programmes: Bachelor of Science Honours in Microbiology, Molecular Biology & Plant Biotechnology and Zoology.

The UGC appointed the following review team consisting of four members based on their expertise:

1. Prof. RGSC Rajapakse, University of Peradeniya – Review Chair
2. Prof. C. Nahallage, University of Sri Jayewardenepura – Member
3. Dr. RMSBK Ranasinghe- University of Peradeniya-Member
4. Prof. SR Weerakoon- Open University of Sri Lanka-Member

The QAC of the UGC sent the link to access the SER prepared by the Faculty of Science UoK and the evidence documents related to Cluster B to Review Panel members. The Clustered Programme review included the BSc Honours Degree in Microbiology, BSc Honours Degree in Molecular Biology & Plant Biotechnology and BSc Honours Degree in Zoology. Review panel members conducted the initial desk evaluation independently. The team members met on 15th December 2024 before the site visit and discussed the desk evaluation reports of each member and came into an agreement on a common grading to be finalized after completion of the site visit. Before the site visit, the review team identified individuals as well as groups they wished to meet during the site visit. Having completed this task, the review team divided the eight broad sections of Programme Review Report (PRR) to finish the work efficiently and effectively and allocated the tasks for each member of the team.

However, some challenges arose in reviewing evidence. Certain scanned documents were of poor quality, making it difficult to assess their content effectively. Additionally, some key pieces of evidence were initially unavailable. The faculty responded to the review team's requests by providing the missing evidence, which was subsequently considered during the scoring process.

Although the Self-Evaluation Report (SER) was submitted in 2020, the site visit was delayed

until December 16, 2024, due to disruptions caused by the COVID-19 pandemic and subsequent economic and political crises in the country.

The team stayed at Pegasus Reef Hotel, Wattala, on 15th December 2024. On the 1st day, at 8.00 am on 16th December, the review team met the Vice Chancellor, at the Office of the Vice Chancellor in the presence of Prof. LD Amarasinghe, IQAC Coordinator of the Faculty of Science. The Vice Chancellor briefed the standard, quality and quality assurance programme of the University and the recent developments and programmes conducted by university in general and Faculty of Science, in particular.

Later, the team met with the Dean of the faculty of Science, Heads of relevant Departments, Quality Assurance (QA) Coordinator of the faculty, academic staff, members of the SER team, the Librarian, the Head of the Department of English Language Teaching (DELT), Alumni and Postgraduate students, and the Directors of the ICT center, Career Guidance Unit (CGU), Chief Medical officer of the University, and the Gender Equity and Equality Centre. The team also met with academic support staff, temporary staff, administrative and non-academic staff, and students from the three disciplines.

In addition to these meetings, the team inspected key facilities such as lecture rooms, computer laboratories, cafeterias, the university medical center, the physical education unit, the career guidance unit, student hostels, the Proctor's Office, the student counseling unit, the university business link office, National Glass blowing center, Central Equipment lab, and the staff development unit. These observations allowed the team to assess the quality of infrastructure and services provided by the institution. The review agenda is detailed in Annexure 1.

All documentary evidence listed in the SER was thoroughly examined before and during the site visit. To verify specific processes and practices, the faculty helped in providing details.

The review team commended the organization and coordination of the review process, particularly the meticulous arrangements made for the site visit.

Based on the evidence reviewed, facilities observed, and observations of lectures and practical sessions, marks were awarded for the standards under the following eight criteria:

1. Programme Management
2. Human and Physical Resources
3. Programme Design and Development
4. Course Module Design and Development
5. Teaching and Learning
6. Learning Environment, Student Support, and Progression

7. Student Assessment and Awards
8. Innovative and Healthy Practices

The entire process adhered to the guidelines outlined in the Manual for Review of Undergraduate Study Programmes of Sri Lankan Universities and Higher Education Institutions.

At the end of the second day, the review panel met and discussed key findings of the programme in FQAC office. Finally, a wrap-up meeting was held with the Dean of the Faculty, Heads of the relevant Departments, and academic staff members of the faculty. The Chair of the Review Team informed the commendations of the programmes and recommendations based on the review and the other panel members provided more comments based on the evidence observed on respective criteria of the review manual. After the site visit the key findings and the final report were submitted to the QAC of the UGC.

