



UNIVERSITY of LIMERICK

OLLSCOIL LUIMNIGH

Quality Review of the

Department of Life Sciences

The University of Limerick (UL), through its membership of the Irish Universities Quality Board (IUQB), follows an established process for Quality Assurance (QA) and Quality Improvement (QI). This involves a seven-year cycle during which all Departments work to improve the quality of their programmes and services and undergo a rigorous self evaluation prior to a quality review by internationally recognised experts in the field.

The process itself has evolved as a result of the Universities Act, 1997 in which the responsibility for QA/QI was placed directly with the individual universities. The UL Quality Support Unit (QSU) web site provides an elaboration of this process and the state of progress.

The broader picture is described in the publication *A Framework for Quality in Irish Universities* which can be downloaded from the IUQB web site: <http://www.iuqb.ie/>

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1.0 Background

1.1 Legislative Framework

The University of Limerick, in common with all the universities in the Republic of Ireland, falls within the Universities Act, 1997. This Act specifies the responsibilities of universities in Ireland for Quality Improvement and Quality Assurance. Section 12 stipulates that, 'The objects of a university shall include - ... to promote the highest standards in, and quality of, teaching and research'.

Section 35 (1) of the Act further requires that each university Governing Authority 'shall...require the university to establish procedures for quality assurance aimed at improving the quality of education and related services provided by the university'. The Act provides a framework for the universities to develop their quality processes. Section 35 requires each university to review the quality of the work of all faculty, academic Departments and service (including administrative) Departments on a ten-year cycle. In particular 'The procedures shall include ... assessment by those, including students, availing of the teaching, research and other services provided by the university'.

Although each university is free to develop its own procedures in fulfilling its obligations under the Act, close co-operation has been achieved through the co-ordinating role of the Irish Universities Association Quality Committee, (IUQAC). Accordingly, the universities have developed a framework comprising a set of common principles and operating guidelines for quality improvement and quality assurance. These principles and guidelines have been integrated into each of the universities procedures, which ensure coherence through the university system, while maintaining the autonomy of each university and its individual institutional culture.

More detail is available at <http://www2.ul.ie/pdf/585256597.doc> and www.iuqb.ie

1.2 The Irish Universities Quality Board

The Governing Authorities of the seven Irish universities established the Irish Universities Quality Board (IUQB) in February 2003. This board comprises representatives of the Conference of Heads of Irish Universities (CHIU) and a number of external members.

The aims of the IUQB are:

- To increase the level of inter-university cooperation in developing Quality Assurance processes
- To represent the Irish universities nationally and internationally on issues relating to quality assurance and quality improvement
- To articulate, on behalf of the Governing Authorities of the universities, the resource implications of recommendations for quality improvement.

The IUQB subsumed the roles and functions formerly carried out by the IUQSC (Irish Universities Quality Steering Committee). More detail is available at www.iuqb.ie

1.3 The Quality Review Process

The common framework adopted by the Irish universities for their Quality Assurance/Quality Improvement systems consistent with both the legislative requirement of the Universities Act 1997 and international practice comprise the following stages:

1. Preparation of a self-assessment report by the unit taking into account feedback from students and customers.
2. Quality (Peer) Review involving external experts, both nationally and internationally, who have visited the Department, met the students and studied the Self Assessment.
3. Quality Review Report, made publicly available by the Governing Authority of the university, incorporating the reactions and quality improvement plans of the Division and University.
4. Continuing improvement through implementation within the resources available to the university.

More detail is available at www.quality.ul.ie

1.4 Management of Quality in the University

The Vice President Academic and Registrar has overall responsibility for implementation of Quality Assurance/Quality Improvement policy and implementation at the University of Limerick. Implementation is carried out by the Director of Quality.

The planned schedule of Quality Review of both academic and support departments was commenced in the year 2000, with the first full cycle of units within the University being reviewed within a seven-year cycle.

Academic departments are reviewed against international standards as described in the document "A Guide to the Quality Review Process for Academic Departments", which is available on the UL website at:

http://www2.ul.ie/web/WWW/Services/Quality/Documents_to_Download .

In 2006, the university decided to implement a bespoke quality management system (QMS) and developed a suitable template with the assistance of external quality experts. This system is described in the document "Quality Management Systems – Standard Framework for Support Departments".

