

# Programmatic Review



**School of Informatics & Engineering**

**Peer-review panel report**

11<sup>th</sup> May 2015

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## 1. Executive summary

- 1.1. The School of Informatics and Engineering, Institute of Technology Blanchardstown undertook a review of its programmes and activities during the academic year 2014-2015. The School is comprised of the Department of Informatics and the Department of Engineering. Staff of each Department produced a self-evaluation report. External peer-review panels were established by the Registrar. The panels met on the 24<sup>th</sup> and 25<sup>th</sup> March 2015 (Department of Informatics) and on the 28<sup>th</sup> and 29<sup>th</sup> April 2015 (Department of Engineering) to consider the self-evaluation reports and to meet with staff of the School. This report identifies the findings of these peer-review panels.
- 1.2. The overall recommendation of each of the panels was that all proposed changes to existing syllabi and recommendations made in the self-evaluation report be accepted. The panels recommended that all the programmes considered be accredited for a further five years.
- 1.3. The panels were impressed by the depth of self analysis that was undertaken by the School, how the teaching processes accommodate the varied learning styles of students and the level of open and frank dialog throughout the various engagements during the visits.

## 2. Preamble

- 2.1. The School of Informatics and Engineering, Institute of Technology Blanchardstown undertook a review of its programmes and activities during the academic year 2014-2015. The process followed was that described in Institute policy 2MP31 “Institute Review Policy”. Staff of each Department in the School produced a self-evaluation report of activities as described in this policy document.
- 2.2. External peer-review panels were established by the Registrar following the procedures outlined in 2MP31. The panels met on the 24<sup>th</sup> and 25<sup>th</sup> March (Department of Informatics) and on the 28<sup>th</sup> and 29<sup>th</sup> April 2015 (Department of Engineering) to consider the self-evaluation reports and to meet with staff of the School.

Panels and dates as follows:

### Department of Informatics

24<sup>th</sup> March     Review of computing programmes

25<sup>th</sup> march     Review of creative digital media programmes

### Department of Engineering

28<sup>th</sup> April     Review of engineering programmes

29<sup>th</sup> April     Review of horticulture programmes

- 2.3. The peer-review groups produced a report of their findings (this report) and this will be reported to the Academic Council of the Institute as per agreed quality assurance policy 2MP31.

### 3. Programmes considered for re-validation

#### Department of Informatics Computing Programmes – 24<sup>th</sup> March

BN104	BN_KCOMP_8	Bachelor of Science (Honours) in Computing	NFQ Level 8 240 ECTS credits
BN002	BN_KCOMP_C	Higher Certificate in Science in Computing in Information Technology	NFQ Level 6 120 ECTS credits
BN013	BN_KCOMP_7	Bachelor of Science in Computing in Information Technology	NFQ Level 7 180 ECTS credits
BN302	BN_KCOMP_D	Bachelor of Science in Computing in Information Technology	NFQ Level 7 60 ECTS credits
BN402	BN_KCOMP_B	Bachelor of Science (Honours) in Computing in Information Technology	NFQ Level 8 60 ECTS credits
BN120	BN_KISDF_8	Bachelor of Science (Honours) in Computing in Digital Forensics and Cyber Security	NFQ Level 8 240 ECTS credits
BN034	BN_KISDF_7	Bachelor of Science in Computing in Digital Forensics and Cyber Security	NFQ Level 7 180 ECTS credits
BN311	BN_KISDF_D	Bachelor of Science in Computing in Digital Forensics and Cyber Security	NFQ Level 7 60 ECTS credits
BN420	BN_KISDF_B	Bachelor of Science (Honours) in Computing in Digital Forensics and Cyber Security	NFQ Level 8 60 ECTS credits
BN509	BN_KCOMP_G	Higher Diploma in Science in Computing	NFQ Level 8 60 ECTS credits
BN026	BN_KCFSM_C	Higher Certificate in Science in Computer Systems Management	NFQ Level 6 120 ECTS credits

#### Department of Informatics - Creative Digital Media Programmes – 25<sup>th</sup> March

BN112	BN_DDMED_8	Bachelor of Arts (Honours) in Creative Digital Media	NFQ Level 8 240 ECTS credits
BN021	BN_DDMED_7	Bachelor of Arts in Creative Digital Media	NFQ Level 7 180 ECTS credits
BN413	BN_DDMED_B	Bachelor of Arts (Honours) in Creative Digital Media	NFQ Level 8 60 ECTS credits
BN746	BN_DDMED_XWC	Certificate in Creative Web Communication	NFQ Level 6 30 ECTS credits

### Department of Engineering – Mechatronic and Computer Engineering Programmes – 28<sup>th</sup> April

BN117	BN_ECNG4_8	Bachelor of Engineering (Honours) in Computer Engineering in Mobile Systems	NFQ Level 8 240 ECTS credits
BN012	BN_EELTC_7	Bachelor of Engineering in Computer Engineering	NFQ Level 7 180 ECTS credits
BN001	BN_EELTC_C	Higher Certificate in Engineering in Electronics and Computer Engineering	NFQ Level 6 120 ECTS credits
BN301	BN_EELTC_D	Bachelor of Engineering in Computer Engineering	NFQ Level 7 60 ECTS credits
BN423	BN_ECNG4_B	Bachelor of Engineering (Honours) in Computer Engineering	NFQ Level 8 60 ECTS credits
BN121	BN_EMEC4_8	Bachelor of Engineering (Honours) in Mechatronics	NFQ Level 8 240 ECTS credits
BN009	BN_EMECH_D	Bachelor of Engineering in Mechatronics	NFQ Level 7 180 ECTS credits
BN422	BN_EMEC4_B	Bachelor of Engineering (Honours) in Mechatronics	NFQ Level 8 60 ECTS credits
BN903	BN_EMECH_C	Higher Certificate in Engineering in Mechatronics	NFQ Level 6 120 ECTS credits
BN306	BN_EMECC_D	Bachelor of Engineering in Mechatronics	NFQ Level 7 60 ECTS credits
BN718	BN_EMECH_Q3D	Certificate in Computer Aided Design and Manufacturing.	NFQ Level 8 15 ECTS credits
BN742	BN_EESIA_Q	Certificate in Industrial Automation.	NFQ Level 7 30 ECTS credits

### Department of Engineering – Horticulture Programmes – 29<sup>th</sup> April

BN113	BN_SHTSC_8	Bachelor of Science (Honours) in Horticulture	NFQ Level 8 240 ECTS credits
BN022	BN_SHTSC_7	Bachelor of Science in Horticulture	NFQ Level 7 180 ECTS credits
BN406	BN_SHTSC_B	Bachelor of Science (Honours) in Horticulture	NFQ Level 8 60 ECTS credits

## Peer-review panel(s)

Department of Informatics - computing 24<sup>th</sup> March

Dr Dermot Douglas	Higher Education Consultant (Chair)
Ms Janice O'Connell	Limerick Institute of Technology
Mr Tim Horgan	Cork Institute of Technology
Dr Jeremy Jones	Trinity College Dublin
Dr Clive Rosen	University of Derby - UK
Mr Stephen Howell	Microsoft
Mr David Kendellen	Liberty IT
Mr Simon Perkins	Bournemouth University – UK
Mr Kevin Conway	Institute of Technology Carlow