Section 4: Overview of the Faculty's Approach to Quality and Standards

The University of Kelaniya Sri Lanka (UoK), has a well-established Center for Quality Assurance (CQA), headed by Prof. C. Pathirawasam, a senior academic staff member of the university, serving as its part-time Director. The CQA is tasked with leading and overseeing the quality assurance (QA) activities of UoK. Administrative support for the CQA is provided by the Senate Standing Committee on Quality Assurance. Each faculty at the university has also established a Faculty Quality Assurance Cell (FQAC), led by a designated coordinator, to manage and guide the quality assurance activities specific to its faculty.

The Director of the CQA collaborates with the University Grants Commission (UGC) through the Quality Assurance Council (QAC) and serves as a member of the UGC Standing Committee on Quality Assurance.

The Vice-Chancellor and the Dean of the Faculty of Science at UoK demonstrate a strong commitment to enhancing the quality of all aspects of the university. The initiatives undertaken at the institutional level are commendable. The Director of the CQA has implemented numerous steps to enhance the quality of university processes, practices, and study programmes. Terms of Reference for the Coordinating Committee of FQACs, as well as the Duties and Responsibilities of the FQAC Coordinators, have been prepared by the CQA and are accessible on the CQA website at (<https://units.kln.ac.lk/qac/>).

Professor LD Amarasinghe currently serves as the Coordinator of the Faculty Quality Assurance Cell for the Faculty of Science at UoK and has actively contributed to curriculum-related activities within the faculty.

It is recommended that the Faculty of Science strengthens its FQAC to ensure its guidance and influence are effectively extended to its three departments, as well as to academic and non-academic staff and students. This will help the faculty achieve a leading role in improving student intake for its Special Degree Programmes (SDPs).

The FQAC, in collaboration with the CQA, should implement QA policies to enhance its operations. These policies should focus on monitoring programme design, development, implementation, and administration. Findings from these monitoring activities should be utilized to improve the programme structure, delivery, and assessment processes, ensuring higher levels of efficiency and effectiveness.

The reviewers suggest that the Faculty of Science adopts stronger measures to enhance the quality of its core functions, particularly in managing and delivering special degree

programmes. This can be achieved by developing and implementing standard operating procedures for key components involved in managing its three-degree programmes. The team further observed that the Internal Quality Assurance is in process with best practices that would move towards ensuring a quality culture in future.

Section 5: Judgment on the Eight Criteria of Programme Review

Judgment on compliance with the eight criteria of the Programme Review is based on the 156 standards listed in the manual. In the SER, the Cluster B3 of the Faculty of Science, UoK was expected to describe the level of compliance with, and internalization of best practices and the degree of attainment of the corresponding 'standards' with supporting evidence.

The Review Team first scrutinized the documentary evidence presented in the SER at the desk review, then continued the verification of evidence provided during the site visit. When allocating marks 0, 1, 2 or 3, the Review Panel first carefully studied the claim of the degree of internalization of best practices and level of achievements of standards stated in the SER with respect to each standard and then observed if the documentary evidence made available to support the claim was sufficient. Yet, as the SER was prepared in the year 2020, and as the review was done only in 2024, on the advice of the CQA/UGC the evidence provided by the three departments and the faculty and what was observed at present were taken into consideration in arriving at a score for each criterion.

Table 5.1 illustrates the raw criterion-wise score for the study programme based on the judgments made by the review panel

Table 5.1: Raw criterion wise scores for cluster B3 University of Kelaniya, Sri Lanka.

No.	Criteria	Actual criterion-wise score
1	Programme Management	76/81
2	Human and Physical Resources	27/36
3	Programme Design and Development	64/72
4	Course / Module Design and Development	42/57
5	Teaching and Learning	46/57
6	Learning Environment, Student Support and Progression	58/72
7	Student Assessment and Awards	43/51
8	Innovative and Healthy Practices	37/42

Criterion wise commendations and recommendations for the eight standards are given below.

Criterion 1: Programmer Management

Criterion 1 on programme management contains 27 components and the Cluster B3 of the University of Kelaniya, Sri Lanka attained a maximum score of 3 (Out of 3) in 22 components and a score of 2 (out of 3) in 5 components.