More detail is available at

http://www2.ul.ie/web/WWW/Services/Quality/Academic_Departments/Quality_Review_Process

2.0 The Department of Life Sciences

The Department of [Life Sciences](#) (LS) was formed in 1993 around a core group of faculty who emerged from the Department of Chemical & Life Sciences. It is one of 10 departments in the Faculty of Science & Engineering. The Faculty of Science & Engineering was created in January 2008 as part of a substantive academic restructuring at the university. The faculty's 10 departments are as follows:

- Architecture
- Chemical & Environmental Science
- Computer Science & Information Systems
- Electronic & Computer Engineering
- Life Sciences
- Manufacturing & Operations Engineering
- Materials Science & Technology
- Mathematics & Statistics
- Mechanical & Aeronautical Engineering
- Physics

There are currently 24.5 members of staff in the Department of Life Sciences: 15.5 faculty members (two professors, one associate professor and 12.5 lecturers), one equitation teacher, seven technicians and one departmental administrator. In addition, 12 postdoctoral associates, two teaching assistants, four research fellows and one research assistant work in the department.

The department owns and delivers the following undergraduate programmes:

- BSc Degree in Equine Science (Level 8)
- Certificate in Science (Equine Science), full-time or distance learning (Level 7)
- Diploma in Science (Equine Science), full-time or distance learning (Level 7)
- BSc Degree in Food Science and Health (Level 8)

The Department of Life Sciences offers postgraduate research programmes at masters and PhD levels. In the current academic year, 43 postgraduate students (24 MSc and 19 PhD) are pursuing higher degrees, mostly in food science, equine science or soil science / biology / ecology.

Life Sciences Web Page –

www.ul.ie/~ls

[http://www2.ul.ie/web/WWW/Faculties/Science & Engineering/Departments/Life Sciences](http://www2.ul.ie/web/WWW/Faculties/Science_&_Engineering/Departments/Life_Sciences)

3.0 The Follow-up Process

The Quality Review process occurs on an approximately seven-year cycle at the University of Limerick. An average of five academic Departments are reviewed annually. Once the Peer Review Group report is finalised, the Department concerned immediately sets about planning its response to the issues raised therein.

The self-evaluation process is intended to be a reflective exercise in which a Department/Division should identify many of its strengths and weaknesses and develop plans to strengthen and grow as appropriate. Quite often, the Peer Review Group (PRG) will reinforce these issues and may identify areas of concern that were overlooked. In many cases, the PRG will also highlight the strengths of the Department and encourage faculty and staff to take advantage of these.

After the department and the university have been given time to respond to the issues raised; the Peer Review Group's report will be made available to the wider community through the University's web site. Normally, the report is available within the University less than four weeks after the PRG visit. Responses and plans for action are incorporated into the report and are subject to the approval of the Deans' Council.

Presentation to the University's Governing Authority usually follows within six months of the PRG visit. The Governing Authority will publish the Peer Review report, including reactions and plans, immediately following approval.

It is expected that a review of progress in implementing recommendations and investigating issues raised would occur quarterly for the two years following the Peer Review Visit. Progress Reports will be published as deemed appropriate.

Date	Action
Apr 2010	LS department is issued with Peer Review Group report and required to prepare reactions and plans for Quality Improvement as appropriate. The report is circulated to all members of Management Committee for comment.
Sept 2010	Reactions and plans, from all levels, incorporated into the document. Quality Improvement Action Plan developed and circulated to Deans' Council. Head of Division presents an overview of key issues from Quality Review Report to the Deans' Council. PRG Report with Responses and Quality Improvement Action Plan are tabled at Executive Committee meeting for discussion.
Jan 2011	PRG Report, incorporating reactions, is presented to UL Governing Authority for approval for publication.

4.0 Preliminary Comments of the Peer Review Group (PRG)

The Department of Life Sciences at the University of Limerick (UL) was formed in 1993 based on a group of faculty from the Department of Chemical & Life Sciences. The department offers undergraduate programmes in the areas of food science & health and equine science supported by a high level of research in these areas. It also provides the major input to the BSc (Ed) in Biological Sciences with physics or chemistry, currently assigned to the Department of Education & Professional Studies. In addition, an introductory level module in general biology is delivered to 12 other programmes within two faculties. Faculty also supervise final year projects for students within and outside the department.

