

MENT103 Recording Impact of Engineering Technology Teaching Methodologies

ECTS Value: 5 ECTS

Overall Objectives and Outcomes

This module gives the skills and knowledge to collect and report the research and analytical techniques used understand improved students' learning experience. A proposal for self-evaluation is in place in Unit 1 and this module builds on this proposal to collect the data and implement it through the whole course of the unit delivery.

Finally, the module will assist in finalising a framework to self-assess a proposed plan of actions of teaching methodology in Engineering Technology and identify the effectiveness of one or more pedagogy techniques in engineering technology.

By the end of this module, the learner will be able to:

Competences:

- a. apply and develop the necessary data collection, analytics and self-assessment focussed interpretive approaches towards Engineering Technology pedagogy identified field of research enquiry;
- b. implement the plan in Unit 1 within agreed timescales and using relevant methodology and evidence, an acceptable evidence review and research design proposal which address and critically explore a research question and a specific learning environment;
- c. evaluated and make self-recommendations for enhanced experience and class room discourse.

Knowledge:

- a. understand and justify data usage in evaluating pedagogy methods and assessment to assess a set of unit delivery in Engineering Technology.
- b. understand the data analysis methods to communicate effectively the self-recommendations in Engineering Technology Teaching.

Skills:

- a. implement an impact proposal for self-evaluation of Engineering Technology Teaching;
- b. formulate and justify the selection and use of specific data analysis to assess a set of unit delivery in Engineering Technology;
- c. communicate effectively the self-recommendations in Engineering Technology Teaching.

Assessment Methods

This module will be assessed through: Assignment

Suggested Readings

Core Reading List:

1. Goodhew, P.J. (2010). Teaching Engineering: All you need to know about engineering education but were afraid to ask. UK: The Higher Education Academy. Available from: http://core.materials.ac.uk/repository/teachingengineering/teaching_engineering_goodhew.pdf
2. Felder, R.M. and Brent, R. (1999). How to improve teaching quality. Quality Management Journal, 6(2), 9-21.
3. Lucas, B., Spencer, E., & Claxton, G. (2012). How to Teach Vocational Education: A Theory of Vocational Pedagogy. London: City & Guilds Centre for Skills Development.

Supplementary Reading List

1. NSPE (2013). Professional Engineering Body of Knowledge: Prepared by the Licensure and Qualifications for Practice Committee of the National Society of Professional Engineers. Available at: <https://www.nspe.org/sites/default/files/resources/nspe-body-of-knowledge.pdf>
2. Effective Adult Learning: A Toolkit for Teaching Adults. Available at: <http://www.nwcphp.org/training/opportunities/toolkits-guides/effective-adult-learning-a-toolkit-for-teaching-adults>;
3. Lang, J.M. (2016). Small Teaching: Everyday Lessons from the Science of Learning. Jossey-Bass.
4. Oakley, B. (2014). A Mind for Numbers: How to Excel at Maths and Science. TarcherPerigee.