Commendations

- The faculty has a well-defined organizational structure, comprising departments and various functional units operating under its administration.
- Documentation shows some evidence of the progress of action plans and their implementation by the three departments, viz, Microbiology, Plant and Molecular Biology, Zoology, in alignment with the University's Corporate plan and the Strategic plan.
- Having a website with access to many relevant details regarding the Faculty/Departments. Distribution of a well compiled student handbook to all incoming students during orientation, detailing academic programmes (such as honors degree requirements, examination rules), details regarding the Departments, Auxiliary, Enhancement, and Supplementary Courses and awards.
- Availability of the student handbook on the faculty website.
- Availability of a functional Management Information System.
- Establishment by the faculty of QAC which works in close collaboration with CQA/UoK.
- During the COVID-19 pandemic, the faculty has adopted ICT tools, including Zoom and LMS, for teaching and learning activities.
- Senior student counselors, along with faculty-appointed academic mentors, support student welfare.
- Having multicultural programmes and infrastructure to promote harmony and cohesion among students of diverse ethnic and cultural backgrounds.
- Practice of measures to ensure gender equity and equality (GEE)

Recommendations

- Provide more evidence to support the implementation and monitoring of Faculty's Action Plan.
- Establish a clearly defined annual academic calendar (including term dates, examinations, and study leave) and make it available at the start of the academic year for both students and staff.
- The faculty website should provide up-to-date information with active links to promote honors degree programmes and share recent developments. A dedicated

web administrator or coordinator is recommended to maintain an updated website.

- Improve the available Management Information System (MIS) to manage essential administrative functions including storing students' permanent records including examination performance, annual intake, graduation numbers.
- A clear and structured mechanism/policy for curriculum development and revision is mandatory.
- Map the curriculum with the SLQF qualifications descriptors and level descriptors.
- No documentary evidence was observed regarding follow-up actions on student feedback from satisfaction surveys, teacher evaluations, etc. Immediate action should be taken on all surveys conducted and the feedback loop completed.
- It is recommended to establish a separate "Examination Unit" with dedicated staff at FOS, which maintains an internal database of student results and develops an online platform to manage and release results.
- It is strongly advised to incorporate student feedback, peer observation, exit satisfaction surveys, employer input, and alumni feedback to continuously refine and revise the curriculum, teaching, and learning methods based on OBE/SCL and assessment approaches. Evidence of consistent curriculum revision through reflective practices is lacking.
- Develop and implement duty lists, work norms and Codes of Conduct for all categories of staff.
- Develop and implement a performance appraisal system prescribed by the University/Faculty for the staff members.
- Increasing collaborative partnerships with national and international institutions for academic training and research is recommended to enhance research outcomes and increase international visibility.
- Developing Terms of References (TORs) and providing adequate training for all faculty mentors and counselors on psychological counseling.
- Take proactive steps to promote more students to enroll to the faculty to ensure that all vacancies are filled.

Criterion 2: Human & Physical Resources

Criterion 2 on human & physical resources contains 12 components and the Cluster B3 of the University of Kelaniya, Sri Lanka attained a maximum score of 3 (out of 3) in 5 components, a score of 2 (out of 3) in 5 components and a score of 1 (out of 3) in 2 components.

Commendations

- Having highly qualified staff with 98 Ph.D. holders.
- Academic members (probationary lecturers) in the three departments have completed a comprehensive induction programme for new recruits.
- Departments showcase visible student-friendly attitudes by all its members.
- The interaction between the staff members and the students is satisfactory.
- Services provided through Physical Education Division, Counselling Centre and the Medical Centre are at a satisfactory level.
- New computer labs are enhancing the quality of the programme with the creation of a more interactive teaching and learning environment.
- The library has adequate reference books and photocopying facilities available for students and staff, which is commendable.
- Students are engaged in multicultural and innovative programmes, which promote harmony and cohesion among students.
- Although the existing staff members have a heavy workload, enthusiasm and dedication of their support to offer the programme/s.
- Canteens (general and hostel) have adequate seating capacity, and the students have the ability to obtain different kinds of food from them at reasonable prices.