Notwithstanding the diverse activities of the department, the PRG gained the impression during formal discussion that faculty and staff make up a strong coherent group that is fully committed to excellence in achieving both the teaching and research missions of the department. This view was reinforced during visits to laboratories and in conversations with undergraduate and post-graduate students.

The practical aspects of the Equine Science programmes are delivered through a strategic alliance with the Clonshire Equestrian Centre at Adare, some 20 km from UL. Clonshire serves as a unique and important resource for both teaching and research. This alliance is a vital factor in ensuring future course stability.

The laboratories used by the department fall into three categories:

- Two new purpose-designed undergraduate laboratories in the Health Sciences building
- Four undergraduate laboratories in the Schrödinger building, three of which are in urgent need of refurbishment and re-equipping
- Seven smaller research laboratories, six of which have been extensively re-furbished

The facilities available in the new undergraduate laboratories are impressive, and these laboratories make possible the delivery of the practical aspects of the introductory biology module to the large number of students involved.

The impression gained by the PRG on its visit to the research laboratories was of a dynamic research culture located in well-equipped and busy laboratories and entirely consistent with the recent increased research output record of the department.

The PRG was impressed with the level of importance placed on encouraging and supporting undergraduates in their studies, both in terms of addressing the needs of students with lower levels of scientific preparedness for degree-level study and in maintaining their engagement with programmes. Overall, the department's attention to student needs and support is very commendable.

In the view of the PRG, the Department of Life Sciences has significant opportunities both for collaboration and interaction with departments and faculties within UL and to contribute to the university's national and international presence. When resources become available, the department may like to consider the introduction of taught post-graduate programmes.

5.0 *The Report of the Peer Review Group*

5.1 Mission

Commendations

The PRG commends the following:

5.1.1 The dedication of the department to delivering a combination of teaching, research and services linked to scientific, industrial and social communities.

5.1.2 The commitment of the department to delivering the majority of the modules in the BSc (Ed) Biological Sciences and its engagement with the Science Choice option.

5.1.3 The close working relationship with user communities and industry, leading to relevance of the curriculum and research activity.

5.1.4 The outreach activity in introducing potential students to UL via laboratory sessions in biology.

Recommendations

The PRG recommends the following:

5.1.5 That the department consider a more proactive approach to supporting the international aspect of the UL mission statement. This should initially be focused on the department's USPs and include actions such as the promotion of the Equine Science programmes internationally. This will require central UL support and appropriate funding.

Response of Departmental Quality Team: > [The Department acknowledges that the Equine Science programme has some unique USPs. To that end, departmental representatives have attended international trade fairs promoting the Equine programme. In addition, we have been in discussion with the International office at the University of Limerick in connection with a Summer programme in Equine Science. The Department is well aware that international promotion is an important marketing objective. International students are well represented in our undergraduate Equine Science course but the Department undertakes to make a renewed marketing commitment, with the assistance of the University, to attract additional international students.](#)

5.2 Design and Content of Curriculum

Commendations

The PRG commends the following:

- 5.2.1 The commitment of the department to rigorous and relevant curriculum content with resulting benefits for graduates. An example of this is the inclusion of quantitative modules in most semesters of the BSc in Food Science and Health.
-
- 5.2.2 The commitment to the BSc (Ed) in Biological Sciences and to service teaching in biology.
-
- 5.2.3 The on-going review of all programmes and willingness to change curriculum in response to feedback from industry and external examiners.
-
- 5.2.4 The fact that there are clearly identified course directors and terms of reference for these roles.

Recommendations

The PRG recommends the following:

- 5.2.5 That the department seek fuller recognition of its service teaching commitments.

Response of Departmental Quality Team: > This is a UL issue. There have been previous attempts to resolve this dilemma but it remains an ongoing cause of concern and frustration to the department. The Department of Life Science are the course leaders for the programme but the ownership lies within a department within another faculty. The ownership and management of these programmes has been addressed at senior executive level.

- 5.2.6 That the department build on good existing industry contacts, but seek their more formal input into future course revisions.

Response of Departmental Quality Team: > The Department agrees with this comment and will seek informed industry input into future course revisions. Such input is already gathered informally through Co-operative visits, research interactions and Final Year project presentations.

- 5.2.7 In line with its commitment to a rigorous curriculum, that the department emphasise to students the importance of core sciences in introductory modules.

Response of Departmental Quality Team: > The Department agrees.