Department of Informatics – creative digital media 25<sup>th</sup> March

Dr Dermot Douglas	Higher Education Consultant (Chair)
Ms Janice O'Connell	Limerick Institute of Technology
Mr Tim Horgan	Cork Institute of Technology
Dr Clive Rosen	University of Derby - UK
Mr Stephen Howell	Microsoft
Mr Simon Perkins	Bournemouth University – UK
Mr Trevor Hogan	Cork Institute of Technology
Mr Kevin Conway	Institute of Technology Carlow

Also in attendance on both days:

Mr. Richard Gallery	Registrar Institute of Technology Blanchardstown
Mr. Michael Keane	Quality Assurance Officer Institute of Technology Blanchardstown

Department of Engineering - engineering 28<sup>th</sup> April

Dr Dermot Douglas	Higher Education Consultant (Chair)
Ms Una Parsons	Institute of Technology Sligo
Dr Austin Hanley	Athlone Institute of Technology
Prof Dermot Brabazon	Dublin City University
Dr Jim Harkin	University of Ulster
Dr Louis Sherwin	IO Systems Ltd
Mr Des O'Reilly	Galway-Mayo Institute of Technology
Dr Donnacha Lowney	Institute of Technology Carlow
Mr Geoff Hunter	Limerick Institute of Technology

Department of Engineering - horticulture 29<sup>th</sup> April

Dr Dermot Douglas	Higher Education Consultant (Chair)
Ms Una Parsons	Institute of Technology Sligo
Dr Austin Hanley	Athlone Institute of Technology
Dr Caroline Elliott-Kingston	University College Dublin
Ms Gráinne McMahon	Teagasc
Ms Claire Woods	College of Agriculture, Food & Rural Enterprise (Northern Ireland)
Ms Helena McGorman	MILI Dún Laoghaire Rathdown County Council
Mr Geoff Hunter	Limerick Institute of Technology

Also in attendance on both days:

Mr. Richard Gallery	Registrar Institute of Technology Blanchardstown
Mr. Michael Keane	Quality Assurance Officer Institute of Technology Blanchardstown

**Institutional staff consulted**3.1. Department of Informatics – 24<sup>th</sup> March

Dr Brian Nolan	Dr Anthony Keane	Mr Tom Nolan
Dr Simon McLoughlin	Mr Stephen Sheridan	Dr Kevin Farrell
Mr Mark Cummins	Ms Aoife Fox	Ms Maria Brennan
Ms Geraldine Gray	Mr Conn Cremin	Ms Orla McMahon
Dr Markus Hofmann	Ms Frances Murphy	Dr Matt Smith
Mr Michael Hegarty	Mr Gerome Donnelly	Mr Daniel McSweeney
Mr Noel Carey	Mr Michael O'Donnell	Ms Irene Murtagh

3.2. Department of Informatics – 25<sup>th</sup> March

Dr Brian Nolan	Dr Anthony Keane	Mr Daniel McSweeney
Mr Stephen Sheridan	Mr Hugh McCabe	Ms Niamh O'Hora
Dr Matt Smith	Ms Margaret Kinsella	Mr Arnold Hensman
Ms Frances Murphy	Mr Ian Cudmore	Ms Sinead Curran
Ms Nicola Duffy	Mr Robert Smith	Mr Hugh Rodgers

3.3. Department of Engineering – 28<sup>th</sup> April

Dr Brian Nolan	Dr Philip Owende	Dr Catherine Deegan
Dr Garret Brady	Dr Arnulf Horn	Dr Darren Lavelle
Mr Damian Cox	Dr James Duffy	Mr Ivan Smyth
Mr David Carroll	Mr David Peyton	Mr Niall Campbell
Mr Derek Kerr	Mr David Powell	Ms Michelle Looby
Dr Garret Brady	Mr Paul Stacey	Mr Benjamin Toland
Mr Dave Carroll	Dr Morris Rimbi	Dr Barry Kirkpatrick
Mr Gerard Duke	Dr Mohamad Saleh	Mr Douglas Hynes
Mr Michael Egan	Mr Fergus Maughan	Dr Gareth Curran
Dr Arnulf Horn	Ms Mary Cowan	

3.4. Department of Engineering – 29<sup>th</sup> April

Dr Brian Nolan	Dr Philip Owende	Mr Eamon Kealy
Mr Michael Hagan	Ms Ciarnad Ryan	Dr Christy Boylan
Mr Harold Lawlor	Mr Joseph Smith	Mr Robert Hickey
Ms Jane McCorkell	Ms Rachel Freeman	Mr Paul Dervan
Mr Fergus Maughan		



## 4. Documentation submitted for consideration

4.1. The panel considered the following documentation:

- School overview;
- Programme review submissions

These 4 documents provided the panel with information in relation to the Institutional context, departmental overview (Informatics and Engineering) the approach taken, industry consultation, stakeholder feedback, rationale for proposed changes, programme/student performance analysis, proposed revised schedules, revised syllabi, syllabi of new modules and transitional arrangements as appropriate:

- Review of Informatics Programmes (24<sup>th</sup> March)
  - Review of Creative Digital Media Programmes (25<sup>th</sup> March)
  - Review of Engineering Programmes (28<sup>th</sup> April)
  - Review of Horticulture Programmes (29<sup>th</sup> April)
- Existing programme schedules and syllabi were made available through the use of Akari Document at <http://courses.itb.ie>
  - Supporting documentation including student handbooks, project and placement handbooks were also provided as appropriate.
  - Access was provided through the Institute's MOODLE to additional material relevant to the review.

The panel expressed its appreciation for the time and effort taken in preparation of this documentation and commended the quality and detail of the submissions from the Department of Engineering.

## 5. Department of Informatics

### 5.1. Review of computing programmes – 24<sup>th</sup> March

The chairman welcomed the panel. He stressed the importance of the work being undertaken, its relevance within the Institute's quality processes and the retention of delegated authority. He confirmed that the approach would be collegiate and that as well as satisfying a regulatory requirement in relation to revalidation the process should also be seen as developmental and part of the quality improvement machinery of the Institute.

It was noted that the programmatic review process is part of a suite of quality assurance processes agreed with QQI and in accordance with the provisions of Section 28 of the Qualifications (Education and Training) Act 1999. This exercise takes place every 5 years and follows the process documented in Institute policy 2MP31 "*Institute Review Policy*". The main process involves self-study with recommendations of amendments to existing approved course schedules with associated justification.

As per agreed procedure, the Registrar nominated the Quality Assurance Officer to act as secretary to the panel.

It was noted that the Academic Council has responsibility for ensuring that recommendations of this panel report are implemented.

The Chairman presented the context of the panel review and noted that the purpose of programmatic review is to:

1. Facilitate a reflective self-study within the School which allows critical evaluation of all activities, both current and proposed;
2. Evaluation of this self-study by a panel of peers drawn from education and industry;
3. Facilitate a review of all academic courses provided by the School indicating how they have been updated in light of changing environmental conditions and recent knowledge.
4. Consider updated recommendations from course boards with regard to the addition/deletion of modules, changes in credit value or changes in module delivery;
5. Issue recommendations and/or set conditions for re-accrediting programmes for the next 5 years;

The roles and responsibilities of the panel as listed in Institute policy document 2MP17 "*Roles and responsibilities of external experts on validation and review panels*" were noted.

