

A World Top 200 university, Times Higher Education 2018



**University
of Dundee**

Case Study 3: Enterprise and Employability modules

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Overview



- Employability, Enterprise and Entrepreneurship at Dundee
- Case study – Careers & Enterprise module for mechanical/electronic engineers
- Learning points

Our Strategy



“We will ensure that awareness of employability as an issue and the importance of the development of enterprising attitudes and abilities is threaded into the fabric of academic course work”

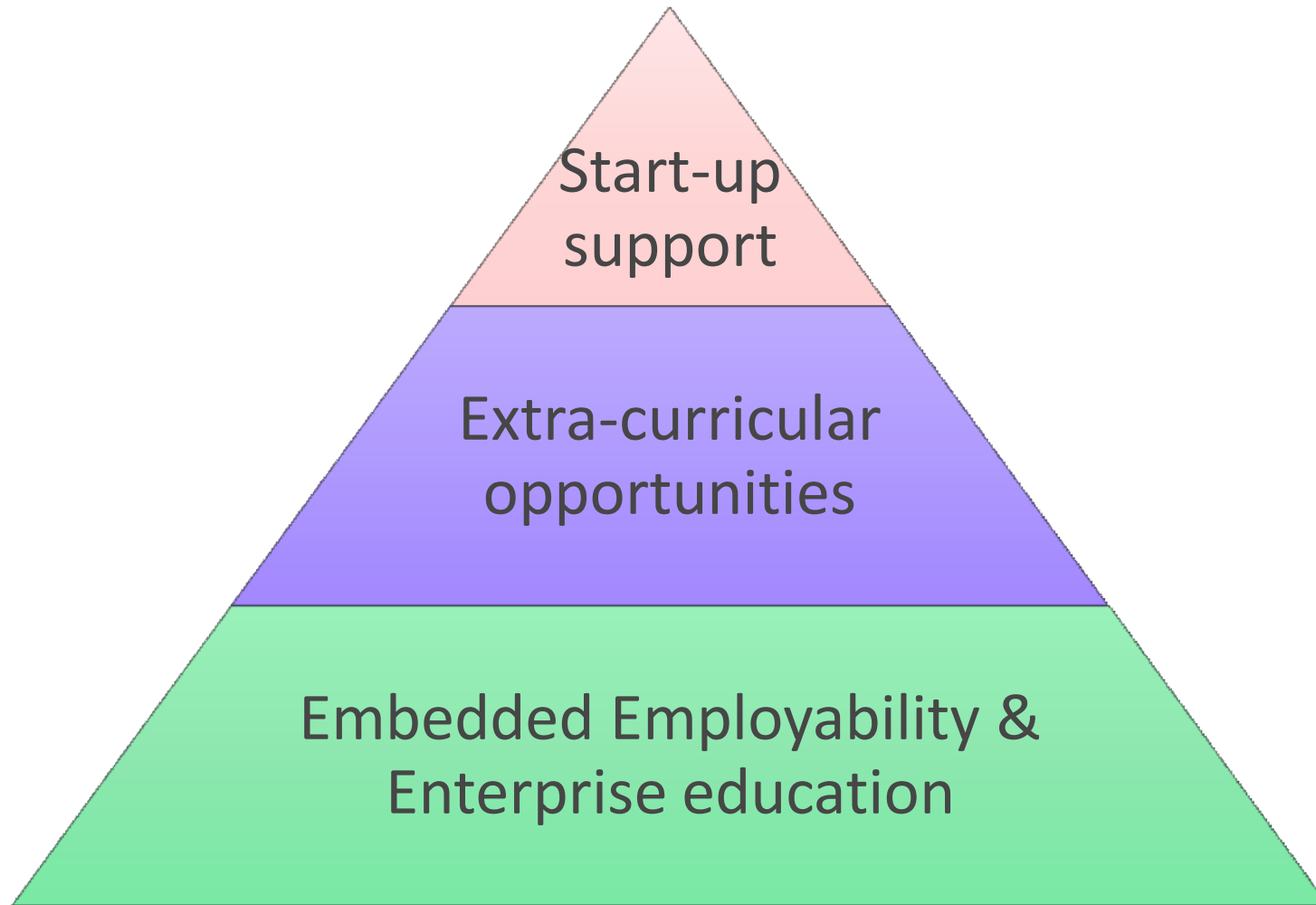
University Strategy 2012 – 2017

“Further embed employability and enterprise as an integrated element of curriculum”

University Strategy 2017 – 2022



Provision for all students



Careers Education at Dundee



Level 2 modules (20 credits):

- Career Planning Module
- Career Planning Module Online
- Internship Module
- Business Management Internship Module

Exploring the impact of undergraduate credit-bearing careers education: Preparing our graduates.

Ruth O’Riordan, Dr Elena Del Rio and Jakub Wieczorek.

