

ENEG 3110/MECH3110 (Fall23-24)

Materials for Energy Technologies

*By*

***Prof. Frank LY LAM***

	<b>Date</b>	<b>Topics Covered</b>
<b>Week 1</b>	04, 06-Sep	Significance of Material Science on Energy Technologies
<b>Week 2</b>	11, 13-Sep	Fossil fuels to Net-zero renewable energy
<b>Week 3</b>	18, 20-Sep	Fundamentals of material science
<b>Week 4</b>	25, 27 Sep	
<b>Week 5</b>	04-Oct	
<b>Week 6</b>	9, 11-Oct	Wind turbine
<b>Week 7</b>	16, 18-Oct	Solar powered energy
<b>Week 8</b>	25-Oct	Materials for green transportation
<b>Week 9</b>	30-Oct, 01-Nov	<ul style="list-style-type: none"> <li>• Battery Technology – battery assembly, hydrogen fuel cell vehicles</li> <li>• Photovoltaic cells</li> </ul>
<b>Week 10</b>	06, 08-Nov	Supercapacitor
<b>Week 11</b>	13, 15-Nov	
<b>Week 12</b>	20, 22-Nov	Project presentation
<b>Week 13</b>	27, 29-Nov	Project presentation

# Course Details

- No textbook in this course.
- Lecture notes and reference reading will be provided
- Course Assessment
  - 40% Assignment
  - 30% Quiz
  - 30% Project final report

# Course references

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## References

Materials science and engineering (Callister)

Averill's general chemistry

## Websites

US Energy Information Administration

<https://www.eia.gov/>

International Energy Agency

<https://www.iea.org/>

International renewable energy agency

<https://www.irena.org/>

Our world in data

<https://ourworldindata.org/energy>