Recommendations

- Improvement of physical resource allocation for students such as laboratory facilities.
- Adequate measures have to be taken to expand the infrastructure to facilitate the increasing number of students.
- Increased allocation of hostel facilities for students enrolled in the programme/s.
- Increase continuing professional development on outcome-based education and student-centered learning (OBE-SCL) and curriculum development and revision.
- Embed an internship programme in the curriculum.
- Duty lists/TORs should be developed and communicated to all categories of staff and need to be checked regularly for adherence by staff.
- Take proactive steps with the help of university authorities to face the challenge of students requesting hostel facilities to all undergraduates.
- The Career Guidance Unit needs to play a big role in providing better opportunities for students by organizing a considerable number of relevant activities throughout the academic year.
- The faculty should ensure the capacity of all staff is continuously upgraded and enhanced by providing adequate continuing professional development (CPD)

programmes through SDC and the impact of CPD programmes is monitored and when required to take remedial actions.

Criterion 3: Programme Design and Development

Criterion 3 on programme design and development contains 24 components and the Cluster B3 of the University of Kelaniya, Sri Lanka attained a maximum score of 3 (Out of 3) in 17 components and a score of 2 (out of 3) in 6 components a score of 1 (out of 3) in 1 component.

Commendations

- The degree programmes have been developed in a collaborative and participatory manner and those are in agreement with the mission, goals and objectives of the institution.
- The academic standards of the programmes with respect to their awards and qualifications are appropriate to the level and nature of the award.
- Course unit wise constructive alignment of ILOs with programme ILOs in programme design and development procedures is commendable.
- Practices positive approaches to issues of gender, cultural and social diversity and equity.
- Having a university coordinating centre for students with disabilities is a remarkable achievement.
- Regular SDC programmes for academic, non-academic staff aiming to improve the quality of teaching and the quality of graduates.

Recommendations

- It has been noticed that less emphasis has been given to adopt an Outcome Based Education (OBE) and therefore, it is recommended further training on outcome-based education for academic staff.
- Although programmes have been incorporated with appropriate learning strategies for collaborative learning, interpersonal skills and teamwork, learning strategies more towards student-centred learning should be in cooperated.
- Include more optional courses in 3rd and 4th years giving students more flexibility in selecting courses.
- Recommend using stakeholder feedback annually for course improvements and ongoing programme improvements and to conduct an employability survey not only as an exit survey but at least 3 years after graduation.
- Properly designed industrial training modules should be introduced into all honours degree programmes and if possible made compulsory in the curriculum.
- Incorporate feedback from employer/ professional satisfaction surveys in

programme design and development process.

- The assessments and reports of external examiners should be taken into consideration when finalizing marks.
- Continuing soft skill workshops for student's motivation at the FOS premises.
- The Faculty's QAC should adopt internal monitoring strategies and effective processes to evaluate, review, and improve the programme design and development, and approval processes.

Criterion 4: Course / Module Design and Development

Criterion 4 on course/module design and development contains 19 components and the Cluster B3 of the University of Kelaniya, Sri Lanka attained a maximum score of 3 (Out of 3) in 6 components and a score of 2 (out of 3) in 11 components and a score of 1 (out of 3) in 2 components.

Commendations

- Course design and development by an experienced panel of members.
- The courses attempt to develop collaborative learning, independent learning, and experiential learning across the programme/s.
- Courses have a clear course specification that provides a concise description of the ILOs.
- Many of the courses have actively encouraged student-centered learning across the programmes.
- The courses use appropriate technology and IT support in the teaching/learning programmes.
- Course design specifies the credit value, the workload.
- Feedback on the courses is obtained from students upon completion.
- Appropriate and adequate resources for course design, approval, monitoring and review processes are made available by the Faculty/Institute.

Recommendations

- Provide evidence of course design in compliance with reference points such as SBS and requirements of statutory or regulatory bodies.
- Improve the staff involvement in instructional design and development with proper training for such purposes and insufficient evidence of staff undergoing regular training.
- Carry out a formal evaluation of the process and products of the programme/s as quickly as possible.
- Specify the time spent on different teaching/learning activities and self-learning in

each course module.

- The incorporation of skills of reflection, life-long learning, and entrepreneurship as explicit outcomes of the existing courses, or offer these as separate courses.
- Incorporate evidence in using the concept of notional hours to determine the workload for each course.
- Development of all categories of academic staff on pedagogy, quality assurance and administrative processes.
- Formalize the feedback loop of obtaining feedback from students and making the relevant changes with a defined pathway of making decisions and monitoring their implementation.