The Head of Department of Informatics welcomed the panel and briefly described the approach taken for programmatic review within the School and the relationship between the activities of the School and the strategic plan of the Institute.

The panel was informed of how the process was parsed into a series of stages as described in the Institute policy 2MP31<sup>1</sup>. Programmes were reviewed by subject

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<sup>1</sup> Institute review policy

teams and changes considered by a steering group. A SWOT analysis was completed for each programme.

Stakeholder input into the SWOT analysis was also discussed. Student retention was discussed in the light of statistical information provided within the submission documents covering the period since the last programmatic review.

The panel expressed concern at what appeared to be low progression rates in some programmes. The panel noted the absence of completion rate analysis and recommended that same be carried out at programme level and that ongoing initiatives to address retention/progression be collated and presented to the panel.

The panel noted the absence of a clearly articulated programme assessment strategy within the documentation provided in advance of the meeting. The panel was of the opinion that throughout the informatics programmes an imbalance was evident between formative and summative assessment, there was insufficient cross modular integrated assessments, the volume of assessment appeared very high and that further definition was required on reassessment opportunity and reassessment events at modular level.

The absence of an opportunity for students to go on work placement was discussed. Given the stated intention that this would be a characteristic of the new TU4 Dublin programme design, the panel was of the opinion that the inclusion of same be considered and where possible incorporated into the 4 year ab-initio computing programmes.

Programme and module learning outcomes were discussed with recommendations made in relation to the mapping of programme learning outcomes to the appropriate discipline award standards, reference to specific technologies in module learning outcomes and the linkage of assessment events to same.

Module titles were discussed with the panel of the opinion that sequential numbering be removed and modules retitled to more accurately reflect content/purpose.

In relation to the listing of pre-requisite and co-requisite module information the panel was informed that this was not practiced within the Institute. In the light of the NFQ determination that learners should only be admitted onto programmes where their capacity to succeed has been addressed, the panel recommended that the Institute reconsider this approach.

**5.1.1. BN104 and embedded awards (BN002, BN013, BN302 and BN402)**

It was noted that modules within the first two years of the following programmes are common: BN002, BN013 and BN104

**Year 1 & 2**

Year 1 of these programmes have no proposed changes. It is proposed to remove the module 'Operating Systems (Client)' COMP H2028 from semester 3 and replace it with 'Interactive Multimedia' (COMP H2033) which is moved forward from semester 4.

In semester 4 the previously mentioned 'Operating Systems (Client)' (COMP H2028) has been merged with 'Operating Systems (Server)' (COMP H2014) into the existing module 'Operating Systems' (COMP H2014). It was outlined to the panel that modern operating systems are elements of both client and server which has lead to overlap in the delivery of the existing two modules thus motivating the redesign of the 'Operating Systems (Client)' and 'Operating Systems (Server)' modules into one module to address fundamental operating systems principles.

A new module 'IT Business Management' (COMP H2034) has been proposed to develop in learners a positive, though realistic, attitude toward management as a discipline and as a range of skills which require integration and practical application within an IT setting bringing a business reality and context to the students and show them where the technology that they are learning is used in the business environment.

**Year 3**

In semester 5 it is proposed that the module 'Data Mining' (COMP H3027) be removed and replaced with a new module 'Parallel Computing' (COMP H3036) introduced to address the development in multi-core processing and multi-processor implementations in computing devices.

In semester 6 it is proposed that the module 'Computer Graphics' (COMP H3034) be removed and replaced with a new module 'Web Framework Development' (COMP H3037) introduced to continue the theme of web development from year 1 and 2 into year 3.

**Year 4**

Proposed changes include:

The removal of the module 'Computer and Network Forensics' (COMP H4022), the addition of two new modules 'Data Analytics' (COMP H4030) to replace 'Data Mining' and 'Computer Vision' (COMP H4031) to replace

‘Computer Graphics’ both removed from year 3. Proposed module title changes as follows:

- Text Mining and Information Retrieval (COMP H4016) to Text Analysis
- XML and Web Services (COMP H4029) to Web Services
- Intelligent Computing (COMP H4011) to Computational Intelligence
- Applied Language Engineering (COMP H4012) to Applied Human Language Technology

Proposed scheduling changes include the following modules being brought forward from semester 8 to semester 7:

- Games Development COMP H4024
- Applied Human Language Technology COMP H4012

New BN104 schedule as proposed:

Year 1 – no change

Semester 1		Semester 2	
COMP H1032	Fundamentals of Programming 1	COMP H1031	Fundamentals of Programming 2
COMP H1013	Computer Systems	COMP H1027	Computer Architecture
COMP H1015	Networking Basics	COMP H1028	Mathematics for Computing
COMP H1033	Personal and Professional Development	COMP H1021	Routers and Routing Basics
COMP H1026	Web Development 1	COMP H1035	Web Development 2
COMP H1034	Algorithmic Problem Solving		

Year 2

Semester 3		Semester 4	
COMP H2015	LAN Switching and Wireless	COMP H2030	Advanced Programming
COMP H2011	GUI Programming	COMP H2029	Web Applications
COMP H2026	Information Technology Mathematics	COMP H2032	WAN Technologies
COMP H1029	Database Fundamentals	COMP H2027	Software Engineering and Testing
COMP H2031	Object Oriented Analysis and Design	COMP H2014	Operating Systems
COMP H2033	Interactive Multimedia	COMP H2034	IT Business Management

Year 3

Semester 5		Semester 6	
COMP H3025	Data Structures and Algorithms	COMP H3031	Network Distributed Computing
COMP H3026	Rich Web Applications	COMP H3032	Object Oriented with Design Patterns
COMP H3036	Parallel Computing	COMP H3033	Troubleshooting IP Networks
COMP H3028	Advanced Switching and Routing	COMP H3037	Web Framework Development
COMP H3029	Project Skills	COMP H3035	Major Group Project (Part 2)
COMP H3030	Major Group Project (Part 1)		

Year 4

Semester 7		Semester 8	
COMP H4027 (M)	Project (Part 1)	COMP H4021 (M)	Project (Part 2)
COMP H4018 (M)	Derivation of Algorithms	COMP H4011 (E)	Computational Intelligence
COMP H4014 (E)	Network Security	COMP H4017 (E)	Advanced Network Technologies
COMP H4023 (E)	Enterprise and Cloud Computing	COMP H4029 (E)	Web Services
COMP H4025 (E)	Ubiquitous Computing	COMP H4031 (E)	Computer Vision
COMP H4030 (E)	Data Analytics	COMP H4016 (E)	Text Analysis
COMP H4024 (E)	Game Development	COMP H4026 (E)	High Performance Computing
COMP H4028 (M)	Research Skills		
COMP H4012 (E)	Applied Human Language Technology		

### 5.1.2. BN120 and embedded awards (BN002, BN034, BN311 and BN420)

It was noted that modules within the first two years of the programme are aligned to BN104 and discussed in the last section (6.1.1)

Year 3 (BN034 & BN311)

Proposed changes include:

The addition of two new modules ‘Secure Programming 1’ (DFCS H3019) and ‘Web Application Security’ (DFCS H3021) to replace ‘Data Mining for Information Security’ (DFCS H3012) and ‘Enterprise System Security’ (DFCS H3016). The title and content of the module ‘Secure Programming’ (DFCS H3017) in semester 6 has been updated (Secure Programming 2 DFCS H3020) to reflect that it is a follow on to ‘Secure Programming 1’ in semester 5. Credit allocation for ‘Penetration Testing’ (DFCS H3014 new code DFCS H3022) and ‘Secure Programming 2’ (DFCS H3020) has been reduced to 5 credits.

