

AE/ME 6767: Advanced Topics in Combustion

Catalog Description: AE/ME 6767: Advanced Topics in Combustion. 3-0-3

Turbulent combustion, combustion instability and control, solid propellants and explosives, chemical kinetics, pollutant formation and destruction, computational methods for reacting flows.

Text at the level of:

Course notes and handouts.

Learning Objectives:

1. Analytic and numerical methods for modeling complex combustion phenomena.

Prerequisites:

AE/ME 6766 Combustion.

Lecture Topics:

- Combustion overview and review (*1 lecture*)
- Governing equations (*3 lectures*)
- Turbulent Combustion Models (*6 lectures*)
- Combustion Instability and Control (*8 lectures*)
- Physical and Chemical Mechanisms for pollutant formation and destruction (*8 lectures*)
- Burning of solid propellants and explosives (*8 lectures*)
- Computational methods (*8 lectures*)
- Student project presentations (*2 lectures*)
- Exams (*1 lecture*)

Please Direct Questions/Comments to:

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