

## The Hong Kong University of Science and Technology

Energy Systems in a Sustainable World

MECH 1902

3 credits

Pre-requisites/Co-requisites: NO

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### Course Description

Modern society relies on a stable and inexpensive energy supply that does not harm the environment or undermine the future generations' need. The course discusses various current and future energy systems, including steam turbine, solar cells, batteries, and fuel cells. We will explain the importance of the systems, their operation principles, and future developments in sustainable energy.

### Assessments:

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

Assessment Task	Contribution to Overall Course grade (%)
Homework	25%
Project report	5%
Mid-Term Exam	30%
Final Exam	40%

### Required Texts and Materials

NA

### [Optional] Additional Resources

David JC MacKay. Sustainable Energy - Without the Hot Air. UIT Cambridge Ltd. 1st edition (2009) (textbook is freely available at <http://www.withouthotair.com/>)

Frank Kreith, Jan F. Kreider. Principles of Sustainable Energy (Mechanical and Aerospace Engineering Series). CRC Press. 1st edition. (2010)

Jefferson W. Tester et al. Sustainable Energy, Choosing Among Options. The MIT Press. 2nd edition. (2010)