

Comhairle na nDámhachtainí Ardoideachais agus Oiliúna

The Higher Education and Training Awards Council

**Report of the findings of the evaluation panel engaged to
consider the application by Galway-Mayo Institute of
Technology for accreditation to maintain postgraduate
research degree registers at doctoral level in Aquatic Science
and in Mechanical Engineering.**

12 July 2004

Summary of findings

While there is scope for improvement, the Galway-Mayo Institute of Technology (GMIT) does meet with the criteria for institutional accreditation to maintain a register of postgraduate research degree students. The assessors found that institute could be accredited to maintain a register of postgraduate degrees at masters and doctoral level in some areas of aquatic science and in some areas of mechanical engineering reflecting the expertise of the current academic staff.

1 INTRODUCTION

The Galway-Mayo Institute of Technology (GMIT) submitted an application to HETAC for accreditation to maintain registers of postgraduate research degrees at doctoral level in the Aquatic Science and in Mechanical Engineering.

Accreditation to maintain a register allows an institution to register postgraduate research degree students without referring the details of the individual research degree programme to HETAC for validation decision on a case-by-case basis.

Such accreditation is a prerequisite for an Institute of Technology to receive delegated authority from HETAC to make its own research degree awards.

1.1 Submission

The application for accreditation was received by HETAC on 27 February 2004. It took the form of two bound volumes:

1. *Research in GMIT an introduction*
2. *Academic code of practice no 5: research*

1.2 Assessors and preliminary reports

The institute was invited to nominate, for each field, four recent postgraduate research degree graduates (at the highest award level sought) and four persons who are independent recognised experts in that field and can make national and international comparisons.

Considering the submission document, HETAC selected one learner representative and two independent experts from the nominations received from the Institute and, in addition to this, a further three independent expert assessors.

The constitution of the evaluation panel is as follows:

Professor Brian Austin *Professor Brian Austin School of Life Sciences, Heriot-Watt University, Riccarton Edinburgh*

Mr James Conerney *SMC Pneumatics Ireland Limited (Learner representative: Recent GMT graduate)*

Professor Tom Cross *Dept. of Zoology and Animal Ecology, University College, Cork. (Aquatic science)*

Professor John Monaghan, *Trinity College, Dublin. (Mechanical engineering)*

Dr Francis O'Beirn *Marine Institute Galway Technology Park Parkmore, Galway Ireland (Aquatic Science)*

Dr Philippa Reed *Southampton Univ Mech Eng Head of Materials Res Grp and School postgraduate tutor. (Mechanical Engineering)*

with

Dr Peter Cullen *Higher Education and Training Awards Council.*

Each assessor received by e-mail a copy of the HETAC document “*Accreditation to Maintain A Register for a specified Postgraduate Research Degree in a Specified Discipline Area- Issues for Assessors*” prior to being engaged by HETAC. This communication highlighted, among other things, issues (such as conflict of interest) that assessors must consider before agreeing to act.

The submission material was sent out to the assessors along with a covering letter and a copy of the document “*Validation process, policy and criteria for the accreditation of providers to maintain a register for a specified research degree in a specified discipline area*” which set out the criteria that must be met.

Each assessor was invited to submit an independent preliminary report to HETAC prior to the site visit.

In general, the assessors appeared to find the submitted volumes made a case for accreditation to maintain a register of postgraduate students.

1.3 Site visit

The assessors met on the evening before the site visit to discuss the written submission and plan the site visit. The broad objectives for the site visit were to confirm that the institute and the proposed research areas met with the criteria for accreditation. The modus operandi was to

- converse with the senior management of the institute;
- survey the research facilities;
- seek the views of the research supervisors and some of the existing postgraduate students;
- explore how a high-level research ethos and environment can be maintained
- identify if there areas for improvement or enhancement of quality

Professor Monaghan agreed to be the chairperson of the evaluation panel of assessors.

The site visit took place between 09:00 and 15:00 on Friday 7 May at the Galway-Mayo Institute of Technology.

The outline schedule was as follows

1. **Plenary session:** Meeting with Director, Registrar & Postgraduate Policy Committee. Matters: Institute's Research Policy and Plan; Institute's Research Activities; Organisation and Management of Research; Appointment of Head of Research; Code of Practice on Research.
2. **Parallel session:** Evaluation of research environment in each of the two areas
 - a. Meeting with research staff.
 - b. Meeting with Research Students
 - c. Viewing facilities in each discipline

At the outset the HETAC representative (Dr Cullen) informed those attending the plenary session that the decision on the application for accreditation would be made by the HETAC Research Degree Programme Committee, informed by the findings of the assessors. He pointed out that while any institution may apply for accreditation at doctoral level, the current thinking of the HETAC executive was that accreditation is probably best be achieved one step at a time: the first step to master's degree level and the second to doctoral level. However, he noted that GMIT had applied for accreditation to doctoral level and that the panel of assessors would evaluate and report their findings on the case for accreditation at doctoral level.