- 5.2.8 That the department liaise with the Kemmy Business School to ensure that the delivery of business modules to students on the Equine Science programmes meets the students' needs.

Response of Departmental Quality Team: > The Department agrees and is in regular contact with the KBS to ensure that modules delivered meet student needs.

5.3 Teaching, Learning and Assessment

Commendations

The PRG commends the following:

- 5.3.1 The thought given to the engagement of first-year students in the light of their changing knowledge and expectations at entry.
-
- 5.3.2 The willingness of those involved in the delivery of programmes to use a wide range of teaching strategies to accommodate various learning styles.
-
- 5.3.3 The proposal to develop a module leader's handbook.

Recommendations

The PRG recommends the following:

- 5.3.4 That the department seek joint ownership of the BSc (Ed) Biological Sciences programme with the Department of Education and Professional Studies.

Response of Departmental Quality Team: > [This is a UL issue. There have been previous attempts to resolve this dilemma but it remains an ongoing cause of concern and frustration to the department. The Department of Life Science are the course leaders for the programme but the ownership lies within a department within another faculty. The ownership and management of these programmes has been addressed at senior executive level.](#)

- 5.3.5 That the department engage with the Centre for Teaching and Learning (CTL) on the training of demonstrators, not necessarily to diploma level.

Response of Departmental Quality Team: > [The Department agrees and has put renewed emphasis on training of demonstrators.](#)

- 5.3.6 That the department keep under review the balance of assessment in modules to meet overall assessment strategies.

Response of Departmental Quality Team: > [Agreed](#)

5.4 Faculty and Support Staff

Commendations

The PRG commends the following:

- 5.4.1 The academic, technical and administrative staff for being a coherent, dedicated and enthusiastic group, which works effectively in delivering teaching and research across a diverse range of programmes.
-
- 5.4.2 The contribution of the technical staff to teaching and learning as identified in the SWOT analysis, particularly with respect to their support of students.

Recommendations

The PRG recommends the following:

- 5.4.3 That an extra faculty member who can underpin the department's health objectives be recruited as a matter of urgency, thus supporting UL's declared strategic interest in food & health research. The PRG considers this essential to the development of the department.

Response of Departmental Quality Team: > [The Department agrees that the provision of this post is central to its teaching and research mission and has made representations on a number of occasions to redress this important imbalance.](#)

- 5.4.4 That UL should give serious consideration to increasing the weighting of teaching and administration relative to research in the context of academic promotion.
-
- 5.4.5 That the department explore a broader role for the technical staff, for example in supporting research.

5.5 Facilities and Learning Resources

Commendations

The PRG commends the following:

5.5.1 The integration of the theoretical and practical elements of the Equine Science programmes via the strategic alliance with Clonshire Equestrian Centre, providing students with a relevant grounding in contemporary issues.

5.5.2 The excellent library provision for the study of life sciences.

5.5.3 The recognition of the urgent need to group post-graduate students in a single location to achieve better communication and scientific interaction.

Recommendations

The PRG recommends the following:

5.5.4 That the department pursue as a matter of urgency a longer-term contractual agreement with Clonshire Equestrian Centre in the interests of programme stability.

5.5.5 That UL provide funding to complete the refurbishment and equipping of all laboratories to the excellent standard achieved elsewhere in the department.

Response of Departmental Quality Team: > [The Department agrees and has had the issue of laboratory refurbishment at the forefront of its objectives.](#)

5.5.6 That UL confirm its commitment to the department for the provision of additional space for post-graduate students in the Schrödinger building

Response of Departmental Quality Team: > [Considerable progress has been made in this area. Buildings and Estates have provided approx 65 sq metres of space to the Department in the Schrodinger Building which will be used for post-doctoral students. The issue of offices in the Schrodinger building for the Department's post-graduate students remains a priority.](#)

5.5.7 That the department re-evaluate its strategy for the provision of practical experience in unit operations for the food processing component of the programme.

5.5.8 That UL reinstate centrally funded provision of the statistical consultancy service consistent with the previous arrangement.

5.6 Student Guidance and Support

Commendations

The PRG commends the following:

- 5.6.1 The enthusiastic support of the department for the co-op element of the programmes which, in addition to its value to students, reinforces the connections with industry.
-
- 5.6.2 The recognition of the need for students to participate in the first year advisory system.

