

## ULSTER UNIVERSITY

### REPORT OF A MEETING OF THE REVALIDATION PANEL UNIT 16G1: COMPUTING (BMC)

27 February 2019

#### PANEL:

Professor Gillian Armstrong, Director of Business Engagement, Ulster University Business School (Chair)

Dr Nicola Ayre, Associate Head of the School of Computing, Ulster University

Mr Howard Wright, Lecturer in History & Theory of Applied Arts, Ulster University

Dr Behnam Bazli, Lecturer and Course Leader, School of Computing, Staffordshire University

Professor Andrew Ware, Professor of Computing, Faculty of Computing, Engineering and Science, University of South Wales

Mr Stephen Ogburn, Student representative, Belfast Metropolitan College

#### REVALIDATION UNIT CO-ORDINATOR:

Mr Robert Walsh, Course Director, Access Diploma in Computing for the Economy.

Mr Patrick Mooney, Course Director, Foundation in Engineering in Software Engineering.

#### IN ATTENDANCE:

Mrs Ayla Guarino, Academic Policy and Standards Officer, Academic Office, Ulster University

Mrs Maeve Paris, Faculty Partnership Manager, Faculty of Computing, Engineering and the Built Environment, Ulster University

## 1 INTRODUCTION/BACKGROUND

The Panel was convened to consider the following provision within Revalidation Unit 16G1 Computing (BMC):

- Access Diploma in Computing for the Economy (with Certificate in Adult Learning exit award) (FT/PT) [previously Access Diploma in Computing, Business and Multimedia]
- Foundation Degree in Engineering in Software Engineering (with Certificate of Higher Education exit award) (FT)

The Access provision would be offered in both full-time (1 year over 2 semesters) and part-time (2 years over 4 semesters) modes leading to an Access Diploma in Computing for the Economy. The course would offer 5 compulsory 20 credit point modules (40 credit

points at level 2 and 60 credit points at level 3) and 2 compulsory 10 credit points modules (one at level 2 and one at level 3). A Certificate in Adult Learning exit award would be available for students who successfully completed 60 credit points.

The Access provision would offer equivalence to both GCSE Mathematics and GCSE English at Grade C or above (as confirmed by the Faculty Partnership Manager).

The Foundation provision is a level 5 award comprising seven compulsory level 4 modules (20 credit point each), two level 5 modules from a choice of four (20 credit point each) and a compulsory 60 credit point work-based learning module. It would be offered in full-time mode only, over two academic years. A CertHE exit award would be available for those exiting after successfully completing the requisite six level 4 modules.

Graduates of the Foundation provision are eligible to be considered to progress to the following Ulster University courses:

- BEng Hons Software Engineering (FT)
- BSc Hons Computing Science (FT)
- BSc Hons Computing Systems (PT)

The following are the minimum and maximum student intake figures recommended by the Faculty (based on available staff and physical resources on each campus).

#### Access Diploma in Computing for the Economy

	Mode of Attendance	Year of 1 <sup>st</sup> Intake	Year of 2 <sup>nd</sup> Intake	Year of 3 <sup>rd</sup> Intake	Year of 4 <sup>th</sup> Intake	Year of 5 <sup>th</sup> Intake
Maximum cohort size for each site recommended by Faculty	FT	20	20	20	20	20
	PT	20	20	20	20	20
Minimum cohort size for each site recommended by Faculty	FT	15	15	15	15	15
	PT	15	15	15	15	15

#### FdEng Software Engineering

	Mode of Attendance	Year of 1 <sup>st</sup> Intake	Year of 2 <sup>nd</sup> Intake	Year of 3 <sup>rd</sup> Intake	Year of 4 <sup>th</sup> Intake	Year of 5 <sup>th</sup> Intake
Maximum cohort size for each site recommended by Faculty	FT	60	60	60	60	60
Minimum cohort size for each site recommended by Faculty	FT	45	45	45	45	45

## 2 DOCUMENTATION

The Panel received the following documentation:

- Agenda and programme of the meeting;
- Guidelines for Revalidation Panels;
- University of Ulster Access Course Requirements;
- QAA subject benchmark statement for Computing, 2016;

- QAA Characteristics Statement, Foundation Degree, 2015;
- Preliminary comments from the Faculty Partnership Manager (Form CA4);
- External Examiners' reports for the last two years;
- Preliminary comments from panel members; and
- Course submission.

### 3 MEETING WITH SENIOR MANAGEMENT TEAM

#### 3.1 Background and Rationale

The senior team provided the Panel with some background information in relation to the provision and how it sits within the College's strategy. The senior team explained that both the Foundation Degree and the Access Diploma sat alongside other programmes offered at similar levels and were a key part of the overall College provision which focused on both a close partnership with industry as well as providing opportunities for academic progression.

