

ETC Toolkit Case Example 1 – Curricular Enterprise Course open for PGT/PGR students across the University

QAA Enterprise Themes:	Group:	Learning Environment:
<ol style="list-style-type: none"> 1. Creativity and Innovation 2. Opportunity recognition, creation and evaluation 3. Decision making supported by critical analysis and judgement 4. Implementation of ideas through leadership and management 5. Reflection and Action 6. Interpersonal Skills 7. Communication and Strategy Skill 	<ul style="list-style-type: none"> • Group project (4-6 students in a team) • Individual task 	<ul style="list-style-type: none"> • Online learning • Face-to-face group project • Face-to-face (or online) presentation session
A) Online Entrepreneurship Course for PhD students (taught course elements)		
Subject: Entrepreneurship, innovation	Course: Innovation-driven Entrepreneurship	Year: PGT/1st year PhD
<p>Objective(s) or key message:</p> <ul style="list-style-type: none"> • This course teaches some of the generic and transferable skills required to become an ‘entrepreneur’ in the broadest sense. The course raises the student’s awareness of the legal, business, managerial, creative, analytical and interpersonal skills relevant to setting up and running a new venture, or building an entrepreneurial opportunity within an organisation. The primary focus is on the development of an opportunity evaluation for a venture exploiting a novel idea or technology. 		
<p>Introduction :</p> <ul style="list-style-type: none"> • This introduction to entrepreneurship course provides an online enabled curriculum for students to explore entrepreneurship and innovation as a subject of study and as a practice. The course relies on multiple teaching methods including short lecture video presentations, interviews with individuals with a variety of venture experiences, and other audio-visual content and reading materials. As an online course, there are no physical lectures, while students will be engaged in a face-to-face group project with a component of making a creative presentation. Students are encouraged to participate and benefit from extra-curricular activities 		
<p>Activity:</p> <ul style="list-style-type: none"> • This course introduces students to the theory and practice of entrepreneurship. It focuses specifically on how and why some innovations are successfully commercialised, with particular emphasis on the role of the innovator-entrepreneur, with specific reference to science-driven innovation, which may be relevant to your programmes of study. 		

- Student Learning Experience
This course utilises multiple learning modes, including independent reading, primary research, video lectures, group discussion, case studies, and exposure to practice.
- Syllabus
 1. Entrepreneurial motivation
 2. Entrepreneurial characteristics
 3. Contexts of entrepreneurial activity including social entrepreneurship
 4. Opportunity discovery
 5. Opportunity evaluation
 6. Acquiring resources
 7. Business models
 8. Entrepreneurial growth and strategies
 9. Entrepreneurial leadership, identities
 10. Exits and outcomes

Impact: (reflections; learner feedback)

Anonymous PhD student feedback “I really like including such types of modules as I'm always interested to turn the research project into business”.

Learner outcomes :

On completion of this course, the student will be able to:

1. Recognise and critically assess an opportunity in a market (and/or social) space relevant to their programme of study
2. Critically analyse and consider different business situations where innovative and entrepreneurial opportunities are present or possible
3. Research a business start-up opportunity and marketplace to evaluate the attractiveness and/or feasibility of an opportunity
4. Communicate and demonstrate interpersonal skills
5. Understand and apply the course concepts in the contexts of innovation, and venture creation and development

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ETC Toolkit Case Example 2 – Curricular Enterprise Course offered for OPTIMA CDT PhD students and beyond

