

**AE 5313: Fluid Dynamics**  
Fall 2015

**Instructor:** Fabrizio Vergine, Ph.D.

**Office Number:** Aerodynamics Research Center, 915 Speer St, Arlington, TX 76010. Room: 100A

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**Faculty Profile:** <http://www.uta.edu/profiles/fabrizio-vergine>

**Office Hours:** Wednesday from 4:00PM to 5:00PM or by appointment

**Sections Information:** AE 5313-001, AE 5313-002 (online). The course website is on the blackboard:  
<https://elearn.uta.edu/>

**Time and Place of Class Meetings:** Monday, Wednesday and Friday from 1:00PM to 1:50PM. Room: WH 404

**Prerequisites:** Graduate standing with undergraduate fluid dynamics background

**Required Textbooks and Other Course Materials:** "Fundamental Mechanics of Fluids" by I. G. Currie; Marcel Dekker Publisher (4th edition; 2012)

**Course Description:** Basic conservation laws, flow kinematics, special forms of the governing equation, two-dimensional potential flows, surface waves, and some exact solutions of viscous incompressible flows

**Course Content:**

1. Basic Conservation Laws (Ch. 1)
2. Flow Kinematics (Ch. 2)
3. Special Forms of the Governing Equations (Ch. 3)
4. Two-Dimensional Potential Flows (Ch. 4)
5. Surface Waves (Ch. 6)
6. Exact Solutions of Viscous Flows of Incompressible Fluids (Ch. 7)

*As the instructor for this course, I reserve the right to adjust this schedule in any way that serves the educational needs of the students enrolled in this course. – Fabrizio Vergine.*

**Grading Policy:**

- Homeworks: assigned but not graded
- Mid-Term Exam: 40%
- Final Exam (comprehensive): 60%

The total will be curved based on the following formula:

"Curved Total = (Total / Highest Total in class) X 100".

(Example: your total is 60 and the highest total in class is 88, your curved total will be 68.2)

The overall curved total of 85% and above is A; 70-85% is B; 55-70% is C; 40-55 is D and below 40 is F. Examination format will be announced in advance. No make-up exams will be given except for documented excuses of inability acceptable to the instructor.

**Attendance and Drop Policy:** The university policy on drop will be followed. Attendance will be taken at the beginning of each class. Students who come in late and miss signing the attendance sheet will be considered as absence. It will be used for grade consideration in the borderline situation at the end of the semester

**Calculator Policy:** Only nonprogrammable calculators with basic computational features, such as arithmetic and transcendental functions will be allowed in the exam

**Americans with Disabilities Act:** The University of Texas at Arlington is on record as being committed to both the spirit and letter of all federal equal opportunity legislation, including the *Americans with Disabilities Act (ADA)*. All instructors at UT Arlington are required by law to provide "reasonable accommodations" to students with disabilities, so as not to discriminate on the basis of that disability. Any student requiring an accommodation for this course must provide the instructor with official documentation in the form of a letter certified by the staff in the Office for Students with Disabilities, University Hall 102. Only those students who have officially documented a need for an accommodation will have their request honored. Information regarding diagnostic criteria and policies for obtaining disability-based academic accommodations can be found at [www.uta.edu/disability](http://www.uta.edu/disability) or by calling the Office for Students with Disabilities at (817) 272-3364.

**Title IX:** The University of Texas at Arlington is committed to upholding U.S. Federal Law "Title IX" such that no member of the UT Arlington community shall, on the basis of sex, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any education program or activity. For more information, visit [www.uta.edu/titleIX](http://www.uta.edu/titleIX).

**Academic Integrity:** Students enrolled all UT Arlington courses are expected to adhere to the UT Arlington Honor Code:

*I pledge, on my honor, to uphold UT Arlington's tradition of academic integrity, a tradition that values hard work and honest effort in the pursuit of academic excellence.*

*I promise that I will submit only work that I personally create or contribute to group collaborations, and I will appropriately reference any work from other sources. I will follow the highest standards of integrity and uphold the spirit of the Honor Code.*

Per UT System *Regents' Rule* 50101, §2.2, suspected violations of university's standards for academic integrity (including the Honor Code) will be referred to the Office of Student Conduct. Violators will be disciplined in accordance with University policy, which may result in the student's suspension or expulsion from the University.

**Electronic Communication:** UT Arlington has adopted MavMail as its official means to communicate with students about important deadlines and events, as well as to transact university-related business regarding financial aid, tuition, grades, graduation, etc. All students are assigned a MavMail account and are responsible for checking the inbox regularly. There is no additional charge to students for using this account, which remains active even after graduation. Information about activating and using MavMail is available at <http://www.uta.edu/oit/cs/email/mavmail.php>.

**Student Feedback Survey:** At the end of each term, students enrolled in classes categorized as "lecture," "seminar," or "laboratory" shall be directed to complete an online Student Feedback Survey (SFS). Instructions on how to access the SFS for this course will be sent directly to each student through MavMail approximately 10 days before the end of the term. Each student's feedback enters the SFS database anonymously and is aggregated with that of other students enrolled in the course. UT Arlington's effort to solicit, gather, tabulate, and publish student feedback is required by state law; students are strongly urged to participate. For more information, visit <http://www.uta.edu/sfs>.

**Final Review Week:** A period of five class days prior to the first day of final examinations in the long sessions shall be designated as Final Review Week. The purpose of this week is to allow students sufficient time to prepare for final examinations. During this week, there shall be no scheduled activities such as required field trips or performances; and no instructor shall assign any themes, research problems or exercises of similar scope that have a completion date during or following this week *unless specified in the class syllabus*. During Final Review Week, an instructor shall not give any examinations constituting 10% or more of the final grade, except makeup tests and laboratory examinations. In addition, no instructor shall give any portion of the final examination during Final Review Week. During this week, classes are held as scheduled. In addition, instructors are not required to limit content to topics that have been previously covered; they may introduce new concepts as appropriate.

**Emergency Exit Procedures:** Should we experience an emergency event that requires us to vacate the building, students should exit the room and move toward the nearest exit. When exiting the building during an emergency, one should never take an elevator but should use the stairwells. Faculty members and instructional staff will assist students in selecting the safest route for evacuation and will make arrangements to assist individuals with disabilities.

**Student Support Services:** UT Arlington provides a variety of resources and programs designed to help students develop academic skills, deal with personal situations, and better understand concepts and information related to their courses. Resources include tutoring, major-based learning centers, developmental education, advising and mentoring, personal counseling, and federally funded programs. For individualized referrals, students may visit the reception desk at University College (Ransom Hall), call the Maverick Resource Hotline at 817-272-6107, send a message to [resources@uta.edu](mailto:resources@uta.edu), or view the information at [www.uta.edu/resources](http://www.uta.edu/resources).

<p><b>Emergency Phone Numbers:</b> In case of an on-campus emergency, call the UT Arlington Police Department at <b>817-272-3003</b> (non-campus phone), <b>2-3003</b> (campus phone). You may also dial 911.</p>
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