The senior team explained how they work closely with employers to understand local needs and shortages and adapt the programmes to help close the skills gap, adding that the provision, which has been running for years, had been greatly informed by industry needs, and that the curriculum had been modified according to developments in the field.

#### 3.2 Curriculum Adaptability

The senior team assured the Panel that the curriculum was industry informed and adapted to this rapidly changing field. In addition to close links with, the senior team explained that experts from industry were often brought to inform of new developments, adding that they would not only focus on specific content and language of programming but also teach skills which help develop students' adaptably to change.

The Panel was assured that the content would not be stagnant for the five-year period of validation, and that CA3 forms requesting to update the curriculum would be submitted when required.

The senior team detailed other mechanisms which were in place to ensure the curriculum was current. These included: College staff attending courses to upscale their expertise; the close links with the Faculty Partnership Manager, who provides guidance on subject areas which need to be covered; and the valuable input received from the external examiner.

#### 3.3 Staff Resources

In response to a query from the Panel, the senior team outlined the various benefits of having a small sized team, such as close communication and collaboration between the staff members. In case of staff absences, a part-time register was in place to ensure availability of cover when needed.

The senior team explained that the reason for assigning many of the modules in the Access Diploma's course document to the course director, Robert Walsh, was that many of the teaching staff were yet to be confirmed.

### 3.4 Minimum and maximum student cohort size

The senior team agreed with the Faculty's recommendation of a maximum number of 60 students and a minimum of 45 students per cohort for the FdEng Software Engineering, to ensure course viability and a quality student learning experience. For the Access Diploma in Computing for the Economy, the senior team agreed with the Faculty's recommendation of a maximum of 20 students and a minimum of 15 students for the full-time cohort. Same numbers were agreed for the part-time cohort.

### 3.5 Admission and Entry Requirements

The Panel queried how many applications would normally be received for the Access Diploma. The senior team estimated around 120-130 applications and described the three-stage diagnostic test all students would be given to assess their competence in literacy and numeracy. In the initial stage, the team would conduct a Pre-Entry meeting, followed by the diagnostic to assess competency in literacy and numeracy. Finally, the students would be invited for an interview where they would have a chance to illustrate their willingness and motivation, as well as to discuss their likelihood of completing the provision alongside other commitments they may have, such as family or work responsibilities. The senior team explained that this process had not been designed as an admission barrier but rather it was a tool to assist the applicants in their decision process and ensure low attrition levels.

### 3.6 Attrition Rates and Student Support

The Panel queried the Access Diploma's high levels of attrition. The senior team described the College's wide range of student support services such as the Careers and Employability Service, Student Funding Advice and Guidance Service, Student Wellbeing, Inclusive Learning Service, and the Student Counselling Service. The Panel was assured that this would translate to elaborate support for the students, ranging from assigned personal mentors to special support and allowances, tailored and allocated on an individual basis. The Panel noted that, in addition, students would have the flexibility to transfer between the full-time and the part-time modes.

## 4 MEETING WITH STUDENTS

The Panel met with a group of students from the existing provision.

The Chair welcomed the students noting that they are an important part of the quality assurance process, helping in assessing the quality of their experiences and to identify areas where improvement can be made.

### 4.1 Student Support

The students praised the high level of support they received from staff in easing their transition into the programme. They all benefited from the initial induction which covered a range of concepts and skills required to successfully advance in the programme. The students added that they found the additional, individual, support offered by the personal tutor to be very beneficial.

## 4.2 Physical Resources

The students were satisfied with the College's physical resources, mentioning easy access to library materials, computers and other facilities. They did, however, feel the need for updating the software on the library's laptops.

## 4.3 Student Representation

The Panel explored the students' opportunities to raise any issues they had with the programme or other related matters querying if these were addressed. The Students detailed mechanisms by which the College allowed for student feedback, such as a student representative in every class, assuring the Panel that any issues raised with the course team had been addressed.

## 4.4 Placement

The students reported no issues relating to placement and felt that there was ample support in place throughout the whole process. In regard to securing placement, although the responsibility laid with the students, they felt that there were plenty of placement opportunities available and that potential placement opportunities were well communicated.

The students mentioned a few instances in which students did not have the opportunity to carry out their placement at the employers' facilities, but rather worked in the library, on-campus. In these cases, the students, on occasion, would meet with their employers on campus, or via Skype, if they were based further afield. The Panel noted that there was no dedicated space or computers for these students.

## 4.5 Group Work

The students reported no issues relating to group work, explaining that they felt working with others was extremely beneficial and that the marks they received accurately reflected each individual's contribution to the work.