QAA Enterprise Themes:	Group:	Learning Environment:
<ol style="list-style-type: none"> 1. Creativity and Innovation 2. Opportunity recognition, creation and evaluation 3. Decision making supported by critical analysis and judgement 4. Implementation of ideas through leadership and management 5. Reflection and Action 6. Interpersonal Skills 7. Communication and Strategy Skill 	<ul style="list-style-type: none"> • Group Project (working (in a team of 4-6 students) • Individual task (reflection) 	<ul style="list-style-type: none"> • Face to face Lectures and Seminars • Face-to-face group project • Face to face presentation session
B) Face-to Face Entrepreneurship/Translation Course for PhD students (taught course elements)		
Subject: Entrepreneurship, innovation	Course: Course: Translational Study - Innovation and Entrepreneurship Masterclass	Year: PGR/2nd year PhD
<p>Objective(s) or key message: The Translational Study - Innovation and Entrepreneurship Masterclass is a student-led, independent study course designed to promote student exposure to the challenges and opportunities associated with translating healthcare innovation into a market context. The course builds on the outcomes of the OPTIMA courses (i.e. Grand Challenge, Innovation-Driven Entrepreneurship (IDE), and Ethics and Regulatory Processes in Translating Innovation from Bench to Man), or other background experience considered relevant. Students will work in small teams to examine a specific innovation of healthcare technology. The projects will be related to actual scientific research results and will address real world considerations in commercialisation, drawing on guidance and input from leading edge researchers, entrepreneurs and other professionals, including colleagues from the Business School.</p>		
<p>Introduction: The course is designed as an integral part of the PhD with Integrated Studies offered by the OPTIMA CDT. It will also be able to accommodate other researchers/research students from the business school and other schools from the university with prior agreement. The current course builds on the overall programme of OPTIMA activity, in particular the Grand Challenge; the Innovation Driven Entrepreneurship course in year 1, and Ethics and Regulatory Processes in Translating Innovation from Bench to Man in year 2. In addition, it sensitises the students to the range of real world issues involved in commercialisation of healthcare technology and thus prepares them for further optional courses in innovation and entrepreneurship in year 3 (and 4).</p>		
<p>Activity: The course is organised in three phases: 1) ideation, 2) development research and 3) entry evaluation.</p> <ul style="list-style-type: none"> • Phase 1, ideation, is a 3-week activity in which the teams explore a limited set of innovations relevant to their research studies. Teams will be allocated a specific case drawn from experience within the OPTIMA network and will assess how this compares with competing or other similar innovations. At the end of this phase, teams will present their findings and will be assessed on the content and delivery of their presentations. 		

- In Phase 2, development research, the teams will examine what primary research on the industry and market relevant to the anticipated product or process has been carried out. Students will be encouraged to engage with industry participants to better understand customer needs, product development requirements, manufacturing parameters, and distribution and support processes. This phase will occupy 4 weeks, depending on the complexity of the particular case examined. At the end of this phase, teams will submit a draft report focussing on issues of market feasibility for formative feedback.
- Phase 3, entry evaluation, is a 3-week activity in which teams explore the resources and processes necessary to bring the particular innovation to market. At the end of the phase, teams will submit a formal written report presenting their analysis, including a critical appraisal of the commercialization path adopted. Teams will be assessed on the content and delivery of their report. In addition, teams will present their findings to a panel including industry representatives.

Each phase will be introduced by a formal overview lecture, with further lectures and seminars covering key issues and supported by supervisory meetings each week. The experience and learnings acquired from the course will be consolidated through the submission of an individual Reflection on Learning paper, supported by a personal learning log, which the students will maintain throughout the course activities.

Learner outcomes :

On completion of this course, the student will be able to:

1. Work effectively in teams and understand the various roles that individuals can play in teams, including leadership and taking responsibility for individual contributions.
2. Understand the specific challenges associated with translating a research-driven innovation into a commercial context, and develop a critical appreciation of how the available theories, principles and concepts in the field of innovation and entrepreneurship can throw light on the practical issues confronted.
3. Explain the imperatives for primary research on market needs and new product requirements, using an appropriate range of specialised techniques and skills reflecting current best practice.
4. Describe the general stages of technology commercialization, informed by developments at the forefront of academic and industry experience, including a critical awareness of different organizational forms and resource requirements organizational forms and resource requirements.
5. Communicate the results of market and industry research using appropriate methods to both scientific and business audiences and critically assess the potential commercial value of a novel innovation for a specific market need, taking account of the need to make informed and ethically sound judgements in the face of inconsistent and incomplete information.