During the plenary session the overall management of research and research strategy were discussed and the functions and powers associated with the new post entitled "Head of Research" were explored.

The Institute's policy on entry qualifications; the key roles and processes in the academic management of research; the policy and procedures for the monitoring and interim assessment of research degree students; the conflict resolution mechanisms, the reduction in supervisor teaching hours allowed per student; the access by students to necessary facilities out of term (particularly during the summer period) and during weekends and evenings; the expected level of contribution of students to teaching/demonstrating; training research degree students in research methodology; sources for funding for research and the development of facilities were also among the issues discussed.

2 FINDINGS

The group was impressed by the presentation made by the Director of GMIT Ms. Marion Coy. The candour and openness of the Director and her staff were both refreshing and commendable.

2.1 General

During the plenary session it was noted that a minimum duration of 21 months is required for Master's degree. It was also noted that many Irish universities have a minimum requirement of only 12 Months and that the standards deriving from the National Framework of Qualifications are based on learning outcomes and are independent of programme duration. It was observed that the longer duration of institute research degree programmes might disadvantage the institute. On the other hand two-year M.Phil programmes are common in the United Kingdom and the expected second cycle duration of a Bologna process programme is also two years.

Strengths

It is encouraging to see that the Institute has established a Research Strategy Group and that it has sought the views of key stakeholders including external funding agencies to inform policy development.

The institute is to be highly commended for agreeing on a strategy of establishing centres of excellence in a small number of areas and for placing emphasis on collaboration and external linkages.

The high proportion of students funded from external sources demonstrated the success that the academic staff have had at obtaining financial support for their research.

Areas for improvement

Access to the facilities during non-working hours and services (e.g. student medical cover) during the summer were issues of serious concern and must be addressed by the institute. If the research students are to be considered as full-time students in the institution they warrant similar consideration (and facilities) to the undergraduate students.

It is recommended that the Institute be vigilant in the avoidance of excessive future diversification in research because that could lead to the dilution of the expertise already established.

It is recommended that research groups be encouraged to maintain some activity in academic research topics so as to expose students to a good balance of basic and applied research activities. In this respect it was encouraging to hear the Director stress the importance of basic research to the maintenance of graduate programmes.

Ideally, academic staff involved in the supervision of research degree students should not have to share offices. Sharing is neither conducive to optimal academic staff-student interaction nor to academic staff satisfaction with their place of work. While this consideration is not a barrier to accreditation it might inhibit future expansion of the activities and lessens the potential for sustainability of the environment for research.

Perhaps more might be done via co-supervision as a means of training non-research active staff and giving them appropriate supervisory experience – some number of co-supervised researchers should be identified before sole supervision is allowed.

More clarity is required concerning the precise functions and powers of the new “Head of Research” post.

More clarity is required in the division of responsibilities for making decisions relating to research degree programmes.

2.2 Code of practice for research

The Galway-Mayo institute of technology meets with the criteria for institutional accreditation to maintain a register of postgraduate research degree students at doctoral level.

The code of practice, although basically sound, will benefit from minor revisions/updates.

Strengths

The document entitled *Academic code of practice no 5: research* covers the policy and procedures (including admission requirements) for research and research degrees; these compare favourably with those of other higher education institutions.

There are well-written sections describing the production, presentation and examination of the thesis and it is commendable that the document has sections dealing with supervision, and training of supervisors.

Approval procedures for proposed programmes of research are in place (provided the research committee includes suitably qualified staff who can assess this).

Areas for improvement

It is recommended that sections be added to the code for the regulation of teaching/demonstration activities of the postgraduate research degree students and setting out the relevant training requirements.

There needs to be provision for resolving potential conflicts between research students and their supervisors. The College does have complaints procedures which can be used (p 90 of the Code). Indeed it was obvious that all had not encountered such problems in the past however upon reflection all (staff, academic staff and students) presented solutions that seemed prudent and appropriate. It might be beneficial for the institution to prepare some more detailed guidelines for the resolution of conflicts.

There appear to be regular reports by supervisors and students for the purpose of monitoring students within research degree programmes. However there are no formal assessments (by mini-thesis and viva voce examination) at interim stages as would be common, for example, in the UK. It is recommended that such arrangements be established because they provide good training for students and examiners alike, particularly when building up a research culture. It is further suggested that a *viva voce* be used in the PhD **transfer** assessment process.

Since the GMIT submission was received, HETAC has adopted a new policy document for research degree programmes entitled "*Research degree programme validation: Standards, Process, Policy and Criteria*" and this will require some revisions to the code of practice.

More detailed comments on the code of practice will be communicated separately to the Institute by HETAC.