New year 3 schedule as proposed:

Semester 5		Semester 6	
DFCS H3011	Computer and Network Forensics	DFCS H3015	Network Security
DFCS H3019	Secure Programming 1	DFCS H3021	Web Application Security
DFCS H3013	Secure Communications	DFCS H3020	Secure Programming 2
DFCS H3022	Penetration Testing	DFCS H3018	Group Project

Year 4 (BN420)

The status of the module ‘Informational Retrieval & Text Mining’ (DFCS H4017) was changed from elective to mandatory and rewritten to introduce scripting and data processing reflected in the proposed new module title and code ‘Scripting & Data Processing’ (DFCS H4021). Credit allocation for this new module and ‘Advanced Network Security’ (new code DFCS H4020) has been reduced to 5 credits allowing students to now take both modules.

Due to some overlap between the modules ‘Business Continuity, Disaster Recovery & IT Governance’ (DFCS H4012) and ‘Security in Cloud Computing’ (DFCS H4014) these have been merged into a new module ‘Business Continuity Management and Cloud Security’ (DFCS H4019).

New year 4 schedule as proposed:

Semester 7		Semester 8	
DFCS H4011	Mobile Device Forensics	DFCS H4016	Biometrics and Forensics Applications
DFCS H4013	Application Security	DFCS H4020	Advanced Network Security
DFCS H4019	Business Continuity Management and Cloud Security	DFCS H4021	Scripting and Data Processing
		DFCS H4018	Individual Project

Technical amendments to be made to module syllabi at the request of the panel were noted.

### 5.1.3. BN026

The rationale for the proposed changes is to strengthen the discipline streams of software development, web development and computer infrastructure.

Modules that will no longer be offered include:

CFSM H1015	Interpersonal Communications & PC Applications
CFSM H2018	Hardware and Software Forensics
CFSM H2012	Operating Systems 2
CFSM H1016	Work Based Learning

Validation for these modules ceases with this review.

New modules to be offered include:

CFSM H1017	Web Development 1
CFSM H2020	Software Development 3
CFSM H2021	Web Applications

Validation for these modules commences with this review.



New schedule as proposed:

Year 1		Year 2	
CFSM H1011	Computer Systems	CFSM H2011	Computer Networks 2
CFSM H1012	Operating Systems 1	CFSM H2020	Software Development 3
CFSM H1013	Computer Networks 1	CFSM H2019	Web and Social Media for Enterprise
CFSM H1014	Software Development 1	CFSM H2014	Mathematics
CFSM H1017	Web Development 1	CFSM H2015	Databases
CFSM H2016	Software Development 2	CFSM H2021	Web Applications

The panel again raised the issue of sequential numbering in module titles and recommended that modules be retitled to more accurately reflect content/purpose and that the interdependency between the modules be clearly articulated. Technical amendments to be made to module syllabi at the request of the panel were noted.

#### 5.1.4. BN509

Proposed changes include the following elective modules no longer being offered:

COMP H6013	Computer Architecture
COMP H6015	Instructional Design for e-Learning
COMP H6016	2D Graphics and Animation
COMP H6017	Decision Support Information for Management
COMP H6023	Operating Systems
COMP H6024	Database Administration
COMP H6026	e-Learning Implementation
COMP H6027	Digital Audio and Digital Video
COMP H6028	Strategic planning for Enterprise IT
COMP H6031	Computational Forensics
COMP H6032	Fundamentals of Games Development
COMP H6028	Strategic planning for Enterprise IT
COMP H6034	Web Development 3
COMP H6035	Data Mining

Validation for these modules ceases with this review.

New module:

COMP H6036          Project Skills

Credit allocation for all retained modules changed to 5 credits with the exception of the 'Project Design and Development' module (COMP H6025) which has a proposed weighting of 10 credits.

Validation for this new module and credit changes commence with this review.

Proposed schedule:

Semester 1		Semester 2	
COMP H6037	Software Engineering 1	COMP H6038	Software Engineering 2
COMP H6039	Computer Systems	COMP H6040	Communications and Networking
COMP H6044	Web Development 1	COMP H6043	Modelling and Database Design

Semester 3		Semester 4	
COMP H6045	Web Development 2	COMP H6042	Project Design and Development
COMP H6046	Web Software Engineering	COMP H6036	Project Skills
COMP H6041	Internetworking		

The panel noted the similarity of some of the module titles with other programmes within the department and recommended given that this is a conversion programme that the module titles be changed to differentiate between programmes.

Technical amendments to be made to module syllabi at the request of the panel were also noted.

## 5.2. Review of creative digital media programmes – 25<sup>th</sup> March

The chair thanked the departmental staff present for the detailed submission documentation. A lengthy discussion was held on the statistical and SWOT analysis as presented in the submission documentation, programme and module learning outcomes, work placement, the assessment of the work experience module, additional electives added to the schedule, industry based projects, the graduate profile, the rationale for the multidisciplinary generalist graduate as opposed to a graduate with a more focussed specialisation, learner assessment, what appeared to be a lack of cross modular integrated assessment, contact hours with a greater focus on independent learning, the volume of photography within the programme, the possibility of offering a part-time add-on level 8 to accommodate level 7 graduates in employment and the availability of facilities/resource requirements.

Proposed changes outlined to the panel included:

### Year 1

‘Writing for Digital Media’ (DMED H1023) has been removed, the credit allocation for the module ‘Introduction to Digital Media’ (DMED H1024) has been increased to 10 credits and the number from the title of ‘Digital Photography 1’ (DMED H1022) has been removed.

‘Multimedia Authoring’ (DMED H1020) has been removed, ‘Visual Communications 1’ (DMED H1025) has been retitled to ‘Design Process and Practice’ and two new modules ‘Storytelling and Narrative’ (DMED H1030) and ‘Studio Photography and Image Production’ (DMED H1031) have been introduced replacing ‘Digital Photography 2’ (DMED H1027) and ‘Digital Imaging’ (DMED H1019) which are removed from the schedule.

New year 1 schedule as proposed:

Semester 1		Semester 2	
DMED H1029	Introduction to Digital Media	DMED H1030	Storytelling and Narrative
DMED H1022	Digital Photography	DMED H1031	Studio Photography and Image Production
DMED H1013	Web Development 1	DMED H1018	Web Development 2
DMED H1012	Personal Development	DMED H1025	Design Process & Practice
DMED H1021	Visual Creativity	DMED H1026	Universal Design

## Year 2

The modules ‘Group Project Phase 1’ (DMED H2021) and ‘Group Project Skills’ (DMED H2022) have been combined to create a new 10 credit module ‘Group Project Phase 1’ (DMED H2030). ‘Digital Video 1’ (DMED H2014) has been removed from the schedule and replaced with a new video module ‘Digital Video Techniques’ (DMED H2033). Retitle ‘Visual Communications 2’ (DMED H2029) as ‘Design Fundamentals’.

