



Micro-Credentials

Information Sheet and Descriptor

Definition (working)

A micro-credential is a proof of the learning outcomes that a learner has acquired following a short learning experience. These learning outcomes have been assessed against transparent standards. The proof is contained in a certified document that lists the name of the holder, the achieved learning outcomes, the assessment method, the awarding body and, where applicable, the qualifications framework level and the credits gained. Micro-credentials are owned by the learner, can be shared, are portable and may be combined into larger credentials or qualifications. They are underpinned by quality assurance following agreed standards (working definition approved by HCI Steering, 11 February 2021**).**

Micro-credentials – range of credits from 2.5* ECTS, 5 ECTS, 10 ECTS.

*Note: for the 2021/22 academic year micro-credentials will consist of 5 ECTS or 10 ECTS.

Micro-credentials:

- Consist of credit offered for continuing/professional development purposes.
- Are specifically designed to upskill the workforce.
- May be stackable.
- Offer flexible delivery to meet the needs of industry, business and employees.

MC = Micro-Credential

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HCI Pillar 3

Micro-Credentials: Descriptor

HCI Cluster and Work Package for the proposed micro-credential:	Cluster 1: Work-package 1
To whom will the micro-credential be offered?	Specify the <i>specific industry/profession targeted</i> : Industry and professional development
Micro-credential title:	Transport Modelling and Planning
Is the proposed micro-credential a new or existing module (repurposed)?	Existing module to be repurposed
(For Existing Modules Only)	
Existing module detail	<p><i>If this is an existing module to be repurposed as a micro-credential, please respond to the questions below.</i></p> <p><i>If not, proceed to the next section.</i></p> <p>State the name of the module and programme (<i>and enclose module descriptor if available</i>): Module: Transport Modelling and Planning. Programme: MAI Engineering and MSc in Engineering (Civil)</p> <p>Is the module shared with another discipline/School? If so, name the discipline/School: n/a</p> <p>Existing Module details: PG Y5 MAI and Y1 MSc No. of ECTS of module: 5 NFQ level: 9 School (owner and discipline): School of Engineering</p>



	Module coordinator: Brian Caulfield Code in SITS: CE7T02 <i>If changes are required to the existing module so that it can exist coherently as a micro-credential please give details (please also outline how the existing module will meet the criteria of a micro-credential in terms of meeting the needs of industry and, providing flexible delivery):</i> This module will have blended delivery which is different from Pre COVID face to face only delivery.	
Micro-credential information		
NFQ level (if applicable)	9	PG
ECTS	Note: 5 ECTS: 100–125 hrs student effort (PG: 1 ECT: 25 hrs student effort) 5	
School (owner) and discipline	School of Engineering	
MC Coordinator (name) <i>(Must be academic / teaching staff)</i>	Brian Caulfield	
State other Schools/external organisations involved in the delivery of the micro-credential (if applicable)	n/a	
Industry/profession	Specify the industry/profession targeted by the micro-credential: Transport professionals, planners and policymakers that all have to interact with macro transport models and interpret their outputs. The models used in this module follow the structures mandated by the National Transport Authority. The module provides a comprehensive overview of the structure of these models and as such would be valuable to those requiring knowledge on how these models are used in transport appraisals.	



	<p>What market need is addressed by the micro-credential:</p> <ul style="list-style-type: none">- Both the Climate Action and Low Carbon Development Bill 2021 and the recent Programme for Government stipulate that transport emissions must fall by 51%.- This module examines pathways to lowering emissions through promoting shifts to sustainable modes of transport and reducing emissions from existing modes of transport. This module is part of the only Level 9 course dedicated to transport engineering and modelling.- The module covers the basis of the four-stage transport model used by National Transport Authority in the evaluation of transport projects- Provide students with detailed knowledge of the concepts and processes of transportation modelling <p>Click or tap here to enter text.</p> <p>State the industry/employer-related skills addressed by the micro-credential:</p> <p>Advanced fundamental knowledge on macro transport modelling and evaluation of transportation schemes. Public transport network design and the interactions between land use planning and transport are also covered in this module. Case studies are used in the module to explain the stages in transport analysis and design.</p> <ul style="list-style-type: none">• Critical analysis including exploring and evaluating new concepts• Design innovation to respond to future needs• Complex problem solving <p>How will the delivery of this micro-credential facilitate industry/professional staff participation (flexible delivery – online/blended/face-to-face – evenings/weekends etc)?</p> <p>There will be blended delivery with all lectures recorded ‘live’ while also giving the option for face-to-face lectures. Timetabling currently has 2 hour slot for lectures and 1 hour slot for groupwork. Group work can be facilitated online or face-to-face to suit the cohort.</p>
Teaching staff & if appropriate institutional/industry affiliation	Name all teaching staff involved and if external, the name of the organisation. Professor Brian Caulfield (Discipline of Civil, Structural and Environmental Engineering)
Min./max. number of students	Min. number of students: 0 Max. number of students: 5



