

MIE1241 - ENERGY MANAGEMENT - FALL 2024

Prof. Joaquin E. Moran, PhD., P.Eng.

jmoran@mie.utoronto.ca

Hours: TBD (in person)

TA: TBD

Contents	Week	Date	(Notes)
Introduction to Energy Usage	1	Sep. 9	
Concepts of Energy Management	2	Sep. 16	
Economic Analysis and life-cycle costs	3	Sep. 23	A1
Energy Bills and Rates, Energy Audits	4	Sep. 30	
Energy Bills and Rates, Energy Audits	5	Oct. 7	Q1
****Thanksgiving (no class)	6	Oct. 14	
Energy Management Opportunities in Lighting	7	Oct. 21	A2
Energy Management Opportunities in HVAC	8	Oct. 28	
Energy Management in Buildings (LEED)	9	Nov. 4	A3
Energy Management in Transportation Systems	10	Nov. 11	A4
Advanced Energy Systems	11	Nov. 18	
Final Project Presentations - Session 1	12	Nov. 25	
Final Project Presentations - Session 2	13	Dec. 2	

Tentative Mark Composition:

- Assignments (4) / Quizzes (2) 60%
- Course Project 40% (Topics provided on September 25th, confirmation due October 16th)

Recommended Bibliography

1. **B.L. Capehart, W.C. Turner, and W.J. Kennedy, Guide to Energy Management, 8th Edition, International Version The Fairmont Press, 2016.**
2. F. Kreith and D.Y. Goswami, Energy Efficiency and Renewable Energy Handbook, CRC Press, 2018.
3. Y. Cengel and A. Ghajar, Heat and Mass Transfer: Fundamentals and Applications, 5th Edition, McGraw-Hill, 2015.
4. Michael Boles, Yunus Cengel and Mehmet Kanoglu, Thermodynamics: An Engineering Approach, 10th Ed., McGraw-Hill, 2024.
5. ASHRAE Handbook – Fundamentals, American Society of Heating Refrigerating and Air-Conditioning Engineers

Tentative Assignments

1. Basic Energy Concepts (10%)
2. Energy Bills and Rates (10%)
3. Lighting (10%)
4. HVAC (10%)

Additional Notes

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