‘Digital Video 2’ (DMED H2027) has been removed and replaced with a new module ‘Documentary Filmmaking’ (DMED H2032). ‘Digital Animation’ (DMED H2025) has been removed with a new 10 credit module ‘Group Project Phase 2’ (DMED H2031) proposed.

New year 2 schedule as proposed:

Semester 3		Semester 4	
DMED H2030	Group Project Phase 1	DMED H2031	Group Project Phase 2
DMED H2013	Website Design 1	DMED H2018	Website Design 2
DMED H2033	Digital Video Techniques	DMED H2026	Digital Audio
DMED H2023	Multimedia Development 1	DMED H2032	Documentary Filmmaking
DMED H2029	Design Fundamentals	DMED H2028	Multimedia Development 2

## Year 3

‘Video Production’ (DMED H3014) is removed and replaced with a new module ‘Drama Filmmaking’ (DMED H3026). ‘Digital Marketing’ (DMED H3019) is removed and replaced with a new module ‘Brand Identity Design’ (DMED H3025). ‘Sound Engineering’ (DMED H3016) is retitled ‘Sound Design’ while ‘Working in Digital Media’ (DMED H3022) is retitled ‘Professional Practice’. The module ‘Instructional Design & e-Learning’ (DMED H3011) is removed from the schedule while a new derivative of ‘Digital Media within Society’ from year 4 is brought back into third year (DMED H3027).

‘Work Experience’ (DMED H3024) is replaced with a new module also titled ‘Work Experience’ (DMED H3028) which has a credit allocation of 20 credits and is now included in the GPA calculation. Three new elective modules are also proposed namely ‘Professional Project’ (DMED H3029), ‘3D Environments’ (DMED H3030) and ‘Digital Marketing’ (DMED H3031).

New year 3 schedule as proposed:

Semester 5		Semester 6	
DMED H3025	Brand Identity Design	DMED H3028	Work Experience
DMED H3018	Content Management Systems	DMED H3030	3D Environments
DMED H3027	Digital Media Within Society	DMED H3029	Professional Project
DMED H3022	Professional Practice	DMED H3031	Digital Marketing
DMED H3026	Drama Filmmaking		
DMED H3016	Sound Design		

Year 4

‘Digital Media within Society’ (DMED H4011) is replaced with a new module ‘Creative Practice’ DMED H4025.

‘Digital Film Making’ (DMED H4014) is replaced with a new module ‘Professional Digital Video’ DMED H4026.

‘Emerging Technologies’ (DMED H4023) is replaced with a new module ‘Application Design and Development’ DMED H4027.

‘3D Modelling and Animation’ (DMED H4015) is removed from the programme schedule.

‘Critical Theory’ (DMED H4016) is brought forward from semester 8 to semester 7.

‘Post Production Techniques’ (DMED H4022) is retitled ‘Advanced Post Production’.

‘User Experience Design’ DMED H4028 is introduced as a new module to semester 8.

‘Culture, Media and Technology’ (DMED H4029) is introduced as a new module to semester 8.

New year 4 schedule as proposed:

Semester 7		Semester 8	
DMED H4012	Final Year Project Phase 1	DMED H4024	Final Year Project Phase 2
DMED H4016	Critical Theory	DMED H4022	Advanced Post Production
DMED H4025	Creative Practice	DMED H4028	User Experience Design
DMED H4026	Professional Digital Video	DMED H4029	Culture, Media and Technology
DMED H4027	Application Design and Development		

The panel stressed the importance of accurate module descriptors and requested that same be revised at <http://courses.itb.ie> to more accurately reflect the learning outcomes and content of modules, as feedback suggested that these are regularly referenced by employers.

Programme and module learning outcomes were discussed with recommendations made in relation to the process of mapping of programme learning outcomes to NFQ level; to award standards as defined by the QQI; reference to specific technologies in module learning outcomes; and the linkage of assessment events to module learning outcomes.

Module titles were discussed. The panel was of the opinion that sequential numbering should be removed and modules retitled to more accurately reflect content/purpose, whilst being cognisant of similar module titles in other programmes.

The panel was also of the opinion that additional electives could be added to the schedule for years three and four thus providing students with additional specialisation opportunities to further support their development. Again in relation to the Institute approach in the listing of pre-requisite and co-requisite module information the panel recommended that the Institute reconsider same. The panel again noted the absence of completion rate analysis and recommended that same be carried out at programme level. Technical amendments to be made to module syllabi at the request of the panel were also noted.

## 6. Department of Engineering

### 6.1. Review of engineering programmes – 28th April

As per section 6.1 the chair welcomed the panel re-iterating the importance of the work being undertaken, it's relevance within the Institute's quality processes and the retention of delegated authority. Relevant policies and procedures in relation to the review were again noted.

Following the private panel meeting the Head of Department of Engineering gave a brief presentation providing an overview of the approach taken for programmatic review, a summary of the findings of the department's self-evaluation and initiatives undertaken especially within first year to address attrition rates.

A lengthy discussion ensued with particular focus on the results of the statistical and SWOT analysis submitted for consideration to the panel. In relation to statistics on completion rates the panel welcomed same but requested that these be regenerated to more accurately reflect awards attained by students incorporating those who may have opted for a lower exit award than what they originally registered on i.e. students who registered on NFQ level 8 ab-initio programmes but exited with level 7 or 6 awards.

The introduction of industrial placement and the establishment of an industrial liaison group was welcomed by the panel however the panel was of the opinion that placement be made a mandatory component of the programme with contingency electives being available to meet the learning outcomes of placement built in for those unable to acquire same. The importance of quality, duration and grading of placement was discussed in great detail. The panel recommended that the placement strategies for delivery and assessment be reviewed after the first iteration.

Rationale was provided for the proposed change in programme titles as follows:

#### Mechatronics

Current title	Proposed title
Higher Certificate in Engineering in Mechatronics	Higher Certificate in Engineering in Mechatronic Engineering
Bachelor of Engineering in Mechatronics	Bachelor of Engineering in Mechatronic Engineering
Bachelor of Engineering (Honours) in Mechatronics	Bachelor of Engineering (Honours) in Mechatronic Engineering

#### Computer Engineering

Current title	Proposed title
Higher Certificate in Engineering in Electronics and Computer Engineering	Higher Certificate in Engineering in Computer Engineering

The panel supported the proposed change in programme titles.