## 4.6 Feedback

The Panel noted that the quality of the feedback received on coursework was highly valued by the students, feeling it was clear, detailed and easily fed forward to other pieces of assessment.

## 4.7 Academic Integrity

Students explained staff conveyed the importance of academic integrity, and how plagiarism could be avoided.

## 4.8 Attrition

The students were of the opinion that the majority of students leaving the programme were first year students who mainly chose to leave because of personal circumstances. Attendance was closely monitored, and the College provided ample tailored support for students who struggled for personal reasons, including the option to transfer from full-time to part-time mode.

## 4.9 Suggestions for Improvement

The Panel asked the students what they would like to change in the programme. Most of the Foundation Degree students preferred for the Employability and Enterprise module to be more subject specific to Software Engineering. Some of the Access Diploma students discussed the level of the mathematics modules, suggesting they be taught at higher level.

The Panel thanked the students for their engagement and speaking openly and honestly about their experiences and wished them well for their studies and future careers.

## 5 MEETING WITH THE COURSE TEAM

### 5.1 Work-Based Learning

The Panel asked the team to outline how this element of the programme would be managed. The team explained that the students were provided with support from the initial stages of preparation for placement as well as assistance in securing placement. The Work-Based Learning module would be taken in semester 2 of year 2 in the full-time programme. However, preparation would start at the end of year 1 with seminars which would include presentations from employers and ex-students. During year 2 semester 1, further seminars and workshops would be delivered, to reinforce the information already provided and to clarify each of the stages of the work-based learning element. Workshops would be delivered to prepare students with CV writing and drafting of cover letters, and students would have the opportunity to submit sample CVs on which they would receive feedback. A workshop on application and securing placement and interview techniques would also be delivered.

The team explained that while students were responsible for securing their own placement, the majority of students would be supported. The College had a rich and growing pool of placement opportunities with various employers, detailing clear job specifications, which would be circulated to the students.

In response to the Panel's query, the team explained that although they encouraged employers to provide paid placement, only some did. However, many did provide reimbursement for expenses.

During the placement, students would complete a daily log which would function as the base of their final report. For commercial sensitivity reasons, students would not be required to make a presentation at the end of the placement period. College tutors would conduct at least two site visits to meet with both the employers and the students. This would also help to ensure the placement's alignment with the module learning outcomes.

The team explained that employers had influenced the extended length of the placement period (3 months, 600 hours), and that often students would be offered employment when placement was completed.

The Panel informed the team that the students had raised an issue relating to on-campus placements, querying how the team ensures the students in question were not being disadvantaged by not going into a workplace environment. Although the team acknowledged that this might be a disadvantage, they pointed out that it was the students'

responsibility to secure their own placement. The team explained that on-campus placements occurred in very small numbers, and could happen for various reasons, such as students not being able to travel or employers not having the added space for them. The team was of the opinion that working under these conditions would enable the students to develop additional skill sets such as independent learning and alternative communication skills when conversing with employers via Skype, adding that there are many jobs which would require working from a virtual place, under similar conditions.

As the placement was a requirement for completion of the course, the Panel queried what procedure was in place for unplaced students or students who would not be able to complete their placement, pointing out that this would potentially have implications under the Competition and Markets Authority (CMA) regulations. The team assured that Panel that this would very rarely occur, and that in such situations, alternatives would be provided.

## 5.2 Employability and Enterprise Module

The Panel informed the team that the students felt that they would benefit from the Employability and Enterprise module being more subject specific. The team explained that they would address this by inviting speakers as well as holding a one-day Employer Forum during which employers would talk about the specific sector.

## 5.3 Industry-Informed Curriculum

The Panel asked the senior team to outline the extent and nature of stakeholder engagement in the design and development of the curriculum. The team reiterated the close links with industry, and confirmed the curriculum had been informed, developed and refined based on industry needs and feedback from key stakeholders.

## 5.4 Curriculum Design Principles

In response to the Panel's query, the team described the use of alternative teaching approaches, such as flipped classrooms, class tests and group work to encourage student engagement. Encouragement of independent study supported by VLE was also mentioned. The team explained that there would be a gradual transference of responsibility with skills gradually being acquired over the duration of the course. The team were of the view that this structure would allow for gradual enhancement of students' confidence and independence.

## 5.5 Cyber Security

In response to a question from the Panel, the team advised that cyber security, although not specifically mentioned in the various module descriptions, was covered in most modules. The team explained that a cyber security module was not introduced to the programme, as the College offered a separate foundation degree on the topic, validated by the Open University.

## 5.6 Content

The Panel discussed the content of various modules with the team.