University of Dundee

- HECSU funded research
- Increased likelihood of graduate success
- Students feel more prepared to graduate

Models of embedding Enterprise Education



- Full credit-bearing modules:
 - Business Management
 - Life Sciences (L1 & 2)
 - Mechanical Engineering (UG & PG)
 - Law (2nd year UG)
- Introductory workshops at L1:
 - Life Sciences
 - Physics
- Tailored input:
 - Art & Design
 - Humanities



Case Study: Industry and Innovation module

- Level 3 Mechanical/Electronic Engineering - 15 credit module – compulsory
- Between 60 – 70 students per year
- Delivered by the Careers Service and Centre of Entrepreneurship
- Input from local and national employers as well as alumni

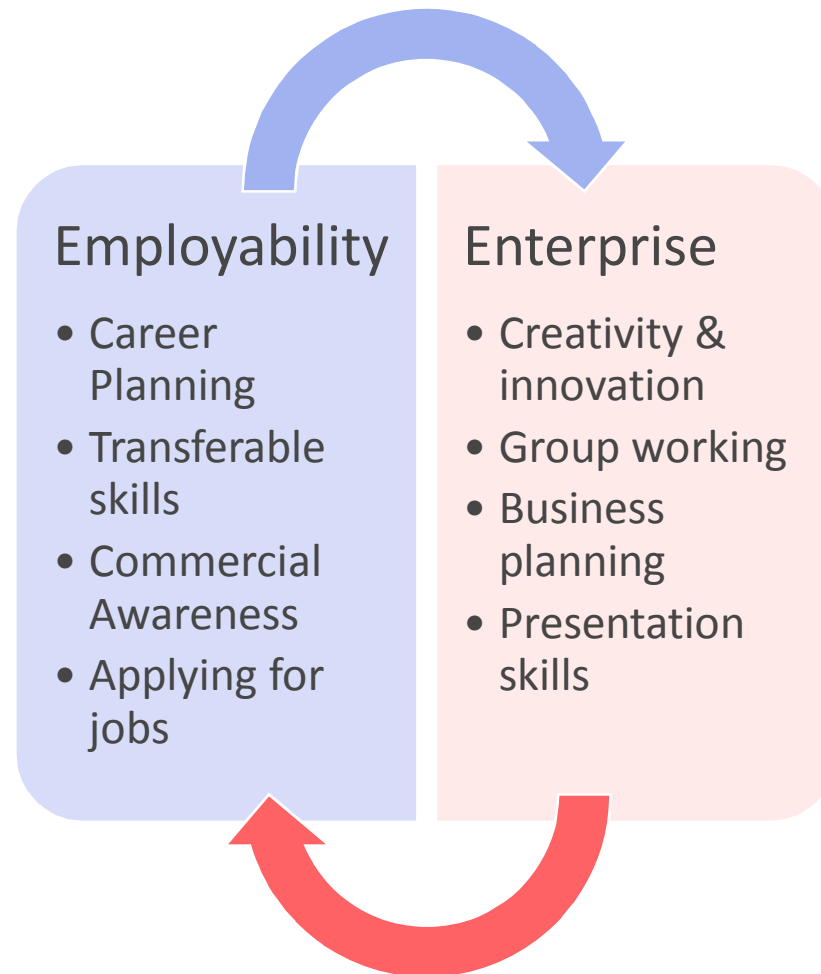
WHY? – To address demands from ImechE around essential skills for Engineering professionals

Case Study: Industry and Innovation module

Delivery:

- One x two hour Careers & Employability interactive workshop per week ([Careers Service](#))
- One x one hour Enterprise lecture per week ([CoE](#))
- One x one hour Enterprise tutorial per week ([CoE](#))

Case Study: Industry & Innovation



Learning Outcomes



- Identify the professional skills and behaviours required for an Engineering career, and articulate your level of competence in these skills.
- Be aware of roles and preferences in team working situations, and strategies for optimising team performance.
- Describe the components of a standard graduate recruitment process and the general requirements of graduate recruiters.
- Analyse employer requirements and present your skills and experience tailored to these.
- Generate, evaluate and act upon your own ideas.
- Be aware of enterprise skillsets and gauge your own potential as entrepreneurs.
- Think conceptually and analytically about existing entrepreneurial enterprises and about entrepreneurship more broadly.
- Demonstrate related skills such as business writing, research skills, group work and presentation skills.

Why?



- Develop the enterprise skills required by employers/encourage intrapreneurship
- Spark entrepreneurial mindset and foster interest in developing new business enterprises
- Equip our engineers with an understanding of business concepts and the commercial awareness needed to be professional engineers

Challenges





How do we respond?



- **Name? Is it important?**

Previously – The Business Framework.....

Then....Careers & Enterprise module

- **Session 1** – Deliver together/highlight relevance of EEE to THEM!
- **Overall approach** – partnership delivery and make employability and enterprise overlap clear throughout



TEAMWORK

Sometimes your team just sucks.

