

AME 514

Applications of Combustion

Spring 2018, OHE 100B, W 11:00 am - 1:40 pm

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References:

1. Combustion Physics, by C.K. Law, 1st Edition, Cambridge University Press, 2006, (required).
2. Unpublished notes updated yearly, by C.K. Law & F.N. Egolfopoulos (will be provided as needed).
3. Combustion Theory, by Forman A Williams, 2nd Edition, Addison-Wesley, 1985.
4. Combustion, Flames, and Explosions of Gases, by Bernard Lewis and Guenther von Elbe, 3rd Edition, Academic Press, 1987.
5. Combustion, by Irvin Glassman, 3rd Edition, Academic Press, 1996.
6. An Introduction to Combustion to Turbulent Reacting Flows, by R.S. Cant and E. Mastorakos, Imperial College Press, 2008.
7. Theoretical and Numerical Combustion, by T. Poinso and D. Veynante, R.T. Edwards, Inc., 2005.

Prerequisite: AME 513 (Principles of Combustion) or equivalent

Topics:

Review of Principles of Combustion
Aerodynamics of Laminar Flames
Ignition and Extinction Phenomena
Turbulent Reacting Flows
Combustion in Boundary Layer Flows
Combustion in Supersonic Flows
Combustion at Extreme Thermodynamic Conditions
Introduction to Modeling of Reacting Flows

Grading:	Midterm Exam	March 21 (W)	(11:00 am-12:30 pm)	35%
	Final Exam	May 2 (W)	(11:00 am-1:00 pm)	35%
	Homework Assignments			30%

Note: The use of laptops or cell phones to access the internet/e-mail during class and/or exams is not allowed. Such devices are allowed only to access material pertaining to the class.