

The Hong Kong University of Science and Technology

Course Syllabus

UTOP3201

Practicum in STEAM Education

Spring 2025-26

3 Credits

Course Description

This course is designed to provide undergraduate students with real-life teaching experience that develops skills useful to the community learning environment. Through pre-teaching training, consultation sessions, reflection sessions, and a mini teaching conference, students will acquire important knowledge and practice core competencies essential for teaching. Students are expected to formulate, design, and evaluate lesson plans from their own knowledge and experience, and conduct teaching sessions as the instructor. Students will learn to identify and address educational issues by adopting appropriate strategies to arouse learners' interest in a wide range of STEAM topics. Additionally, students will learn to reflect on and make reasoned analysis on their teaching. Upon completion of this course, students will have the skills and confidence to design and deliver STEAM courses and workshops, using innovative pedagogy and state-of-the-art teaching and assessment tools, for primary and secondary school students and even junior university students.

Course Instructor

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Good Learning Environment and Academic Integrity

All assignments you submit for grading must represent the results of your own independent efforts. You can discuss methodologies with your classmates, but you must do the work independently. Students who are involved (including the copier and the helper) in an incident of plagiarism will receive a failing grade for the course and the incident will be reported for appropriate disciplinary actions.

Intended Learning Outcomes (ILO)

ILO	Description
1	Explain the subject knowledge accurately and effectively to learners
2	Design, implement and evaluate appropriate learning, teaching and assessment strategies to cater for the learners' individual learning differences
3	Identify and address educational issues by adopting appropriate strategies to engage learners effectively
4	Reflect on and make reasoned analysis on one's teaching

Assessments

(10%) Class performance and sharing on Padlet

(15%) Teaching Materials Preparation (group)

(25%) Evaluation of Teaching Experiences (TE1/2)

(15%) Participation and Presentation in Mini-Conference

(35%) Learning portfolio: Individual lesson plan, documentation of teaching practice, reflection

Recommended Text

Ambrose, S. A., Lovett, M., Bridges, M. W., DiPietro, M., Norman, M. K., & Mayer, R. E. (2010). *How learning works: Seven research-based principles for smart teaching*. Jossey-Bass.