2.3 Aquatic Science Programmes

The assessors met with academic staff and graduate students and viewed the research facilities.

The volume entitled "Research in GMIT: an introduction" includes sections that describe the physical research environment in aquatic science giving the CVs of the three research supervisors proposed.

There is a sound base at GMIT upon which to operate a postgraduate programme in aquatic science.

The college is suited for accreditation to maintain a register of postgraduate degrees at doctoral level in some areas of aquatic science reflecting the expertise of the current academic staff.

Strengths

There appears to be a good track record in research at the Masters level. The extent of research funding obtained from external sources is impressive and covers most of the schemes from which research funding is available in Ireland.

With regard to the named research supervisors, Drs Gosling, King and McGrath, their level of expertise and particularly publication records (in internationally recognised journals) would be considered highly impressive in any third level institution in Ireland or the UK. Between the three individuals, a more than adequate critical mass to supervise, manage and assess graduate students is available. The named staff are sufficiently qualified to supervise research learners at both Masters and PhD level.

The record to date of successful completion of students in the allotted time is encouraging. The relatively low ratio research student to staff ratio should ensure good interaction between the learner and supervisor, who must also maintain a substantial commitment to taught undergraduate programmes.

It is clear that the students are actively encouraged to publish in recognised journals. Interaction with the students proved very fruitful and indicated that the staff are very giving of their time towards the students.

Some of the identified space limitations are being addressed especially as they relate to student accommodation.

Areas for improvement

Maintaining the relatively high staff to student ratio, given the current number of academic staff in the programme, will impede the expansion of the area.

Sufficient active staff are clearly in post but the number is small. It would be helpful to see some forward planning for the group to build up the research activity. Perhaps this should be a consideration in new appointments or self-funding appointments. While the low number of academic staff is a concern, it is mitigated by the enthusiasm displayed by both the academic staff and the graduate student body. It is noted that the institution could not give a commitment to increase academic staff numbers in the future.

A regular seminar programme within the GMIT grouping is needed to ensure researchers (including staff) are each presenting and discussing research work on a six monthly basis. This should be in addition to the external research group links and presentations etc to sponsors/collaborators.

2.4 Mechanical engineering

The assessors met with academic staff and graduate students and viewed the research facilities.

The volume entitled “Research in GMIT: an introduction” includes sections that describe the physical research environment in Mechanical Engineering.

The Mechanical Engineering department has some staff that are willing to lead research programmes and there is some evidence of strategic planning to bolster and grow such expertise within the School.

Some of the Department staff are qualified to appropriate research level and have prior supervision experience.

The equipment base currently at GMIT itself is not extensive but there is evidence of sufficient technical support (workshops and technicians) to cater for the needs of the current number of graduate students.

There is an adequate base upon which to operate a postgraduate programme in Mechanical Engineering. The college is suited for accreditation to maintain a register of postgraduate degrees at doctoral level in some areas of Mechanical Engineering reflecting the expertise of the current academic staff who are active in research.

Strengths

There appears to be a good track record in research.

The Mechanical Engineering group has established a good working relationship with a number of companies in the region for example with a local medical device company for sophisticated fatigue testing work, etc.

The relation with Thermoking in the areas of refrigeration (thermodynamics and fluid dynamics type projects) is a particularly noteworthy example of an enlightened and successfully sustained industry-higher education partnership that appears to be yielding significant benefits to both parties.

There is clear evidence that the Institute is committed to supporting the engineering area. It is seeking funds to build a new engineering block and will be allocating of up to 15% of the space in the Innovation Building due for completion shortly.

Given their heavy teaching commitments and that they have to move off-campus to complete some of their research work, the research-active staff are to be commended for achieving so much under such conditions.

It is evident that a small number of staff have been more active in research over the years, with more staff now being brought in to the research activity. The institute should be commended for encouraging non-research active staff who are interested in developing a research profile to do so within the “core competency areas” rather than in (non-viable) stand-alone areas.

Areas for improvement

It should be noted that many students undertake their research off-campus to access the facilities needed for research. Overall the GMIT facilities are adequate rather than impressive, and the institute will certainly have to invest in both additional buildings and equipment if it is to expand significantly the postgraduate research activity in mechanical engineering.

The Department will need to be vigilant and selective in ensuring that strengths are maintained and new activities maintain coherence with existing strengths.

A regular seminar programme within the GMIT grouping is needed to ensure researchers (including staff) are each presenting and discussing research work on a six monthly basis. This should be in addition to the external research group links and presentations etc to sponsors/collaborators. An annual seminar where students present posters is not enough, but may fulfill other useful functions, e.g. presenting group externally).

More attention needs to be given by both staff and by research students to publication of research findings in international peer reviewed journals and conferences.

The inclusion in list of publications of minor publications, non-research publications, and non-relevant publications should be avoided.