VERY DEMOTIVATIONAL .com

Assessment



2015-17:

- Professional Skills profile (STAR/competency based) **(15%)**
- Graduate Application Form **(25%)**
- Business Plan (groupwork) **(40%)**
- Group Presentation **(20%)**

Assessment



2015-17:

- Professional Skills profile (STAR/competency based) **(15%)**
- Graduate Application Form **(25%)**
- Business Plan (groupwork) **(40%)**
- Group Presentation **(20%)**



Now:

- Professional Skills profile (STAR/competency based) **(15%)**
- Graduate Application Form **(35%)**
- Business Model Canvas (groupwork) **(25%)** ←
- Group Presentation (including 25% individual) **(10%)**
- Teamwork Evaluation Summary **(15%)**



The Business Model Canvas

Designed for: _____ Designed by: _____ Date: _____ Version: _____

<p>Key Partners </p> <p>Whom do we partner with? Which key resources will we acquire from our partners? Which key activities do partners perform?</p> <p>Partners can: Reduce our costs Increase our revenues Reduce our risks</p>	<p>Key Activities </p> <p>What key activities do our value propositions require? Our distribution channels? Customer relationships? Revenue streams?</p> <p>Channels: Partners: Key Resources: Key Relationships:</p>	<p>Value Propositions </p> <p>What bundles of products and services are we offering to each Customer Segment? Which Customer Segments do we target?</p> <p>Benefits: Performance Reliability Customization Cost Risk Convenience Accessability Compatibility</p>	<p>Customer Relationships </p> <p>What type of relationship does each of our Customer Segments expect us to establish and maintain with them? Which channels have we adopted? How are they integrated with the rest of our business model? How sticky are they?</p> <p>Channels: Channels: Channels: Channels: Channels:</p>	<p>Customer Segments </p> <p>For whom are we creating value? Who are our most important customers?</p> <p>Mass Niche Divers Multi-segment</p>
<p>Key Resources </p> <p>What Key Resources do our Value Propositions require? Our distribution channels? Customer Relationships? Revenue Streams?</p> <p>Channels: Partners: Key Relationships: Key Activities:</p>			<p>Channels </p> <p>Through which Channels do our Customer Segments want to be reached? How are we reaching them now? How are our Channels integrated? Which costs are most critical? Which costs are most difficult to reduce? How are we integrating channels with customer segments?</p> <p>Channels: Channels: Channels: Channels: Channels:</p>	
<p>Cost Structure </p> <p>What are the most important costs incurred in our business model? Which Key Resources are most expensive? Which Key Activities are most expensive?</p> <p>Costs: Costs: Costs: Costs: Costs:</p>			<p>Revenue Streams </p> <p>For what value are our customers really willing to pay? For what do they currently pay? How are they currently paying? How would they prefer to pay?</p> <p>Revenue: Revenue: Revenue: Revenue: Revenue:</p>	

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<http://www.businessmodelalchemist.com/tools>

Examples of business ideas this year....



Temperature regulated pillow

BioTAG

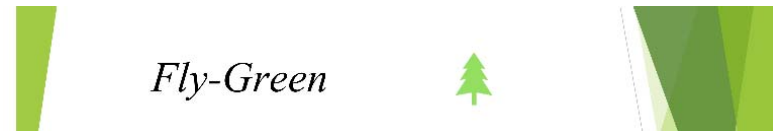
Medical, vital signs monitoring device

Sentire by Heart-to-Heart

Bluetooth stethoscope for medical teaching

Lazy Charge

Multi-device wireless charging system

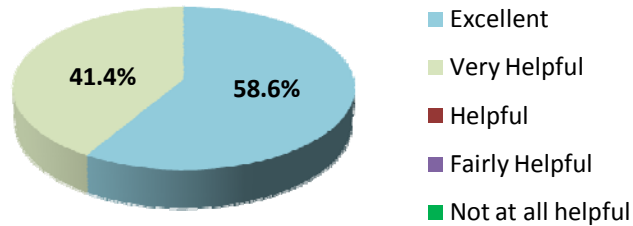


Electric air travel commuter system

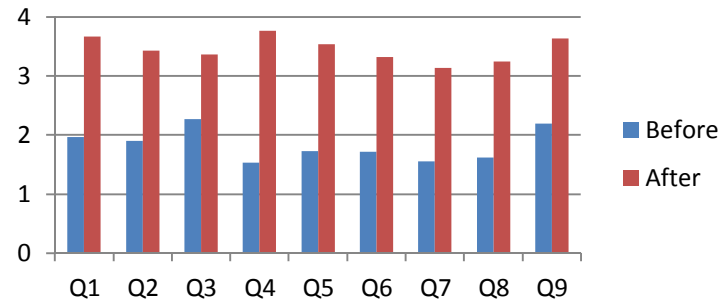
Feedback



(A) Overall, how helpful was the module?



(B) How would you rate your competency?



“This was the module that I most enjoyed during my time at university so far”

“Other courses (civil engineering, physics) should have this very useful module as well for third year”

“I found this very interesting, allowing me to look at the world from a different point of view, it has helped me improve my ability to work in a group, which I wasn’t comfortable in”

“I understand for the first time how I operate in a team”, and

“The business plan inspired me to actually pursue enterprising ideas”.

Further development...



- New module introduced to 2nd year Law students in 2018/19
- Creating Your Future: Innovation, Careers and Enterprise
- Format based on Industry and Innovation concept

Key learning points



- Not “one size fits all”
- Partnership working
- Student demand
- Involvement of employers, entrepreneurs & alumni
- Challenges with assessing group work





Thank you and any questions?