



## Developing your Micro-credential Descriptor: Pedagogic Considerations

### Rationale and First Steps

Micro-credential programmes can be understood as pocket-sized programmes that look like a standalone module. Micro-credential design and implementation shares common ground with principles of programme design and module design and should consider the need for coherence and workload appropriacy in and across the micro-credential.

The content of a micro-credential programme might emerge from existing modules or be completely developed from scratch. In both cases it's a good idea to think about practical and pragmatic aspects of the course. What are you trying to achieve with this course? What is the 'need' for the course (e.g. in industry/society)? Who is likely to take this course, and how is this course appropriate to their needs? In simple words, how would you explain the course and encourage someone to register for it? What are its key features? What should a micro-credential 'graduate' be able to do/know/understand after its completion? You may also find it helpful to sketch out a **learner profile** for a typical micro-credential participant.

Questions to consider as you develop your micro-credential include:

- What's the 'need' for the micro-credential?
- What does a successful micro-credential look like from the learner's perspective?
- Why should someone do the course and what are they expected to be able to do/know/understand by the end of the micro-credential?
- How does the course acknowledge the specific needs of those learners in terms of teaching, learning, and assessment practices?
- What are the expectations of the typical micro-credential participant (fee-paying, established career professional etc.) and how might these be different in teaching/learning/assessment by comparison to a 'traditional' student?
- What sort of delivery context is appropriate for your micro-credential and why (e.g. physically on site, blended, fully online)?
- How does the content and structure of the micro-credential meet course and learner needs? How does this knowledge inform your curriculum design?

### Learning Outcomes: Pedagogy and Principles

A learning outcome is a student-centred statement clarifying the knowledge, skills and behaviours that the student should be able to demonstrate upon completion of the micro-credential. Clearly articulating learning outcomes for a micro-credential is an essential step in curriculum design with important implications for teaching, learning, and assessment. In the curriculum design process,



learning outcomes influence micro-credential content, delivery mode, and assessment strategy. In curriculum terms, this is known as '**constructive alignment**'.

Clearly articulated learning outcomes support curriculum design and can also be a valuable marketing tool. For potential students exploring a micro-credential from an industry context, micro-credential learning outcomes can provide an early indicator of the skills/competences and behaviours developed or acquired on successful completion of the micro-credential.

#### Learning outcomes are:

- essential areas of learning that result from a course of study.
- the knowledge, skills, and behaviours a learner is expected to acquire or develop on completion of the micro-credential.
- written in the future tense, e.g. 'by the end of this micro-credential, you will be able to... [+ verb]'.
- explicit and clearly expressed with an assessable verb.
- limited in number (typically 4-5).
- written to a specific 'level' of learning (e.g. level 9 or 10 in line with the [National Framework for Qualifications](#)).

When constructing learning outcomes for micro-credentials it can be useful to look at taxonomies. Perhaps the most influential taxonomy is Bloom's *Taxonomy of Educational Objectives* which categorises learning into three domains: cognitive, affective and psychomotor:

- The **cognitive domain** includes recall, recognition of knowledge and the development of intellectual skills/abilities.
- The **affective domain** incorporates emotion, feeling and character.
- The **psychomotor domain** concerns physical movement and coordination.

Learning outcomes in higher education are most commonly related to the cognitive domain. Learning outcomes designed for micro-credentials that are industry/work-relevant (e.g. connecting to or developing softer skills such as reflexivity, creativity, leadership, negotiation, confidence) are likely to draw on more than one domain. [This resource from Fresno State University](#) offers some suggestions for verbs linked to the cognitive domain.

#### Questions to consider:

- Are my learning outcomes, 'outcomes', as opposed to a list of syllabus aims or objectives?
- Can their achievement be demonstrated through assessment?
- Is the balance of learning outcomes across domains appropriate for the micro-credential?
- Are they limited in number? Less is more!
- Are all of these learning outcomes necessary? If not don't have them as a learning outcome.
- Do they use appropriate verbs? Are they clear and concise?



The Academic Practice [summary resource](#) and [overview documents](#) on learning outcomes may be of use to you here.

## Teaching & Learning Methods: Design & Principles

Keeping your learning outcomes in mind will help you plan effectively and support you to take a holistic approach to micro-credential design. Select teaching and learning methodologies which align with your intended learning outcomes. It may seem counter-intuitive but try not to focus on content first. [Backward-design methodologies](#) can support you to select teaching and learning methodologies which align with your intended learning outcomes. This means:

1. deciding on learning outcomes
2. deciding how to assess the demonstrated achievement of those learning outcomes
3. planning your teaching and learning strategies
4. mapping the content to be covered.

