Course Description
MEDD8914 Implementing STEM/STEAM-rich Making: Opportunities and Challenge

Course description
This course aims to develop students' knowledge of constructionism and maker culture to enhance their understanding of the theory and practice behind STEM/STEAM-Rich Making. Students will explore different approaches (e.g. assembly form of making, tinkering) in practical STEM/STEAM-Rich Making through hands-on activities. This course also critically examines the opportunities and challenges for implementing STEM/STEAM-Rich Making through SWOT analysis and funding proposal writing, as well as develops students' leadership in promoting and implementing STEM/STEAM education. School visits will be arranged, if possible.

Course objectives
1. To acquire knowledge about constructionism and making in STEM/STEAM education.
2. To analyse current situation to explore opportunities and challenges for implementing STEM/STEAM-Rich Making programmes.
3. To develop innovative STEM/STEAM-Rich Making programmes with integration of appropriate pedagogies.

Course learning outcomes (CLOs)	Aligned programme learning outcomes (PLOs)
1. To acquire knowledge about constructionism and making in STEM/STEAM education.	PLO 1
2. To analyse current situation to explore opportunities and challenges for implementing STEM/STEAM-Rich Making programmes.	PLO 2
3. To develop innovative STEM/STEAM-Rich Making programmes with integration of appropriate pedagogies.	PLO 3

Course assessment methods
• Group workshop
• Moodle tasks
• Individual essay

Course content and topics
• Global development of STEM/STEAM Education
• Inclusive Maker movement and Maker Education
• Constructionism and Making
• Maker Space / STEM/STEAM Room / D&T
• Room / Fab Lab
• SWOT analysis
• Holistic approach of school-based STEM/STEAM-rich Education
• Funding Proposal Workshop

Required / recommended readings and online materials
To be advised during classes

Other additional course information
Nil