It was noted that the first year schedule is common for all ab-initio programmes within the Department of Engineering. Following a review and restructuring of the mathematics stream throughout the programme the modules have been retitled to more accurately reflect content. Proposed changes to year 1 included:

#### Module titles

‘Mathematics 1’ (EENG H1011) retitled as ‘Algebra and Geometry’  
 ‘Personal Development with Computer Applications’ (EENG H1012) retitled as ‘Professional Development for Engineers’  
 ‘Mathematics 2’ (EENG H1017) retitled as ‘Fundamentals of Calculus’  
 ‘Introduction to Data Communications and Networks’ (EENG H1021) retitled as ‘Introduction to Electronic Communications’

New common 1<sup>st</sup> year schedule as proposed:

Semester 1		Semester 2	
EENG H1011	Algebra and Geometry	EENG H1017	Fundamentals of Calculus
EENG H1012	Professional Development for Engineers	EENG H1018	Analogue Electronics
EENG H1013	Digital Electronics	EENG H1019	Programming 1
EENG H1014	Engineering Science	EENG H1020	Electrical Science
EENG H1015	Circuit Theory	EENG H1021	Introduction to Electronic Communications
EENG H1016	Workshop Practice 1	EENG H1022	Workshop Practice 2

#### 6.1.1. Review of mechatronic programmes (BN903, BN306, BN009, BN121 and BN422)

Proposed changes to years 2, 3 and 4 include:

‘Mathematics 3’ (MECH H2011) retitled as ‘Linear Algebra and Calculus’  
 ‘Mathematics 4’ (MECH H2017) retitled as ‘Statistics and Probability’  
 ‘Instrumentation’ (MECH H2021) retitled as ‘Instrumentation’

‘Mathematics 5’ (MECH H3011) retitled as ‘Signals and Transforms’  
 ‘Mathematics 6’ (MECH H3017) retitled as ‘Signals and Systems Analysis’  
 ‘Mathematics 7’ (MEC4 H3017) retitled as ‘Differential Equations and Numerical Methods’

‘Industrial Robotics and Vision Inspection’ (MEC4 H4016) moved back to semester 8  
 New module ‘Industrial Placement’ (MEC4 H4024) introduced to semester 7  
 ‘Enterprise Resource Management’ (MEC4 H4018) moved forward to semester 7 and status changed to elective



New year 2, 3 and 4 schedule as proposed:

Semester 3		Semester 4	
MECH H2011	Linear Algebra and Calculus	MECH H2017	Statistics & Probability
MECH H2026	Interfacing and Data Acquisition	MECH H2027	Microcontrollers
MECH H2013	Fluid Power Systems	MECH H2028	CAD/CAM
MECH H2025	Mechanics 1	MECH H2020	Manufacturing and Maintenance
MECH H2016	Computer Aided Design	MECH H2021	Instrumentation
MECH H2019	Electronic Computer Aided Design	MECH H2022	Mini Project

Semester 5		Semester 6	
MECH H3011	Signals and Transforms	MECH H3017	Signals and Systems Analysis
MECH H3023	Electrical Power and Machines	MECH H3019	Computer Networks
MECH H3024	Mechanics 2	MECH H3014	Quality Systems
MECH H3020	Design Methodology and Tools	MECH H3021	Automation 2
MECH H3015	Automation 1	MECH H3022	Project Part 2
MECH H3016	Project Part 1		

Electives

MECH H3018	Industrial Engineering
MECC H3014	Energy Management Systems

Year 4

MEC4 H4011	Differential Equations and Numerical Methods	MEC4 H4020	Mechanics & Materials
MEC4 H4012	Control Systems	MEC4 H4022	Industrial Networks and Distributed Systems
MEC4 H4013	Software Engineering	MEC4 H4016	Industrial Robotics & Vision Inspection
MEC4 H4014	Embedded Systems	MEC4 H4023	Design Project Part 2
MEC4 H4024	Industrial Placement (See conditions of revalidation)	MEC4 H4020	Mechanics & Materials
MEC4 H4017	Design Project Part 1		

Electives

MEC4 H4018	Enterprise Resource Management

Electives

MEC4 H4015	Advanced Computer Aided Design
MEC4 H4019	Sustainable Energy Systems

## Special purpose awards

The following special purpose awards were proposed for revalidation without change.

BN742	Certificate in Industrial Automation
BN718	Certificate in Computer Aided Design and Manufacturing
BN752	Certificate in Lean Six Sigma (Green Belt)

### 6.1.2. Review of computer engineering programmes (BN001, BN012, BN301, BN117 and BN423)

Proposed changes to years 2, 3 and 4 include:

#### Year 2

‘Mathematics 3’ (ELTC H2016) retitled as ‘Linear Algebra and Calculus’  
‘Electronic Communications’ (ELTC H2013) is removed from semester 3 and replaced with ‘Computer Networks’ (ELTC H2026) which is brought forward from semester 4

‘Microprocessors Systems 1’ (ELTC H2011) retitled as ‘Microprocessor Fundamentals’

‘Mathematics 4’ (ELTC H2021) retitled as ‘Statistics and Probability’

‘Microprocessors Systems 2’ (ELTC H2017) retitled as ‘Microcontroller Applications’

‘Manufacturing and Quality’ (ELTC H2015) is removed from semester 4 and replaced with a new module ‘Web Technologies and Databases’ (ELTC H2029)

‘Digital Logic’ (ELTC H3012) is brought forward from semester 5 into semester 4 and recoded as ELTC H2028

#### Year 3

‘Mathematics 5’ (ELTC H3011) retitled as ‘Signals and Transforms’

‘Semiconductor Devices 1’ (ELTC H3026) retitled as ‘Physics of Semiconductor Devices’ and brought forward from semester 6 to semester 5

‘Software Design and Testing’ (ELTC H3013) retitled as ‘Software Design and Quality’

‘Software for Real-time and Embedded Systems’ (ELTC H3018) is brought forward from semester 6 to semester 5

‘Mathematics 6’ (ELTC H3017) retitled as ‘Signals and Systems Analysis’

‘Java and Algorithms’ (CNG4 H4016) is brought forward from semester 7 to semester 6 and recoded as ELTC H3028

New modules ‘Digital Signal Processing’ (ELTC H3029) and ‘Computer Architecture and Operating Systems’ (ELTC H3027) are introduced to semester 6

#### Year 4

‘Mathematics 7 for Computer Engineering’ (CNG4 H4012) retitled as ‘Linear Systems and Optimisation’

‘Digital Design’ (ELTC H3020) is moved from semester 6 to semester 7 retitled and recoded as ‘VLSI Circuit Design’ (CNG4 H4021)

‘Mobile Application Development’ (CNG4 H4018) is brought forward from semester 8 to semester 7

New module ‘Internet of Things Technologies’ (CNG4 H4022) introduced to semester 8

New module ‘Industrial Placement’ (CNG4 H4023) introduced to semester 7

‘Applications of Digital Signal Processing’ (CNG4 H4013) status changed from mandatory to elective

‘Very Large Scale Integration VLSI’ (CNG4 H4017) retitled as ‘VLSI System Design’

‘Mobile Internetworking’ (CNG4 H4015) is moved back from semester 7 to semester 8

‘Management Information Systems’ (CNG4 H4019) status changed from mandatory to elective

New year 2, 3 and 4 schedule as proposed:

Semester 3		Semester 4	
ELTC H2011	Microprocessor Fundamentals	ELTC H2017	Microcontroller Applications
ELTC H2023	Programming 2	ELTC H2028	Digital Logic
ELTC H2025	Electronic Computer Aided Design	ELTC H2029	Web Technologies and Databases
ELTC H2014	Interfacing Electronics	ELTC H2027	Object Oriented Programming
ELTC H2026	Computer Networks	ELTC H2021	Statistics & Probability
ELTC H2016	Linear Algebra and Calculus	ELTC H2022	Project