The table below outlines a range of teaching and learning approaches commonly aligned to particular learning outcomes using Bloom's revised Taxonomy as a framework (particularly his work in the cognitive domain of learning – see [Anderson and Krathwohl, 2001](#)). Keep in mind that baseline expectations of knowledge acquisition and retention often underpin learning outcomes framing complex knowledge, skills, and behaviours.

### Questions to consider:

- How do you envisage the architecture of the micro-credential? E.g. long and thin / short and fat?
- Which teaching strategies will guide and facilitate learners towards the achievement of learning outcomes?
- Will you implement these strategies in-person/on-campus, or in a blended or fully online context?
- If using a blended approach, how do you envisage the balance and blend between face-to-face and online teaching and learning activities?
- What is required to facilitate these teaching and learning activities in online or blended contexts? E.g. blended/online teaching strategies supported by appropriate tools such as virtual break out rooms, online discussion boards.

\* These strategies may be used as part of problem-based learning, inquiry-based learning, case-based learning and other teaching and learning methodologies. Strategies suggested here are neither exhaustive nor prescriptive.



Learning outcome linked to:	Related verbs:	Teaching strategies typically used to support the achievement of this learning outcome type
Knowledge acquisition and retention	Recognise, Recall, State, Outline, Identify, Describe, Match, Order, Name, Label, Reproduce.	<ul style="list-style-type: none"> <li>• Lecture / Didactic teaching</li> <li>• Didactic tutorial / Seminar</li> <li>• Self-directed learning</li> <li>• Classroom assessment techniques (e.g. minute papers, polling, 3-2-1 structured engagement, Think-Pair-Share)</li> </ul>
Understanding and comprehension	Interpret, Exemplify, Clarify, Classify, Paraphrase, Summarise, Infer, Compare, Explain, Represent, Translate, Illustrate, Categorise.	<ul style="list-style-type: none"> <li>• Lecture / Interactive teaching</li> <li>• Interactive tutorial / Seminar</li> <li>• Scaffolded discussion</li> <li>• Role play</li> <li>• Simulation</li> <li>• Group work</li> <li>• Self and peer assessment</li> <li>• Peer teaching</li> <li>• Self-directed learning</li> <li>• Independent research</li> <li>• Conducting fieldwork</li> <li>• Experimental lab work (Individual/in pairs or groups)</li> <li>• Artefact creation (e.g. essay/multimedia artefact)</li> <li>• Classroom assessment techniques (e.g. minute papers, polling, 3-2-1 structured engagement, Think-Pair-Share)</li> </ul>
Application of knowledge in a given situation.	Apply, Implement, Demonstrate, Illustrate, Interpret, Execute.	<ul style="list-style-type: none"> <li>• Role play</li> <li>• Simulation</li> <li>• Group work</li> <li>• Peer teaching</li> <li>• Research enquiry</li> <li>• Conducting fieldwork</li> <li>• Experimental lab work (Individual/in pairs or groups)</li> </ul>
Analysis, classification, structural understanding,	Analyse, Differentiate, Organise, Attribute, Appraise, Critique, Compare.	<ul style="list-style-type: none"> <li>• Lecture / Interactive teaching</li> <li>• Interactive tutorial / Seminar</li> <li>• Scaffolded discussion</li> </ul>





<p>hypothesis testing, and evidencing.</p>		<ul style="list-style-type: none"> <li>• Role play</li> <li>• Simulation</li> <li>• Group work</li> <li>• Self and peer assessment</li> <li>• Peer teaching</li> <li>• Self-directed learning</li> <li>• Independent research</li> <li>• Conducting fieldwork</li> <li>• Experimental lab work (Individual/in pairs or groups)</li> <li>• Artefact creation (e.g. essay/multimedia artefact)</li> </ul>
<p>Evaluating, evidencing and defending judgment or analysis.</p>	<p>Evaluate, Critique, Appraise, Argue, Justify, Explain, Predict, Support, Defend.</p>	<ul style="list-style-type: none"> <li>• Interactive tutorial / Seminar</li> <li>• Panel discussion</li> <li>• Role play</li> <li>• Simulation</li> <li>• Group work</li> <li>• Self and peer assessment</li> <li>• Peer teaching</li> <li>• Scoping or comparative analysis</li> <li>• Conducting fieldwork</li> <li>• Experimental lab work (Individual/in pairs or groups)</li> <li>• Artefact creation (e.g. essay/multimedia artefact)</li> </ul>
<p>Creating, integrating, or synthesising ideas, concepts or practices coherently.</p>	<p>Create, Generate, Plan, Produce, Design, Modify, Develop, Invent, Write.</p>	<ul style="list-style-type: none"> <li>• Role play</li> <li>• Simulation</li> <li>• Group work</li> <li>• Peer teaching</li> <li>• Conducting fieldwork</li> <li>• Experimental lab work (Individual/in pairs or groups)</li> <li>• Artefact creation (e.g. essay/multimedia artefact)</li> </ul>



