

MODULE DESCRIPTOR

Module Title

Integrative Studies

Reference	ENM006	Version	1
Created	January 2023	SCQF Level	SCQF 11
Approved	April 2023	SCQF Points	60
Amended		ECTS Points	30

Aims of Module

To enable the student to critically apply the knowledge acquired during the taught components and to integrate their own experience and practical skills in order to propose and justify a contemporary solution for industry within a Technology (Net Zero) Innovation project.

Learning Outcomes for Module

On completion of this module, students are expected to be able to:

- 1 Critically evaluate a range of specialised theories, boundaries, concepts and principles within a specific problem domain the industry.
- 2 Deal with planning and executing a substantial project of research, investigation or development to prepare and promote a robust solution(s) with clear and confident understanding of the theoretical and practical constraints of the problem domain in question.
- 3 Appraise knowledge and practical skills in the chosen problem domain to demonstrate professional competence and innovative approaches in making informed judgements, even in the absence of complete or consistent data/information.
- 4 Critically analyse a wide range of numerical and graphical data and ability to communicate them effectively to peers, more senior colleagues and specialists in the problem domain related to the research project undertaken.
- 5 Take responsibility for legal, ethical, professional and security issues related to the regulatory frameworks applicable to the respective industry with the purpose of effective operation and innovation in the competitive landscape.

Indicative Module Content

Undertake a technical innovation project under supervision as the basis for the completion of a dissertation, which assesses the taught material related to Engineering and Technology Innovation. The work requires reference to and integration of various taught elements constituting the programme of study, independent research (data collection, analysis, interpretation), together with a general knowledge of all aspects of innovation (including political, economic, social, technological, environmental and legal factors). Normally such projects would involve working with or for an industry partner.

Module Delivery

Normally weekly project sessions to be arranged between a supervisor and the student undertaking the module. Students will be required to pursue a technical project (on the topic they have scoped in one of the preceding modules of the Programme), based either in the University or in an industry partner. They will be assigned a University supervisor and assisted to engage an appropriate industry mentor. The student will be responsible for maintaining contact with their supervisor in person and/or electronically.

Indicative Student Workload

	Full Time	Part Time
Contact Hours	22	22
Non-Contact Hours	578	578
Placement/Work-Based Learning Experience [Notional] Hours	N/A	N/A
TOTAL	600	600
<i>Actual Placement hours for professional, statutory or regulatory body</i>		

ASSESSMENT PLAN

If a major/minor model is used and box is ticked, % weightings below are indicative only.

Component 1

Type: Coursework Weighting: 100% Outcomes Assessed: 1, 2, 3, 4, 5

Description: Thesis.

MODULE PERFORMANCE DESCRIPTOR

Explanatory Text

An overall Grade D is required to pass the module.

Module Grade	Minimum Requirements to achieve Module Grade:
A	Grade A in Component 1.
B	Grade B in Component 1.
C	Grade C in Component 1.
D	Grade D in Component 1.
E	Grade E in Component 1.
F	Grade F in Component 1.
NS	Non-submission of work by published deadline or non-attendance for examination

Module Requirements

Prerequisites for Module	Successful completion of the PgDip stage.
Corequisites for module	None.
Precluded Modules	None.

INDICATIVE BIBLIOGRAPHY

- 1 TURABIAN, K.L., 2013. A manual for writers of research papers, theses, and dissertations: Chicago style for students and researchers. University of Chicago Press.
- 2 CIALDINI, R.B., 2009. Influence: Science and practice. Boston, MA: Pearson Education.
- 3 Meissner, D., Gokhberg, L. M., Saritas, O., (Eds), 2019. Emerging technologies for Economic Development. Springer eBooks.
- 4 BELCHER, W.L, 2019. Writing your journal article in twelve weeks: A guide to academic publishing success. University of Chicago Press.
- 5 ATHANASOU, J.A. et al, 2012. Complete your thesis or dissertation successfully: Practical guidelines. Juta.
- 6 HABASH, R., 2017. Green Engineering: Innovation, Entrepreneurship and Design. CRC Press.
- 7 LEGUM, B.M., STILES, A.R. and VONDRAN J.L., 2019. Engineering Innovation: From idea to market through concepts and case studies. De Gruyter.
- 8 RAFINEJAD, D., 2007. Innovation, product development and commercialization: Case studies and key practices for market leadership. J. Ross Publishing.