Mode of delivery	Face-to-face Any further details: *Lectures will be recorded.		
MC entry & admission requirements/pre-requisites (if applicable)	Level 8 award. 2.1 in Engineering or cognate discipline		
Proposed commencement date	September 2021		
Micro-credential frequency, duration and term	<i>Frequency of delivery during the academic year:</i> Once per academic year	<i>Duration of the MC (e.g. 6 weeks). If block delivery applies provide details:</i> Semester one – 12 weeks	<i>Indicate term(s):</i> Michaelmas <input checked="" type="checkbox"/> Hilary <input type="checkbox"/> Trinity <input type="checkbox"/>
Contact and independent study hours (include total)	<i>Note: 5 ECTS: 100–125 hrs student effort (PG: 1 ECT: 25 hrs student effort)</i> <i>Contact hours: 33</i> <i>Independent study hours: 92</i> <i>Total: 125 hrs</i>		
Micro-credential aims	A comprehensive overview of the different approaches to modelling transportation networks is provided in this module, equipping students with a variety of tools for examining transportation problems.		
Micro-credential learning outcomes (approx. 5)	Resources: Academic Practice and QQI <i>Note: Learning outcomes should stem from and align with the MC aims and start with an explicit and assessable verb.</i> On successful completion of this micro-credential, learners will be able to: LO1. Evaluate transport networks using the four stage model. LO2. Discuss how transport networks are designed. LO3. Apply discrete choice models to transportation problems. LO4. Explain how activity-based transport models link into the traditional four stage model. LO5. Identify the links between land use and transport planning. LO6. Design and plan public transport routes. LO7. Model the interactions between transport and emissions.		



<p>MC content areas. <i>(Bullet points can be used)</i></p> <p>If the MC (or components) will be delivered in a blended format, identify the content that will be delivered online.</p>	<p>A comprehensive overview of the different approaches to modelling transportation networks is provided in this module, equipping students with a variety of tools for examining transportation problems. This module covers the following topics: data, four stage transport modelling (including trip generation, distribution, modal split and assignment; user and social equilibrium), discrete choice modelling, activity based models, transport and land use planning, public transport planning.</p>																			
<p>Teaching and Learning Methods (state pedagogical approach).</p> <p>Include the online environment(s) to deliver the MC e.g. Blackboard/Zoom, if appropriate.</p>	<p>Resources: Academic Practice</p> <p>All lectures will be delivered live from a lecture theatre (face-to-face/live recorded) format – times will be published on the School of Engineering website.</p>																			
<p>MC assessment components</p> <p><i>Please include the following...</i></p> <p><i>How will the MC be assessed?</i></p> <p><i>Indicate the LO assessed for each assessment (e.g. LO1 etc.)</i></p> <p><i>Indicate the % of overall mark each assessment is worth.</i></p> <p><i>Indicate if summative/formative (e.g. essay/research paper)</i></p>	<table border="1"> <thead> <tr> <th>Assessment Component</th> <th>Assessment Description</th> <th>LOs address</th> <th>% of total</th> </tr> </thead> <tbody> <tr> <td>Assignment 1</td> <td>Individual assignment – examining public transport planning. Students will present a written report</td> <td>LO5 & LO6</td> <td>20</td> </tr> <tr> <td>Assignment 2</td> <td>Individual assignment – modelling transport emissions. Students will present a written report and detailed analysis</td> <td>LO7</td> <td>30</td> </tr> <tr> <td>Examination</td> <td>3 hour examination</td> <td>all</td> <td>50</td> </tr> </tbody> </table>				Assessment Component	Assessment Description	LOs address	% of total	Assignment 1	Individual assignment – examining public transport planning. Students will present a written report	LO5 & LO6	20	Assignment 2	Individual assignment – modelling transport emissions. Students will present a written report and detailed analysis	LO7	30	Examination	3 hour examination	all	50
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<p>State how the MC will be reassessed if failed</p>	<p>100% examination (3 hrs)</p>																			



Pass standard & any special requirements for passing the MC	Resources: <u>Calendar II</u> and <u>Calendar III</u> 50% pass mark
Penalties for late submission	n/a
Core reading (if applicable)	None
Are there subject experts in other Schools/disciplines?	No If yes, name of School and discipline Click or tap here to enter text. Has the MC been discussed with the School/discipline and DUTL/DTLP? Choose Yes/No
Proposed student fee	External student fee €1,500

Faculty Dean and School Executive Approval:

Date of approval of the proposed micro-credential by the School Executive: 13/04/2021

Date of approval of financial information by Faculty Dean: 12.05.2021

Signed by Head of School:

Date: 15/04/2021

Faculty Dean:

Date: 12/05/2021