## Assessment: Pedagogy and Principles

Assessment for a micro-credential oriented towards a professional audience will typically be more outward-facing, e.g. aligned to work-based initiatives or professional practice activities. Among the key themes to consider as you identify an assessment strategy appropriate to your micro-credential are:

- alignment of the assessment to learning outcomes.
- nature of assessment (e.g. traditional/outward-facing; abstract/applied; qualitative/quantitative).
- modality of assessment across the microcredential (e.g. formative/summative).
- weighting of the assessment components.
- size of assessment (measured in terms of workload and ECTS hours).

Consider the learner profile of a typical participant. Is it reasonable or desirable, for example, for a programme participant to do an ‘exam’ during working hours or to complete an abstract essay as their assessment? Might it be more appropriate to set project- or case-based research or analysis assessments that reflects the context and priorities of a working professional? Particularly in online-only or blended microcredentials, consider where digital assessment practices are appropriate. The resources in the [Gateway to Digital Assessment Resource Hub](#) are intended to support colleagues to develop insight into broad principles of digital assessment.

The two examples below highlight how the same outcome can be assessed in different ways:

### Sample Learning Outcomes:

- (1) Define sustainability in relation to a professional context or environment
- (2) Develop insight into the challenges of sustainability in a particular workplace
- (3) Critically evaluate the impact of one or more sustainability initiatives.
- (4) Demonstrate capacity to tailor communication strategies to a particular audience.

### Sample Assessment Briefs:

<p>Example 1:                  Discuss/evaluate the principles of sustainability in the workplace.                  (3000 words).</p>	<p><b>Traditional assignment:</b>                  abstract, discursive, theoretical</p>
<p>Example 2:                  Develop a research-informed project plan to support a sustainability initiative in your own professional context/workplace (2000 words) + an accompanying 1 min video ‘pitch’ targeted to an audience of your choice (e.g. senior management, CEO, junior members of staff).</p>	<p><b>Outward-facing (‘authentic’) assessment:</b>                  Applied, relevant to professional context, research-informed</p>





It's also appropriate to consider where and how do formative assessment practices and feedback feature in the assessment plan (e.g. [assessment for and as learning](#)). Is it appropriate or desirable for feedback to be provided to micro-credential participants only at the end of the microcredential? How do teaching and learning activities across the micro-credential build/lead towards assessment?

Might be assessment be 'stepped'? If using example 2 above ('project plan'), participants would have to : 1. Identify their audience and present aims/objectives to peers; 2. Develop a research bibliography informing their project plan; 3. Develop a draft project plan; 4. Develop their video pitch; 5. Submit a final version. Might peer-review of early draft(s) of steps 1 – 4 be used to provide feedback to participants without increasing workload for the teaching team?

Bear in mind that the grand sum of assessment 'time' (e.g. including all time spent preparing for/doing assessment of all kinds across the microcredential) should be appropriate to the ECTS value of the microcredential. How is the final award of the microcredential to be calculated, e.g. what are the assessment features that characterise a pass/fail or distinct grade areas? What does high-stakes summative assessment (e.g. assessment 'of' learning) look like in the microcredential? What does 'reassessment' look like?

When developing your micro-credential assessment strategy, you may find it beneficial to review the following prompts:

- How does assessment enable learners to demonstrate their achievement of learning outcomes?
- How much assessment is too much or too little, e.g. the integrity of the award vs the workload for student/assessor?
- When and where does assessment take place across the structured programme of your micro-credential, e.g. are weekly assignments a feature of your curriculum design? Do these feed into a final summative assessment?
- How and where does feedback feature in the micro-credential assessment strategy?
- Are traditional assessments (e.g. essays/exams) appropriate for the learner profile enrolled on the programme or might applied assessments be more appropriate?
- Is there any choice in assessment activity (e.g. pre-recorded or live presentation, essay or presentation, portfolio, visual or digital artefact)?

Contact **Academic Practice** ([academicpractice@tcd.ie](mailto:academicpractice@tcd.ie)) if you have any questions regarding your micro-credential design.