GMIT
INSTITIÚID TEICNEOLAÍOCHTA NA GAILLIMHE-MAIGH EO
GALWAY-MAYO INSTITUTE OF TECHNOLOGY

Report of External Peer Review Group for the Programmatic Review of:

Named Award:	Master of Science (M.Sc.) in Computing
Programme Title(s):	M.Sc in Computing
Exit Award(s):	Higher Diploma in Science in Computing
Award Type:	Masters, Higher Diploma
Award Class:	Major
NFQ Level:	Level 9
ECTS / ACCS Credits:	60
Location:	Galway
Minor Award(s):	SPA Certificate in High Performance Computing Level 8 Java Module

Panel Members

Name	Position	Organisation
Dr Terry Twomey	Chairperson	LIT
Gerard MacMichael	Secretary	GMIT
Bryan Duggan	IOT Member	DIT
Michael Lang	University Member	NUIG
John Gavin	Professional Practitioner	Hewlett Packard
Angela Forde	Institute Graduate	Open Jaw Technologies

Programme Board Team

Gabriel Hicks
Dr. Sean Duignan
Dr. John Healy
Sabrina Kirrane

1 Introduction

The following report to Academic Council is a validation panel report from an expert panel of assessors on MSc in Computing

The report is divided into the following sections:

- Background to Proposed Programme
- General Findings of the Validation Panel
- Programme-Level Findings
- Module-Level Findings

2 Background to Proposed Programme

See Programme Self Evaluation Report (SER) for more detailed information.

3 General Findings of the External Peer Review Group

It was noted that this programme has not run since 2011. Funding is a big issue, in addition students are reluctant to commit as it is too expensive since the government funding has been cut. The programme board are proposing re-orientating part of the core module content.

Collaboration with ITAG, the industry representative association, is evident. The overwhelming majority of the level 8 graduates will go straight into industry; it was suggested to possibly target them for part-time study in line with their employers.

Concerns were raised in terms of the definition of the market for this course. Local and national targets are more than likely not available for the foreseeable future, so the programme should focus attention on non-nationals via the International Office, springboard possibly, and industry. Blended learning also needs to be considered going forward.

The Postgraduate Higher Diploma in Science in Computing is aimed at up skilling people who are registered as unemployed, and is being delivered on a part-time basis over 18 months. The age profile lies between 30 and 40, with over 50% getting H1 performances. There is a dedicated prefab and a great sense of team work and collaboration.

The work placement component of the Higher Diploma programme is of significant benefit with most getting full time work on completion of the placement. Options available, if for some reason they cannot get work placement, include a SQL or java certified programme or a project. A major threat to this programme is the reliance on springboard funding and the reduction in the number of eligible applicants.

In addition there is a proposal for an SPA Certificate in High Performance Computing, one module of which ties in with the java module. The SPA is approved on the condition that programme aims, entry requirements and a list of required texts are provided.

Having considered the documentation provided and discussed it with the programme development team, the External Peer Review Group recommends the following:

MSc in Computing
Place an x in the correct box.

Accredited for the next five academic years or until the next programmatic review, whichever occurs sooner	
Accredited subject to conditions and/or recommendations	X
Re-designed and re-submitted to the same External Peer Review Group after additional developmental work	
Not Accredited	

Note:
Approval is conditional on the submission of a revised programme document that takes account of the conditions and recommendations outlined below and a response document

describing the actions of the Department to address the conditions and recommendations made by the External Peer Review Group (EPRG). In this report, the term Condition is used to indicate an action or amendment which in the view of the EPRG must be undertaken prior to the commencement of the programme. Conditions are mandatory if the programme is to be approved. The term Recommendation indicates an item to which the Programme Board should give serious consideration for implementation at an early stage and which should be the subject of on-going monitoring.

4 Programme-Level Findings

This section of the report addresses the following programme level considerations:

- Evidence of reflection by the programme board to include, where relevant evidence of collaboration and engagement with other programmes from a similar discipline area within GMIT
- Demand
- Award
- Entry requirements
- Access, transfer and progression
- Retention
- Standards and Outcomes
- Programme structure
- Learning and Teaching Strategies
- Assessment Strategy
- Resource requirements
- Research Activity
- Quality Assurance
- Internationalisation
- Professional Practice (Work Experience / Internship etc)

4.1 Reflection, including internal and external engagement

Consideration for the panel:	Is there evidence of reflection in the SER of how the programme performed since the last programmatic review.
Overall Finding:	Yes

Commendation(s): Masters Programme

- The programme team on their reflection of the proposed changes
- Research and industry informed aspects of the programme is good, research active staff
- Excellent team is under resourced but still doing a great job
- Have aligned the learning outcomes with the assessment strategy

Condition(s):

- None.

