

MAE 322 – Thermal and Fluids Laboratory, Fall 2017

Mechanical and Aerospace Engineering Department, West Virginia University

Section 001	Wednesday: 2:00 – 4:50PM	Lecture: 107 MRB, Lab: B-05 ESB
Section 002	Monday: 2:00 – 4:50PM	Lecture: G-84 ESB, Lab: B-05 ESB
Section 003	Wednesday: 9:00 – 11:50AM	Lecture: 851 ESB, Lab: B-05 ESB

COURSE DESCRIPTION

The purpose of this course is to provide laboratory experience to the student in the areas of thermodynamics, fluid mechanics, and heat transfer. The laboratory exercises demonstrate many of the theories taught in lecture courses dealing with thermal and fluid sciences. In addition, the student will be introduced to a wide variety of hardware that is used to quantify thermal science and fluid mechanics behavior, such as flow rate measurements, pressure drop in pipes, the Bernoulli principle, heat transfer in heat exchangers, and thermodynamic processes.

PRE-REQUISITE: MAE 320 (THERMODYNAMICS)

COURSE FORMAT

The course consists of a one-hour lecture per week and one laboratory session per week. The laboratory session will consist of a laboratory experiment or data reduction session from a previous laboratory experiment. The laboratory experiment will be performed in small groups (6-8 people) while data reduction will be performed by the entire class. Laboratory reports will be required for all experiments. The reports will be written in groups of three or four students and will be due two weeks after the experiment is performed. **LATE REPORTS WILL NOT BE ACCEPTED.** Also, three short quizzes will be given and scheduled in advance.

COURSE INSTRUCTOR: DR. CHRISTOPHER GRIFFIN, POSTDOCTORAL FELLOW, MAE DEPARTMENT

Office Hours: MW: 1:00 – 1:50PM or by appointment (open door policy)

Contact Information: Office – 939 ESB, Phone – 304-293-3386, E-mail – cgriffin@mail.wvu.edu

TA: Laura Ordaz, E-mail – ljordaz@mix.wvu.edu, Office – 711 ESB, Office Hours – M 1:00 – 2:00PM, W 5:00 – 6:00PM

GRADING

The final grade in the course will be assigned on the following basis:

6 Lab Reports	10% each
3 Quizzes	10% each
Peer Evaluations	10%

The letter grade will be based on a straight 90-80-70-60... scale.

Note: A final course score of 59.4% and below is a letter grade of “F”, whether you are graduating or not. NO EXCEPTIONS.

ATTENDANCE POLICY/LABORATORY ETIQUETTE

Attendance will be taken during each lecture and lab session. All lecture and lab sessions must be attended by the student unless prior arrangements are made, consistent with WVU policies. In addition, professional conduct will be expected during lecture and laboratory exercises. Please turn off cell phones during lecture and laboratory exercises. Please do not engage in idle chat with friends during lecture and particularly during the laboratory experiments, it is distracting and your attention is required not only to learn the principles, but also to maintain a safe laboratory environment. When in the physical laboratory, you must abide by all laboratory rules.

TEACHING PHILOSOPHY

- As the instructor, I will do everything possible to help you learn and understand the material, but you must do your part. The student is ultimately responsible for actually learning the material.

- In my course a grade of “C” means that you have gained an average knowledge of the topic and have a grasp of only the basic concepts. It is not trivial to obtain an “A” in this course, but by the same token, it is also difficult to get an “F”.
- If you have questions on the material, the experiments, how I grade, or life in general, come and see me. I am always open to answering your questions or meeting to discuss your concerns.

ABET GOALS AND OUTCOMES

Outcome B: “Graduates will have an ability to design and conduct experiments, as well as to analyze data.”

Outcome G: “Graduates will have an ability to communicate effectively.”

ADVERSE WEATHER COMMITMENT

In the event of inclement or threatening weather, everyone should use his or her best judgment regarding travel to and from campus. Safety should be the main concern. If you cannot get to class because of adverse weather conditions, you should contact me as soon as possible. Similarly, if I am unable to reach our class location, I will notify you of any cancellation or change using MIX E-mail Addresses and eCampus to prevent you from embarking on any unnecessary travel. If you cannot get to class because of weather conditions, I will make allowances relative to required attendance policies, as well as any scheduled tests, quizzes, or other assessments.

SOCIAL JUSTICE STATEMENT

“The West Virginia University community is committed to creating and fostering a positive learning and working environment based on open communication, mutual respect, and inclusion.

If you are a person with a disability and anticipate needing any type of accommodation in order to participate in this class, please advise me and make appropriate arrangements with the Office of Accessibility Services (293-6700). For more information on West Virginia University's Diversity, Equity, and Inclusion initiatives, please see <http://diversity.wvu.edu>."

ACADEMIC DISHONESTY

The integrity of the classes offered by any academic institution solidifies the foundation of its mission and cannot be sacrificed to expediency, ignorance, or blatant fraud. Therefore, I will enforce rigorous standards of academic integrity in all aspects and assignments of this course. For the detailed policy of West Virginia University regarding the definitions of acts considered to fall under academic dishonesty and possible ensuing sanctions, please see the Student Conduct Code http://studentlife.wvu.edu/office_of_student_conduct/student_conduct_code.

Should you have any questions about possibly improper research citations or references, or any other activity that may be interpreted as an attempt at academic dishonesty, please see me before the assignment is due to discuss the matter.

Policy of Zero Tolerance in Academic Dishonesty. It is an MAE Departmental Policy, that cheating of any kind or form in exams, quizzes, project or assignments will result in formal disciplinary action that may include unforgivable F (UF), suspension or dismissal from the Program.

IMPORTANT DATES

August 16, 2017	First Day of Classes
August 22, 2017	Last day to add/drop courses
September 4, 2017	Labor Day Recess (no classes this week)
October 5, 2017	Mid-Semester
October 24, 2017	Last day to drop a class
November 18-26, 2017	Fall Recess (no classes this week)
December 4, 2017	Last Day to withdraw from the University
December 5, 2017	Last day of classes