Criterion 5: Teaching and Learning

Criterion 5 on teaching and learning contains 19 components and the and the Cluster B3 of the University of Kelaniya, Sri Lanka attained a maximum score of 3 (Out of 3) in 11 components and a score of 2 (out of 3) in 5 components and a score of 1 (out of 3) in 3 components

Commendations

- Teaching and learning strategies are based on the Faculty's/Institute's mission, and curriculum requirements.
- The faculty provides course specifications and timetables to students before the commencement of the course.
- Students are also provided with assessment strategies, and information regarding requirements for graduation, research, and industry training to students.
- Requirements of differently abled students have been ensured through the university level coordinating centre for students with disabilities.
- A mixture of diverse delivery methods such as in-plant training, research project and field visits have been in cooperated into the teaching programme to maximize the student engagement.
- The faculty encourages blended learning.
- Teachers encourage students to contribute to scholarship, creative work, and discovery of knowledge to relate theory and practice appropriate to their programmes.
- Teaching learning strategies ensure that they are not gender discriminative and abusive.
- Obtaining feedback on the effectiveness and quality of teaching from students.
- Teaching learning strategies promote the use of appropriate facilities,

amenities, and activities to engage in active/deep learning.

Recommendations

- Conduct feedback surveys participating all categories of staff, on regular basis.
- Regularly monitor teaching and learning activities to ensure their relevance and effectiveness.
- Encourage teachers to use insights from student assessments to improve their teaching practices.
- Implement a rewarding system to encourage teaching and research by the academic staff on regular basis for the years concerned.
- Implement a system for regular monitoring of student feedback, peer observations, and course evaluations across all three departments.
- Increase research output by encouraging faculty and students to publish in peer-reviewed journals and present at international and local symposia.
- Incorporate more student-centered teaching-learning methodologies into the programmes.

Criterion 6: Learning Environment, Student Support and Progression

Criterion 6 on learning environment, student support and progression contain 24 components and the Cluster B3 of the University of Kelaniya, Sri Lanka attained a maximum score of 3 (Out of 3) in 11 components and a score of 2 (out of 3) in 12 components and a score of 1 (out of 3) in 1 component.

Commendations

- The faculty adopts a student-friendly and caring environment for students.
- The faculty guides the students to optimally use the available student support services and empower learners to take personal control of their self- directed learning.
- Learning experience is enhanced through opportunities such as industrial placement/ internships.
- The faculty maintains up-to-date records on student progress throughout the programme/s of study and provides prompt and constructive feedback about their performance.
- Students receive skills development sessions in English and IT as a part of the induction programme/s.
- The main library of the university serves the information needs of students.
- Teaching/learning activities are designed in a manner to promote interaction between staff and students.
- Peer-to-peer interactions in academic activities are actively promoted.

- The faculty supports and encourages academic interaction between mentors and students.
- Co-curricular activities, such as sports and cultural programmes, enrich the social and cultural aspects of the educational experience.
- All students are provided with university email addresses.

Recommendations

- The staff development and training programme/s should focus on developing their educational skills to foster a more effective learning environment for students.
- Broaden the focus and increase the duration of the induction programme/s.
- Adequate attention of the programme/s should be provided to students with disabilities.
- A survey be conducted to identify the need for using e-books among students and appropriate measures should be taken to make e-books available for students.
- A properly documented and approved Examination Manual for the University.
- Formal mechanism of utilizing student feedback collected at the end of each course, for course module improvement.
- Conduct regular student satisfaction surveys on support services, ensuring systematic feedback loops that inform students of their progress.
- Regularly monitor and evaluate student support systems to drive continuous improvements.
- Establish a mechanism to address student complaints and grievances promptly, providing timely responses.
- Encourage alumni to support students in preparing for their professional careers. Establish a method to monitor and evaluate student support systems to enable continuous improvement.

Criterion 7: Student Assessment and Awards

Criterion 7 on student assessment and awards contains 17 components and the Cluster B3 of the University of Kelaniya, Sri Lanka attained a maximum score of 3 (Out of 3) in 11 components and a score of 2 (out of 3) in 4 components and a score of 1 (out of 3) in 2 components.

Commendations

- The weightage relating to different components of assessments is specified in the programme course specifications.
- The staff involved in assessing the students are competent to undertake their roles and responsibilities.
- Facilities are made available for differently abled students through the university coordinating center for students with disabilities.
- Examination by-laws and regulations are available for students.
- Faculty adopts well defined marking schemes, various forms of internal second marking and procedures for recording and verifying marks.

