

# AME 414

## Engineering Thermodynamics II

Spring 2022, WPH 205, M, W 12:30 pm - 1:50 pm

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Office Hours: Anytime by appointment

**Teaching Assistant:** TBD

**Text:** *Fundamentals of Thermodynamics*, by Borgnakke & Sonntag (8<sup>th</sup> edition)

<u>WEEKS</u>	<u>TOPICS</u>
1	Review of AME 310 (Chapters 1-6)
2, 3	Second Law of Thermodynamics and Exergy (Chapters 7, 8)
4, 5, 6, 7	Refrigeration, Power, and Propulsion Systems (including piston engines, gas turbines, conventional and detonation jet engines, rocket engines, and scramjets for hypersonic propulsion) (Chapters 9, 10 & Notes)
7, 8	Gas Mixtures (Chapter 11)
8, 9	Thermodynamic Relations (Chapter 12)
10, 11	Chemical Reactions (Chapter 13)
12, 13	Introduction to Phase and Chemical Equilibrium (Chapter 14)
14, 15	Introduction to Equilibrium Electrochemistry (Notes)

<b>Grading:</b>	Midterm Exam #1	February 23 (W)	(12:45 pm - 1:45 pm)	25%
	Midterm Exam #2	March 28 (M)	(12:45 pm - 1:45 pm)	25%
	Final Exam	May 6 (F)	(11:00 am - 1:00 pm)	30%
	Homework Assignments			20%

### **Remarks:**

1. Homework assignments will be given every Monday and will be due the following Monday; late work will not be accepted.