Semester 5		Semester 6	
ELTC H3011	Signals and Transforms	ELTC H3017	Signals and Systems Analysis
ELTC H3026	Physics of Semiconductor Devices	ELTC H3027	Computer Architecture and Operating systems
ELTC H3013	Software Design and Quality	ELTC H3028	Java and Algorithms
ELTC H3014	Digital Communications	ELTC H3029	Digital Signal Processing (DSP)
ELTC H3018	Software for Real-time and Embedded systems	ELTC H3021	Network Architecture and Protocols
ELTC H3023	Project (part 1)	ELTC H3024	Project (part 2)

#### Year 4

CNG4 H4011	Year 4 Project	CNG4 H4017	VLSI System Design
CNG4 H4012	Linear Systems and Optimisation	CNG4 H4015	Mobile Internetworking
CNG4 H4021	VLSI Circuit Design	CNG4 H4022	Internet of Things Technologies
CNG4 H4018	Mobile Application Development		
CNG4 H4020	Wireless Communication Systems		
CNG4 H4023	Industrial Placement		

#### Electives

CNG4 H4019	Management Information Systems
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#### Electives

CNG4 H4013	Applications of Digital Signal Processing (DSP)
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## 6.2. Review of horticulture programmes – 29th April

As per section 6.1 the chair welcomed the panel re-iterating the importance of the work being undertaken, it's relevance within the Institute's quality processes and the retention of delegated authority. Relevant policies and procedures in relation to the review were again noted.

Following the private panel meeting the Head of Department of Engineering gave a brief presentation providing an overview of the approach taken for programmatic review, a summary of the findings of the horticulture programme's self-evaluation and initiatives undertaken especially within first year to address attrition rates.

A lengthy discussion ensued with particular focus on the results of the statistical and SWOT analysis submitted for consideration to the panel. The panel noted again, as in other programmes within the department, that contact hours were high. A diminishing level of contact hours and the consequent increase in independent and self-directed learning that is characteristic of honours degrees and that would be expected in the later years of the programme was not evident.

The volume of assessment was found to be high, with the panel of the opinion that there was too much emphasis on assessment by exam for such an applied programme. The panel stressed the importance of gaining the recognition of professional bodies and facilitating student/graduate membership of same. A lengthy discussion was held on the grading of placement, the reassessment of failed placement, remuneration for students on placement, with the panel of the opinion that ITB students be remunerated in line with students of other colleges. The panel noted the absence of content in relation to supply chain management and recommended that this be addressed within the programme. The absence of a level 6 exit award upon successful completion of years one and two was noted by the panel and recommended that this be addressed. The panel welcomed and commended the introduction of the 'Apiculture' module to the programme, seeing it as a progressive step in what is a critical area in food production.

Proposed changes included:

Year 1

'Personal and Professional Development' (HTSC H1011) and Computer Applications (HTSC H1016) be merged into a new module titled 'IT and Professional Development' (HTSC H1024).

'Applied Science and Mathematics' (HTSC H1014) retitled as 'Horticultural Calculations and Measurements'

'Practical Training in Horticulture' (HTSC H1015) retitled as 'Plant and Landscape Skills'

'Soil Science' (HTSC H1020) introduced as a new module

'Plant Biology and Physiology' (HTSC H1023) retitled as 'Plant Biology'

'Plant Identification – Use and Management' (HTSC H1025), 'CAD for Horticulture' (HTSC H1026), 'Plant Nutrition' (HTSC H1027) and 'Horticulture in the Community' (HTSC H1028) introduced as new modules

## Year 2

‘Turf-grass Establishment and Maintenance 1’ (HTSC H2017) be retitled as ‘Turf Grass ID and Establishment’

‘Plant Protection’ (HTSC H2014) retitled as ‘Integrated Crop Management’

‘Vegetable Production’ (HTSC H2026) and ‘Ecology and Biodiversity’ (H2028) introduced as new modules

‘Industry Placement’ (HTSC H2021), ‘Start Your Own Business’ (HTSC H2029) introduced as new modules

## Year 3

‘Project Management’ (HTSC H3016) retitled as ‘Horticultural Project Management’

‘Marketing and Customer Service’ (HTSC H3012) retitled as ‘Marketing a Horticulture Enterprise’

‘Arboriculture 1’ HTSC H3018 retitled as ‘Trees and Woodlands’

‘Fruit Production’ (HTSC H3024) introduced as a new module

‘The Principles of Organic Growing’ retitled as ‘Organic and Sustainable Horticulture’

‘Landscape Design’ (HTSC H3025) and ‘Floristry and Interior Landscape’ (HTSC H3026) previously second year modules recoded and introduced to year 3.

Research Methods (HTSC H4012) brought forward from year 4, retitled to ‘Research Methods for Horticulture’ and recoded as HTSC H3027

‘Minor Research Project’ (HTSC H3028), ‘Manage Your Own Business’ (HTSC H3029) and ‘Crops under Protection’ (HTSC H3030) introduced as new modules

‘Landscape Design 2’ (HTSC H4015) brought forward from year4, retitled and recoded as ‘Advanced Landscape Design’ (HTSC H3031)

‘Retail Horticulture’ (HTSC H3032), ‘Apiculture’ (HTSC H3033) and ‘Food Product Development 1’ (HTSC H3024) introduced as new modules

## Year 4

‘Horticulture Therapy’ (HTSC H4030) retitled as ‘Social and Therapeutic Horticulture’

‘Environmental Indicators’(HTSC H4027) retitled as ‘Environmental Management’

‘Parks and Gardens’ (HTSC H4029) retitled as ‘Historical and Contemporary Parks and Gardens’

‘Automation in Horticulture’ (HTSC H4031), ‘Health, Recreation and Green Infrastructure’ (HTSC H4032), ‘Sports Surface Management’ (HTSC H4033), ‘Post Harvest Technology’ (HTSC H4034), ‘Culinary and Medicinal Plants’ (HTSC H4035) and ‘Food Product Development 2’ (HTSC H4036) introduced as new modules.

New schedule as proposed:

Semester 1		Semester 2	
HTSC H1011	IT & Professional Development	HTSC H1025	Plant identification - Use & Management
HTSC H1020	Soil Science	HTSC H1022	Machinery & Equipment Skills
HTSC H1013	Plant Identification and Classification	HTSC H1026	CAD for Horticulture
HTSC H1014	Horticultural Calculations & Measurements	HTSC H1027	Plant Nutrition
HTSC H1015	Plant & Landscape Skills	HTSC H1028	Horticulture in the Community
HTSC H1023	Plant Biology	HTSC H1021	Plant Propagation

Semester 3		Semester 4	
HTSC H2026	Vegetable Production	HTSC H2021	Industry Placement
HTSC H2028	Ecology & Biodiversity	HTSC H2029	Start Your Own Business
HTSC H2017	Turf Grass ID & Establishment	HTSC H2013	Contracts, Specifications and Tenders
HTSC H2014	Integrated Crop Management		
HTSC H2018	Nursery Stock Production		
HTSC H2015	Landscape Construction		