- *Introduction to Maths for Computing and Maths for Computing* – The Panel reported that some students felt they were not challenged by the two mathematics modules delivered in the Access Diploma. The team assured the Panel this had been addressed in the revised curriculum. The level 1 mathematics module had been replaced with a new, subject specific, level 3 module, explaining that the content of the Mathematics for Computing module had been designed to relate to the other modules delivered in the programme.
- *Computer Concepts* – the Panel were of the opinion that Access Diploma students would benefit from being introduced to the concepts of cyber security from an early stage and recommended cyber security content would be included in this introductory module.

The Panel were advised that the team's decision to teach the programming language Python over other programming languages such as C++ and C sharp was informed by industry.

## 5.7 Assessment Strategy

The Panel queried how the assessment strategy was devised. The team explained that they came together to devise a strategy which ensured students would be able produce individual and creative work. This might include delivering a presentation or building a portfolio of individual work.

The Panel queried how the team equated a 15 minutes presentation to a 2 hour exam. The team explained that the students' preparation time was taken into account, mentioning that cognisance had been taken of Ulster University's suggested guidelines of assessment tariffs. The team assured the Panel that students would be provided with the criteria for the presentations' assessment as well as a clear marking scheme.

The Panel asked for the rationale behind the high number of exams. The team explained it was to assess the students' understanding and ability to recall knowledge. However, to avoid disadvantaging students who do not excel at recall, the assessment was designed to contain equally weighted coursework and exams. The use of exams would also prepare students for University exams as they progress into HE. The team acknowledge that Ulster University has moved away from exams towards more imaginative and authentic coursework but insisted this was not the case in all Universities.

In regard to the Access Diploma, the team explained that as it was a level 3 degree, they chose to use similar stepping stones as those used for A Levels (which are also a level 3 award). The team felt this was to ensure the students were not disadvantaged.

The team assured the Panel that although no formal seminars were included in the learning and teaching methods, all lectures would provide opportunities for collaboration, discussion and group work. This would be easily accommodated due to the small class sizes (of 20 students).

## 5.8 Module Titles

The Panel discussed the importance of the modules' titles for future employment opportunities, explaining that as employers would not be privy to the modules' contents, it would be highly beneficial to ensure the modules' titles were descriptive and contemporary.

## 5.9 Title of the Access Diploma in Computing for the Economy

The Panel queried the reason for the title change from Access Diploma in Computing, Business and Multimedia to Access Diploma in Computing for the Economy. The team explained that the title change was driven by marketing considerations as well as the negative feedback received from both students and the external examiners in relation to the business modules, which, they felt were of minimal contribution to the course. The title was designed to attract students to the expanding local IT industry.

## 5.10 Funding

The team explained the funding options for the Access Diploma students. While only the full-time students would be able to qualify for funding from the government, to ensure they are not disadvantaged, part-time students would be able to apply for support with fees within the College. Both modes would be able to apply for the College's various hardship funds.

# 6 CONCLUSIONS

The Panel commended the team on the following aspects evident from the validation:

- The high level of student support and tailored approach to learning on the programmes, particularly evident within the individual learning plans.
- The commitment of staff to raising ambitions for students, through completion of priority skills related programmes, such as the Access Diploma.
- The implicit utilisation of employer feedback within curriculum design and modular content.
- The final outcomes for students in securing relevant employment through the work-based learning opportunities.

The Panel agreed to approve the change in the provision's title from Access Diploma in Computing, Business and Multimedia to Access Diploma in Computing for the Economy starting from September 2019. The Panel agreed to recommend to the Academic Standards and Quality Enhancement Committee that the programmes be approved for a period of five years (intakes 2019/20 to 2023/24 inclusive) subject to the conditions and recommendations of the Panel being addressed and a satisfactory response and a revised submission being forwarded to the Academic Office **by 10 April 2019** for approval by the Chair of the Panel.

### Conditions

1. That matters of detail and clarification as identified in the notes by Academic Office to the Panel are addressed; and
2. That the policy around work-based learning opportunities be expanded, particularly around unpaid opportunities, and aligned with the programme's promotion and information for applicants; that the team further review the credits and assessment strategy within the related work-based learning module.

## Recommendations

1. To consider revising the modules' titles in both programmes to help demonstrate contemporary developments and support employment opportunities in the subject area;
2. To further review the programme learning outcomes in both programmes to ensure balance and a consistent level of effort across modules;
3. To further review the assessment strategy (coursework : exam weightings) across modules on the FdEng programme (with reference to the UU equivalency table);
4. To include coverage of "Computer Security" within the Computer Concepts module on the Access Diploma programme and reduce coverage in sections 5,6 and 9; and
5. To expand the level of required reading on the Access Diploma programme.

## 7 APPRECIATION

The Chair thanked the Panel members and, in particular, the external members, for their valuable contribution to the validation process.