EMAE/EMAC+ 463 Fire Dynamics (3 credits) Syllabus

Class Time & Location: TuTh 10:00AM - 11:15AM, Glennan 401

Instructor: Professor Ya-Ting Liao; yating.liao@case.edu; (216) 368-0048

Office Hours: MoWe 2:00PM-4:00PM (Glennan 619)

Course Description: This course introduces the burning behavior of materials and the underlying thermo-fluid dynamics. Topics include: pre-mixed flames, diffusion flames, steady burning of condensed fuels, ignition, extinction, flame spread over surfaces, fire plume, compartment fire, flashover, and smoke movement.


Grading Policy:

Class Participation (10%)
Students are expected to attend the class regularly. Participations in the lectures are encouraged. Up to 10 points will be given to the students who actively participate in classroom discussions.

Homework (30%)
Homework assignments will be given after each topic is completed. Each assignment will be weighted equally and sum up to 30 points. While team studying is encouraged, all submitted work must be generated individually. The solutions should be prepared on letter-sized paper in clear, legible writing or typing. Electronic homework submission is preferred. The solutions should be in pdf format and be sent to the instructor’s email with subject line: EMAE463_FirstName_LastName_HW#. Hard-copy solutions are also accepted and should be submitted during the class or to the instructor’s office. Late homework will not be accepted.

Course Project (30%)
A project will be assigned in the beginning of the semester. Each student will make two oral presentations regarding the project in front of the class, one in the middle and one at the end of the semester. Each student will also submit a final project report after the second presentation. The project will be worth 30 points.

Final Exams (30%)
Final exam will be worth 30 points. If a student is absent on days when an exam is scheduled, he or she is required to notify the instructor in advance and provide necessary supporting documents (e.g. documentation of the illness, signed by a health care professional) in a timely manner.

Communications:

Course documents, homework assignments, and all grades will be posted on the course Blackboard (https://blackboard.case.edu).