Recommendations

The PRG recommends the following:

- 5.6.3 That the department develop a clear strategy to accommodate co-op students who do not secure appropriate placements, in the light of the decreased opportunities for finding industrial placements for all students.
-
- 5.6.4 That the department develop an action plan to ensure that students more fully engage in the first-year advisory system.

5.7 Research Activity

Commendations

The PRG commends the following:

- 5.7.1 The achievements of the department in obtaining significant increases in research funding and the associated scholarly outputs.
-
- 5.7.2 The much-needed refurbishment of the research laboratories to provide a modern environment conducive to innovative research.
-
- 5.7.3 The transfer of equipment and expertise in flow cytometry from immunology to food microbiology.
-
- 5.7.4 The achievement by two staff members in the department of the prestigious UL Award for Excellence in Research.

Recommendations

The PRG recommends the following:

- 5.7.5 That the department formalise its research strategy, which should involve identification of:
- The department's USPs with respect to expertise and facilities
 - Priority funding streams and sharing of experiences to ensure success
 - Opportunities to form clusters within UL to promote innovative research and optimise resource allocation.
 - Opportunities for external collaboration.
-
- 5.7.6 That the department develop opportunities for scholarly outputs related to innovative and new approaches to teaching and knowledge transfer in life sciences.
-
- 5.7.7 That the department explore potential interdisciplinary opportunities for synergy between food & health and exercise & sport science. The PRG considers this to be a unique opportunity both at national and international levels and further supports UL's declared strategic interest in food & health.

5.8 Quality Management

Commendations

The PRG commends the following:

- 5.8.1 The engagement of the members of the department in the review process and their efforts in producing an excellent SAR and associated appendices.

- 5.8.2 The good esprit de corps leading to excellent cooperation between departmental members and a willingness to share burdens and successes.

- 5.8.3 The recognition of the need to identify the reasons for lack of student progression/failure. The proposal for dedicated meetings and other actions to address this issue are welcomed.

Recommendations

The PRG recommends the following:

- 5.8.4 That the department consider the establishment of a working group on progression/failure problems, which might examine the impact of course work scheduling, mid-term assessment and student motivation and engagement.

Response of Departmental Quality Team: > [This is an issue for the entire University of Limerick.](#)

5.9 Quality Improvement Plan

Commendations

The PRG commends the following:

5.9.1 The clear identification of areas for action and the measures to achieve them.

Recommendations

The PRG recommends the following:

5.9.2 That the department address three key issues:

- Prioritisation of action areas based on assessment of impact and risk
- Assignment of responsibilities for the SMART tasks generated
- Determination of start, report and completion dates

All of these actions will inform and contribute to a more effective annual review.

5.9.3 That the department ensure that it has a clear communication strategy for the quality improvement process, embracing all members of staff and students.

Appendices

A Membership of the Peer Review Group:

Dr. Geoffrey E. Dahl	Professor & Chair, Department of Animal Sciences, IFAS, University of Florida, Gainesville, USA.
Prof Colin Dennis	Professor Colin Dennis CBE,DL Former Director General of CampdenBRI, ,UK. and Chairman of International Agri-Technology Centre Industrial Advisory Group, UK.
Bill Dowling	MAPP Foods Ltd, Kilworth, Fermoy
Prof Paul McSweeney	Associate Professor of food chemistry, School of Food and Nutritional Sciences, UCC
JP Monahan	Managing Director of AAFS Ltd (animal health sector)
Ms Ailish O'Farrell	Recording Secretary, Technical Editor
Prof Nigel Steele (Chair)	Nigel Steele, Emeritus Professor of Mathematics, Coventry University & Hon. Sec. Institute of Mathematics and its Applications.

B Membership of the Life Sciences Quality Team:

Prof. Sean Arkins	Head of Department
Prof. David O'Beirne	Professor of Food Science
Frank McGourty	Senior Lecturer
Dr. Bridget Younge	Lecturer
Dr. Thomas Harrington	Lecturer
Jackie Kennedy	Chief Technical Officer
Ber Norris	Departmental Administrator

C Contact

The Peer Review Group were given the opportunity over three days to talk to the Life Sciences Quality Team both formally and informally. Meetings with staff, postgraduate & undergraduate students and others were scheduled as group sessions. The Review Group was given the opportunity to meet all staff during a visit to the facilities of the department and this was most helpful.

All the meetings provided extremely useful additional information to support the SAR.

END of Report