Semester 5		Semester 6	
HTSC H3016	Horticultural Project Management	HTSC H3027	Research Methods for Horticulture
HTSC H3012	Marketing a Horticultural Enterprise	HTSC H3028	Minor Research Project
HTSC H3018	Trees and Woodlands	HTSC H3029	Manage Your Own Business
HTSC H3024	Fruit Production	HTSC H3030	Crops Under Protection
HTSC H3021	Organic & Sustainable Horticulture (E)	HTSC H3031	Advanced Landscape Design (E)
HTSC H3025	Landscape Design (E)	HTSC H3032	Retail Horticulture (E)
HTSC H3026	Floristry & Interior Landscape (E)	HTSC H3033	Apiculture (E)
		HTSC H3034	Food Product Development 1 (E)

Semester 7		Semester 8	
HTSC H4011	Final Year Project (Part 1)	HTSC H4021	Final Year Project (Part 2)
HTSC H4031	Automation in Horticulture (E)	HTSC H4027	Environmental Management (E)
HTSC H4032	Health, Recreation and Green Infrastructure (E)	HTSC H4017	Golf Course Design and Management (E)
HTSC H4019	Plant Treatment Regulation (E)	HTSC H4023	Entrepreneurship and Enterprise Development (E)
HTSC H4033	Sports Surface Management (E)	HTSC H4035	Culinary and Medicinal Plants (E)
HTSC H4034	Post-Harvest Technology (E)	HTSC H4029	Historical & Contemporary Parks and Gardens (E)
HTSC H4030	Social & Therapeutic Horticulture (E)	HTSC H4036	Food Product Development 2 (E)

## 7. Decision of the panel

The chair thanked the Head of School and Heads of Departments on behalf of each of the panels for the hospitality they had received and the professional manner in which the review was conducted. The panel commended the open and frank dialog, enthusiasm and obvious commitment of staff to the ethos of continuous improvement.

Subject to the following specific conditions and recommendations, which are categorised at school, department and programme level, the panel recommended all proposed changes for approval for a period of 5 years.

### School of Informatics and Engineering

#### Conditions

##### 1. Retention and completion rates

The panel was of the opinion that the issue of retention needs to be better quantified across all programmes within the School.

Specifically the completion rates per programme (as defined in legislation) need to be generated and included in the response to this report. Initiatives to address retention need to be documented at programme level, promoted/implemented campus wide and the impact of same to be reviewed within one academic year.

##### 2. Programme assessment strategy

As per Institute policy, there is a requirement for a more clearly articulated programme assessment strategy that appropriately balances between formative and summative assessment events, includes modular assessment breakdown, number and type of assessment events to be employed, linkage of assessment events to learning outcomes, modular reassessment opportunities and events clearly stipulated and identify cross modular integrated assessment opportunities.

Formative assessment is generally low stake with low or no point value. Where the assessment strategy relies on summative assessments (which are high stake) also being used formatively, the School needs to articulate a clear methodology that describes the nature of the feedback, how, where and when it will be delivered and feed-back loops that ensure that all learners obtain the benefit of this feedback in a timely manner.

This needs to be included in the response to this report.

##### 3. Programme learning outcomes

Map each programme's learning outcomes to the relevant NFQ level statement and the appropriate<sup>2</sup> award standard as defined by QQI providing evidence stating how each learning outcome satisfies same.

This needs to be included in the response to this report.

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<sup>2</sup> The generic framework standards may only be used where QQI have yet to develop and publish an award standard.



#### 4. Documentation

Update the programmatic review submission documents in compliance with the conditions and recommendations of the panels.

This needs to be endorsed by the Registrar's office in the response to this report

### **School recommendations**

#### 1. Class contact hours

The panel was of the opinion that contact hours for years 3 and 4 as presented were too high and do not reflect sector or international norms and the increasing levels of independent effort/learning a student will employ as they progress from year 1 to year 4. The panel recommends that the programme boards review their delivery strategy to take account of this.

#### 2. Module descriptors

The panel recommends that module descriptors as published on <http://courses.itb.ie> be revised to more accurately reflect the learning outcomes and content of modules.

#### 3. Module learning outcomes

The panel recommends that module learning outcomes, as discussed at the panel meetings in relation to the number, terminology and linkage to assessment events, be revised.

#### 4. Online delivery

The panel recommends that a more sustainable footing for the delivery of online learning be considered and established and that consideration should also be given to establishing an online support group.

#### 5. Module interdependencies

The panel recommends to the Academic Council that the Institute's approach to the non-display of pre-requisite and co-requisite module dependencies in module syllabi be reviewed to ensure that learners cannot register on modules for which they lack the necessary

prerequisite learning that would underpin participation at the advanced level.

#### 6. Industry accreditation

The panel recommends that the School promotes and further explores how students may access opportunities for industry accreditation in parallel with their programmes of study. The panel recommended that potential professional certification existing within programmes be made more visible.

## Department of Informatics

### Recommendations

#### Computing programmes

- I. Reconsider the structure of the programmes to enable the inclusion of work placement.
- II. Remove all reference to specific technologies from module learning outcomes.

#### Creative digital media programmes

- I. Review module titles with sequential numbering and retitle to more accurately reflect content/purpose whilst being cognisant of similar module titles in other programmes.
- II. Consider the introduction of additional electives in years three and four to provide students with additional specialisation opportunities and further support their professional development.
- III. Consider offering a part-time mode of delivery for year 4 to provide a progression opportunity for level 7 graduates currently in employment.
- IV. Reconsider the title of the following modules:
  - i. DMED H2029 'Design Fundamentals' to 'Visual Design Fundamentals'
  - ii. DMED H4025 'Creative Practice' to 'Creative Practice Thinking'

## Department of Engineering

### Conditions

1. The Industrial Placement module within both the Computer Engineering and Mechatronics programmes should be made a mandatory component of the programme with contingency electives being provided that meet the same learning outcomes of placement being developed for those unable to acquire placement.
2. Define programme learning outcomes within the submission document for each of the individual horticulture awards mapping same to the relevant NFQ level and QQI award standards for science as appropriate.

### Engineering programmes - recommendations

- I. Review placement after the first iteration.
- II. Introduce an additional mobile communications module in Year 3 and seek further industry feedback on the mobile content of the programme.
- III. Revise module descriptors and indicative content to make the mobile content of the programme more explicit.

### Horticulture programmes – condition

- I. Replace the modules ‘Research Methods for Horticulture’ (HTSC H3027) and ‘Minor Research Project’ (HTSC H3028) as proposed with a new mandatory 10 credit, capstone research project module (incorporating research methods) in Year 3.

### Horticulture programmes – recommendations

- I. Develop a level 6 exit award
- II. Clearly articulate Institute expectations of the placement organisation in relation to the student experience, responsibilities and remuneration.
- III. Consider retitling the module ‘CAD for Horticulture’ to ‘Graphic Communications for Horticulture’
- IV. Revise the syllabus where appropriate to make ethics more explicit and address what appears to be a gap in learner knowledge in relation to supply chain management.

## 8. Panel observations

The panel complimented staff on the following:

- Enthusiastic and constructive commitment and participation in this review by staff;
- Interdepartmental cooperation and collaboration between staff;

## 9. Panel signatures

### Chair

Dr. Dermot Douglas \_\_\_\_\_ Date \_\_\_\_\_

### Registrar

Mr. Richard Gallery \_\_\_\_\_ Date \_\_\_\_\_

//end