

## The Hong Kong University of Science and Technology

Vibration, Control and Programming

MECH 4750

3 credits

Pre-/co-requisites: None

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### Course Description

[Briefly describe the course content, key topics or themes, objectives, methods of instruction, e.g., lectures, discussions, projects].

Single-degree-of-freedom vibration, multiple-degree-of-freedom vibration, beam theory, energy method, passive control, active control, programming, MATLAB, finite element analysis, energy harvesting, sensors, smart materials, and structures.

### Assessments:

[List specific assessed tasks, exams, quizzes, their weightage]

Assessment Task	Contribution to Overall Course grade (%)
Mid-Term Exam	40%
In-course essay	20%
Group Project	40%

### Required Texts and Materials

[List required textbooks, readings, and any other materials]

S.S. Rao, Mechanical Vibration, 5/e, Prentice Hall, 2011.

### Additional Resources

[List any additional resources, such as online platforms, library resources, etc.]