Recommendations

- Align assessment strategies with the qualification and level descriptors outlined in the SLQF and SBS.
- Develop a policy for appointing external examiners and ensure they are provided with clear Terms of Reference (ToRs).
- External examiners should be appointed for modules such as industrial placement and research and their reports, comments and feedback should be considered for finalizing marks.
- Students should be provided with regular feedback on formative assessment.
- Adopt a well-defined system of internal second marking.
- Provide students with regular, appropriate, and timely feedback on assessments to support effective learning.
- Establish procedures and guidelines to manage potential conflicts of interest among staff.

Criterion 8: Innovative and Healthy Practices

Criterion 8 on innovative and healthy practices contains 14 components and the Cluster B3 of the University of Kelaniya, Sri Lanka attained a maximum score of 3 (Out of 3) in 8 components and a score of 2 (out of 3) in 6 components.

Commendations

- Presence of a fall-back option for the undergraduates who could not successfully complete the programme/s.
- The faculty recognizes the importance of research, development and innovation and facilitates staff to engage in research and innovation.
- A rewarding system for excellence in research activities is available for internal permanent academics.
- Initiating a credit transferring mechanism for undergraduates is commended.
- The university possesses a well-equipped gymnasium and the achievements of the students in sports activities are commendable.
- The faculty organizes an annual research symposium to disseminate undergraduate research findings.
- The programme/s contain a comprehensive undergraduate research project as a part of the teaching and learning strategy.
- The programme/s contain an 'industrial' attachment/training as a part of the teaching and learning strategy.

Recommendations

- Increase use of Open Educational Resources (OER) to supplement teaching and learning.
- A proper mechanism for an appraisal system for teaching excellence is recommended.
- Enhance student-participation in annual research conferences
- Assurance of academic standards of the programme/s through regular revision of curriculum complying with the SLQF guidelines and close monitoring of its implementation
- Increase the use of LMS for teaching and learning
- Implement diversification of its sources of income to complement the grants received through Government by engaging in income-generating activities.

Section 6: Grading of Overall Performance of the Programme

Table 6.1: Assessment Criteria and Score

Criterion No.	Assessment Criteria	Weight	Converted Actual Score	Weighted Minimum Score	Above WMS (Y/N)
1	Programme Management	150	141	75	Yes
2	Human and Physical Resources	100	75	50	Yes
3	Programme Design and Development	150	133	75	Yes
4	Course/ Module Design and Development	150	111	75	Yes
5	Teaching and Learning	150	121	75	Yes
6	Learning Environment, Student Support and Progression	100	81	50	Yes
7	Student Assessment and Awards	150	126	75	Yes
8	Innovative and Healthy Practices	50	43	25	Yes
Total Score		1000	831		
Total Score (%)			83.05		
Final grade		A			
Performance Descriptor		Very good			
Interpretation of Descriptor		Higher level of accomplishment of quality expected of a programme of study: should move towards excellence			

According to the eight criteria assessed, all criteria were found to be higher than the expected minimum scores. Moreover, the overall programme score is higher than 80% therefore the grading of the overall performance of cluster B3 (Honours degrees on Microbiology, Molecular Biology and Plant Biotechnology, and Zoology) of Faculty of Science, University of Kelaniya would be placed as Very good (A) indicating higher level of accomplishment of quality expected of a programme of study. However, the review team highlights that still there is room for further improvement.

Section 7: Commendations and Recommendations

Section 5 of this document highlights in detail the strengths, weaknesses and recommendations regarding the three study programmes. In order to avoid unnecessary repetition, some of the most important commendations and recommendations only are listed below.

- Faculty has a well-defined organizational structure to effectively manage its functions with the support of the faculty board, ad-hoc committees and equipped with necessary by- laws.
- The Faculty's Action plan is up to date by incorporating new trends in higher education.
- Faculty is governed and managed by adopting a participatory approach with student participation in relevant meetings.
- SLQF standards were adopted and OBE and SCL teaching learning methods were incorporated during the curriculum designing and revision process and training programmes were conducted to staff members on OBE and SCL.
- Faculty has strong international, national and industrial collaborative partnerships to enhance academic activities and to promote research interests.
- Faculty facilitate leisure, sports and cultural activities for students and recognize the winners.
- Adequate health care services were provided for students.
- Support and assistance are provided for the students with special needs through the Coordinating Centre for the Students with Disabilities.
- A well-established student counselling and mentoring system, including regional counselling centers, are available for students.
- There is a need to encourage technical staff to proceed for their postgraduate and specific training courses to upgrade their competencies.
- The continuous assessment process should be more effective, and senior staff should be involved at optimum levels.
- External examiners and moderators should be involved in the examination process.
- An examination manual has to be prepared for the university.
- Recognize and reward individuals who demonstrate excellence in teaching.