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ETC Toolkit Case Example 3 – Curricular Enterprise Course offered for the OPTIMA CDT PhD students		
QAA Enterprise Themes:	Group:	Learning Environment:
<ol style="list-style-type: none"> 1. Creativity and Innovation 2. Opportunity recognition, creation and evaluation 3. Decision making supported by critical analysis and judgement 4. Implementation of ideas through leadership and management 5. Reflection and Action 6. Interpersonal Skills 7. Communication and Strategy Skill 	<ul style="list-style-type: none"> • Group Project (working (in a team of 2 students)) • Individual task (reflection) 	<ul style="list-style-type: none"> • Online Seminars and Tutorials • Online group project • Online presentation sessions
C) Online Enterprise/Business Course for PhD students (taught course elements)		
Subject: Entrepreneurship, innovation	Course: Course: Business School Postgraduate Student-Led Individually Created Course (SLICC) 2020/2021	Year: PGR/ 3rd year PhD
<p>Objective(s) or key message: This Student-Led Individually Created Course (SLICC) for Postgraduate students is an option course developed within the University-wide framework for self-designed experiential learning. Students will direct their own learning using the Student-Led Individually Created Course (SLICC) approach. They will plan, propose, carry out, reflect on and evaluate a piece of work undertaken within their own context. The SLICC is available to Postgraduate students whose programme of study allows them to undertake a SLICC.</p>		
<p>Introduction: The course is designed as an integral part of the PhD with Integrated Studies offered by the OPTIMA CDT. It will also be able to accommodate other researchers/research students from the business school and other schools from the university with prior agreement. The current course builds on the overall programme of OPTIMA activity, in particular, the Grand Challenge; the Innovation Driven Entrepreneurship course in year 1, and Ethics and Regulatory Processes in Translating Innovation from Bench to Man in year 2. In addition, it sensitises the students to the range of real world issues involved in commercialisation of healthcare technology and thus prepares them for further optional courses in innovation and entrepreneurship in year 3 (and 4).</p>		
<p>Activity: The student is responsible for developing and undertaking a project which enables them to achieve and demonstrate achievement of the Learning Outcomes, framed within the subject area of their Postgraduate programme, and aligning with their programme-level learning objectives.</p>		
<p>Undertaking a SLICC enables the student to create and shape a learning experience which is unique to them. The student develops an e-portfolio to provide evidence of their learning. This Level 11 course requires students to demonstrate the development of their skills and understanding in terms of critical analysis, application,</p>		

reflection, recognising and developing skills and ways of thinking, and evaluation within a specific context of their learning experience. This course will also enable students to demonstrate their ability to exercise autonomy and initiative at a professional level in their field of study.

Learner outcomes :

A SLICC is assessed via three key components, a self-reflective report, an agreed portfolio of outputs/deliverables and a formative self-assessment.

- **Self-critical Final Reflective Report (100% weighting):** The reflective report is the key component of the assessment. The student is expected to document and demonstrate active self-critical reflection and responses to their learning throughout the experience. It is essential that the student's report is linked to, and draws upon, their e-portfolio of evidence of learning. The maximum word limit is 3,000 words.
- **E-portfolio of evidence:** At the proposal approval stage for the SLICC, the Course organiser will discuss and agree with the student what outputs and information need to be created, collated and submitted in their portfolio. This e-portfolio will support and provide evidence of the student's learning and development of skills through undertaking the SLICC. The portfolio should be constructed throughout the duration of the learning experience, demonstrating evolution, iteration and progress over time.
For instance, E-portfolio may include a regular reflective blog diary. It may contain other evidence, which may take many forms including, for example, photographs, documents, reports, feedback, video, and podcasts.
- **Formative Self-Assessment:** An important component of the final submission is for the student to demonstrate their understanding of their achievements through graded self-assessment. In undertaking self-assessment, students are required to demonstrate the alignment of the grades that they give for each learning outcome to the justification for them, and where this is evidenced within their e-portfolio.

Resources :

Developing Partnerships: PhD students and Canon Medical <https://edinburgh-innovations.ed.ac.uk/news/optima-canon-medical>

Canon Medical & OPTIMA Student-Led Individually Created Course (SLICC)

https://figshare.com/articles/presentation/CANON_SLICC_Case_study_pdf/14135243

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The University of Edinburgh, Degree Regulations and Programmes of Study