Recommendation(s): Masters Programme

- Consider the marketing of the part time provision of the programme to industry; in addition to strengthening the international and springboard aspects.
- Review the research module dissertation or applied project module, as it cannot address both objectives, and the way it is currently configured cannot continue.
- Examine the running of sharply specialised modules, for example data analytics, software engineering and bioinformatics.
- Review the continuous assessment balance
- Consider the growing importance of Moocs and blended learning in light of the threats identified in the SWOT analysis.
- Consider establishing a formal external advisory board possibly at department or school level
- Consider broadening the entry requirement to high quality non-technical graduates. Consideration should also be given to the progression from the Higher Diploma in Science in Computing to the masters programme
- Consider the value of embedding/adding collaborative work / team work skills and align to learning outcomes
- Review the approved programme schedule to indicate which are mandatory and which are electives, and clearly identify the programme themes.

Commendation(s): Higher Diploma in Science in Computing

- Commend the placement component.
- The use of bring your own device (BYOD) learning environment.
- Assessment strategies and learning outcomes are well aligned.
- The staff on their engagement, very proactive.
- On the fact that it is working as a programme for up skilling

Recommendation(s): Higher Diploma in Science in Computing

- Reconsider criteria for entry based on previous experience
- Consider a 60 credit exit award
- Consider progression to other awards and a memorandum of understanding with other institutes
- Consider a late submission policy
- Consider collaborative work for assignments in line with the learning outcomes.

4.2 Demand

Consideration for the panel:	Is there a need for the programme and has evidence been provided to support it?
Overall Finding:	N/A

Note: Programme currently not being offered.

4.3 Award

Consideration for the panel:	Is the level and type of the award appropriate?
Overall Finding:	Yes

Commendation(s):

- None

Condition(s):

- None.

Recommendation(s):

- Consider a 60 credit award in relation to the Higher Diploma in Science in Computing
- Consider progression to other awards and a memorandum of association with other IOT'S

4.4 Entry Requirements

Consideration for the panel:	Are the entry requirements for the proposed programme clear and appropriate? Is there a relationship with this programme and further education?
Overall Finding:	Yes

Commendation(s):

- None

Condition(s):

- None.

Recommendation(s):

- Consider broadening the entry requirements to high quality non-technical graduates. Consideration to also be given to the progression from the Higher Diploma in Science in Computing to the master's programme.

Note: Good links with NUIG

4.5 Access, Transfer and Progression

Consideration for the panel:	Does the proposed programme incorporate the procedures for access, transfer and progression that have been established by the HEA and as contained in the Institute's Quality assurance Framework (QAF) COP No.4?
Overall Finding:	Yes

Commendation(s):
- None

Condition(s):
- None.

Recommendation(s):
- Consider progression to other awards and a memorandum of association with other institutes.

4.6 Retention

Consideration for the panel:	Does the proposed programme comply with the Institute norms for retention, both in first year and subsequent years? Are both elements of the First Year Experience {(i) Learning to Learn (now Learning and Skills Innovation) and (ii) PASS} embedded in this programme? Evidence of other retention initiatives?
Overall Finding:	N/A

Note: Programme currently not running.

4.7 Standards and Outcomes

Consideration for the panel:	Does the proposed programme meet the required award standards for programmes at the proposed NFQ level (i.e. conform to QQI Award Standards)? For parent award? For exit award (if applicable)? For Minor Award (if applicable)? For Special Purpose Award (if applicable)?
Overall Finding:	Yes

The awards standards requirements for programmes on the NFQ Framework can be found at http://www.hetac.ie/publications_pol01.htm

Commendation(s):
- **None**

Condition(s):
- The SPA Certificate in High Performance Computing needs to include programme aims, entry requirements and a list of required texts.

Recommendation(s):
- None.

4.8 Programme Structure

Consideration for the panel:	Is the programme structure logical and well designed and can the stated programme intended learning outcomes in terms of employment skills and career opportunities be met by this programme?
Overall Finding:	Yes

Commendation(s):
- The programme board have aligned the learning outcomes with the assessment strategies.

Condition(s):
- None.

Recommendation(s):
- None.

4.9 Learning and Teaching Strategies

Consideration for the panel:	Have appropriate learning and teaching strategies been provided for the proposed programme that support Student Centred Learning (SCL)? Evidence of consideration of flexible delivery methods including eLearning?
Overall Finding:	Yes

Commendation(s):
- None

Condition(s):
- None.

Recommendation(s):
- Consider the growing importance of Moocs and blended learning in light of the threats identified in the SWOT analysis.