Section 8: Summary

Programme Review of the Cluster B3 (Microbiology, Molecular Biology & Plant Biotechnology and Zoology) of the Faculty of Science, University of Kelaniya, Sri Lanka was held on 16th & 17th December 2024. A four-member review panel (Prof. RGSC Rajapakse, Faculty of Science, University of Peradeniya as the Chairperson along with Prof. Charmalie Nahallage, of the Faculty of Humanities and Social Science, University of Sri Jayewardenepura, Dr. RMSBK Ranasinghe of the Faculty of Veterinary Medicine and Animal Science, University of Peradeniya and Prof. SR Weerakoon of the Faculty of Natural Sciences, Open University of Sri Lanka) appointed by the UGC conducted the review.

The four members of the review panel individually examined the SER during desk evaluation. The panel discussed and agreed on the desk evaluation and agreed on the agenda for the site-visit (Annexure 1). During the site visit, the panel conducted a number of meetings with stakeholders both within and outside the faculty and the three Departments in the cluster, inspected physical facilities and examined all documents provided in support of the SER by the Faculty of Science, University of Kelaniya.

Evaluation was completely based on the criteria, standards and definitions provided in the Programme Review Manual published by the QAC of the UGC.

A participatory approach was quite evident in the preparation of the site visit. Academic and non-academic staff were well guided by the Coordinator of FQAC. Dean of the Faculty of Science and Heads of relevant departments appeared to have worked harder in this regard.

Reviewers highly appreciate the support extended by the staff members of the faculty including the Dean, Coordinator FQAC, the Heads and all staff of the three Departments for the help extended during the site visit.

The reviewers, following an exhaustive review task throughout the two days and after careful deliberations, agreed on the final score that was calculated based on the prescribed formula of the Programme Review Manual. The study programmes, as a cluster, has secured the above minimum scores required for all 8 criteria prescribed by the Programme Review Manual and has achieved an overall score of 83.05%. Therefore, it is recommended to award **Grade “A”** for Bachelor of Science Honours in Microbiology, Molecular Biology & Plant Biotechnology and Zoology of the University of Kelaniya Sri Lanka.

Annexure: Site Visit Schedule

Day 1: 16th December 2024

SN.	Time	Activity	Clusters/Venue		Responsibility
01	07.30 a.m.	Departing the Hotel	B		
02	08.30 a.m.	Reaching the Vice Chancellor Office	B		
03	08.30-09.00 a.m.	Meeting with Vice Chancellor, Registrar and Bursar	B		
04	09.00-09.15 a.m.	Meeting with CQA Director	B		
05	09.15-09.45 a.m.	Visiting Examination Branch	B		
06	09.45-10.15 a.m.	Visiting the Dean's office/ examination section/ IQAC/ Course Registration Unit	B		
			Cluster	Venue	
07	10.15-11.00 a.m.	Meeting with the Dean (A presentation by the Dean on the Degree programmes)/ Faculty of Science and relevant Heads of the Departments/SAR (with Tea)	B	B1 350	
08	11.00-11.30 a.m.	Meeting Academic staff in the permanent cadre (excluding HOD)	B	B1 350	
09	11.30-12.00 noon	Meeting with the Non-Academic staff	B	B1 350	
10	12.00-12.30 p.m.	Meeting with Academic Support staff	B	B1 350	
11	12.30-01.00 p.m.	Meeting with Senior academic advisors/ academic advisors	B	B1 350	
12	01.00-02.00 p.m.	Lunch break	B	B1 350	

Day 2: 17th December 2024

SN.	Time	Activity	Clusters/Venue		Responsibility
01	07.30 a.m.	Departing the Hotel	B		
			Cluster	Venue	
02	08.30-09.30 a.m.	Meeting with Students	B	B1 350	
03	09.30-10.00 a.m.	Meeting with Alumni /PG students [Working Tea]	B	B1 350	