

Design Principles for
MODULAR COURSES in
Higher Engineering Education

Defining modules

Following a **modular course structure** **highlights** students' individual learning needs, flexibility, frequent feedback, self-paced learning, and autonomy.

A module is a web-based, self-contained part of a fully online or a blended course. A course might include a single module or multiple modules. Modules might be mandatory or elective. An entire course or a subset of the course can be split up into modules. Thus, your course can consist of multiple online modules.

How the design principles work

'The design principles' aim to guide you in designing your course with online modules. This document will help you with your decisions as you proceed; you will specify your choices for the 'design principles'. **For each 'design principle',** you will find a more elaborate explanation and examples from the literature in the 'teacher guide'.

'The teacher guide' **seeks to provide support in designing courses with online modules** for higher engineering education. This 'teacher guide' is a practical guide to illustrate how the 'design principles' are actually implemented. This manual provides the teachers with **examples and resources for each 'design principle'**.

Before moving onto the 'design principles', information to consider:

- title of the course
- course Learning Outcomes
- prior experiences related to this course
- student performance indicators from last quarter

Hints for formulating learning outcomes

- [SMART as a framework](#): Specific, Measurable, Achievable, Relevant, Time-based
- [Bloom's taxonomy as a framework](#)
[Krathwohl, D. R. \(2002\)](#).
- Bigg's constructive alignment
[Biggs, J.B. \(2011\)](#). *Teaching for quality learning at university (4th edition)*. Buckingham: Open University Press/Society for Research into Higher Education.
- The sources of the TU/e teaching pedagogy certification program