4.10 Assessment Strategies

Consideration for the panel:	Have appropriate programme assessment strategies been provided for the proposed programme (as outlined in the QQI/HETAC Assessment and Guidelines, 2009)?
Overall Finding:	Yes

Assessment strategies are required in line with HETAC's Assessment and Standards and should be considered by the programme EPRG. See (HETAC (2009) Assessment and Standards, Section 4.6.1, page 33). Accordingly the assessment strategy should address the following (See (HETAC (2009) Assessment and Standards, Section 2.2.5, page 13) :

- Description and Rationale for the choice of assessment tasks, criteria and procedures. This should address fairness and consistency, specifically their validity, reliability and authenticity;
- Describe any special regulations;
- Regulate, build upon and integrate the module assessment strategies;
- Provide contingent strategy for cases where learners claim exemption from modules, including recognition of prior learning;
- Ensure the programme's continuous assessment workload is appropriately balanced;
- Relate to the learning and teaching strategy;
- Demonstrate how grading criteria will be developed to relate to the Institutional grading system.

Commendation(s):
- None

Condition(s):
- None.

Recommendation(s):
- None.

4.11 Resource Requirements

Consideration for the panel:	Does the Institute possess the resources and facilities necessary to deliver the proposed programme?
Overall Finding:	Yes

4.12 Research Activity

Consideration for the panel:	Evidence that Learning & Teaching is informed by research? Number of staff engaged in institutional/pedagogical research?
Overall Finding:	Yes

Commendation(s):
- Research and industry informed aspects of the programme is good, research is active

Condition(s):
- None.

Recommendation(s):
- None.

4.13 Quality Assurance

Consideration for the panel:	Does the proposed programme demonstrate how the Institute's quality assurance procedures (QAF) have been applied and that satisfactory procedures exist for the on-going monitoring and periodic review of programmes?
Overall Finding:	Yes

4.14 Internationalisation

Consideration for the panel:	Does the proposed programme demonstrate how the syllabi represent an international dimension? Is there evidence of approaches to induct international students?
Overall Finding:	Yes

Note: In terms of research projects, there are challenges evident from international studies in relation to international students' academic writing skills.

4.15 Professional Practice (Work Experience / Internships etc)

Consideration for the panel:	Does the proposed programme incorporate professional practice as per the Institute's policy on professional practice (PP)? If not, is there evidence that PP is under consideration by the programme board?
Overall Finding:	Yes

Commendation(s):

- The work placement component of the Higher Diploma in Science in Computing is working well

Condition(s):

- None.

Recommendation(s):

None

5.0 Module-Level Findings: General

There is a proposal for a Special Purpose Certificate in high performance computing, one module which ties in with the java module. Also, consider sharing modules with other colleges.

Commendation(s):

- None

Condition(s):

- That programme aims; entry requirements and a list of required text are provided.

Recommendation(s):

- Review the Research module dissertation or applied project module as it can't be both and the way it is currently configured cannot continue.
- Look at specialising some modules for example data analytics, software engineering and bioinformatics.
- In relation to additional modules – Level 8 Java Module, consider using processing as a tool for java teaching.

5.1 Module Assessment Strategies

Consideration for the panel:	Have appropriate module assessment strategies been included in each Module Descriptor?
Overall Finding:	Yes

5.2 Module Level-Findings: Specific Named Modules

5.2.1 Module (Forensic Computing)

Note: Replacing the module to Data Analytics.

5.2.2 Module (Advanced Database Technology)

Note: Re-orientate the learning outcomes and indicative syllabus of the above module to encompass next-generation databases systems.

5.2.3 Module (Bioinformatics)

Note: Re-orientate the indicative syllabus of the above module to reflect advances in sequence alignment and genome assembly.

5.2.3 Module (Software Engineering)

Note: Modify the ratio of marks shared between the terminal examination and continuous assessment to 50:50 from 70:30

6.0 Student Findings

No student feedback as the course is currently not running.

7.0 Stakeholder Engagement

No major concerns were raised in relation to stakeholder engagement other than to have some formalised engagement with stakeholders / industry in place, as the 3 month work placement is critical for the Higher Diploma in Science in Computing's course survival.

8.0 Future Plans

Continue to develop and nurture collaborations with ITAG. Consider targeting them for part time study in line with their employers. Reviewing the focus of the where the market is for this course in terms of non-nationals, springboard and industry.

Consideration for	Evidence that the programme board considered and identified

the panel:	opportunities and signalled proposals for related new programme and award development.
Overall Finding:	Yes

Validation Panel Report Approved By:

Signed:

Terry Twomey

Terry Twomey
Chairperson

Date: 5th May 2015