Course	**ENGR 3300.0U1, Adv. Engineering Mathematics**
Instructor	Paul Deignan, Ph.D.
Term	Summer, 2016
Meetings	Monday & Wednesday: 10:00am-12:15pm, ECS-S 2.305

Instructor's Contact Information

Office Location	ECS-N 3.926
Phone	(972) 883-6944
Email Address	pbd130130@utdallas.edu
Office Hours	Official: Monday and Wednesday: 12:30pm – 2:30pm Unofficial: Whenever office door is open

General Course Information

Prerequisites	MATH 2415 or 2419 with C or better.
Course Description	Survey of advanced mathematics topics needed in the study of engineering. Topics include vector differential calculus, vector integral calculus, integral theorems, complex variables, complex integration, series, residues and numerical methods. Examples are provided from microelectronics and communications.
Learning Outcomes	Students are expected to be able to: 1. Solve problems in multivariable calculus; 2. Compute surface integrals and line integrals; 3. Understand gradient, divergence and curl; 4. Use Green's, divergence, and Stokes' Theorem 5. Work with complex numbers and variables
Required Text	***Mathematical Methods in the Physical Sciences,*** 3rd Ed., Wiley, by Mary L. Boaz 2006 (ISBN 978-0-471-19826-0)

These descriptions and timelines are subject to change at the discretion of the Instructor.

Date	Topic	Text	Assignment	Due
May 23	Infinite Series, Power Series	1.1-6		June 1
25		1.7-16		
30	**Memorial Day – No Class**			
June 1	Complex Numbers	2.1-5		June 13
6		2.6-10	Quiz 1	
8		2.11-16		
13	Review			
15	**Exam I**			
20	Multiple Integrals, Application of Integration	5.1-3		June 27
22		5.4-6		
27	Vector Analysis	6.1-4		July 11
29		6.5-8	Quiz 2	
July 4	**Independence Day – No Class**			
6		6.9-12		
11	Review			
13	**Exam II**			
18	Partial Differential Equations	13.1-4		July 25
20		7.5-9		
25	Functions on a Complex Variable	14.1-4		Aug 3
27		14.5-7	Quiz 3	
Aug 1		14.8-11		
3	Review			
8	**Reading Day—No Class**			
10	**Final 8-10:45am**			

Homeworks are due at the beginning of class on the due date to eLearning.

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Course Policies

Grading Criteria	Examinations are designed to assess fundamental comprehension and understanding rather than short term retention. The accumulated weighted points from quizzes and tests establish a point total to which grades are assigned by rank order in proportion corresponding to the mean distribution of grades. The historical grade distributions for EE 4310 are publically available and can be found at http://www.myEdu.com. Pluses/Minuses are taken at equal intervals within grade brackets for A/B and pluses only at the midpoint with the C bracket. Candidates for D or F according to the rank ordering will be adjusted to the next higher grade bracket if their total score exceeds 40% (for D from F) and 50% (for C from D). The weighting of the cumulative raw point totals is by: Hwrk/Quizes: 10% Exam I: 30% Exam II: 30% Final: 30%
Make-up Exams	Any excusal from a regularly scheduled test or assignment must comply with the policies of the University for excused absences. In particular the student is responsible for providing satisfactory evidence to the instructor to substantiate the reason for absence. Except in the case that the student seeks an excusal for religious holy days (below), if the absence is foreseeable, this evidence will be provided and acknowledged ahead of the excused absence. In the case of an emergency absence, the student will provide evidence to the instructor within three days for the absence to be excused. ODA tests will be administered two hours prior to the scheduled test time.
Late Work	Not graded except in cases of university excused absences.
Class Attendance	Not taken. Attendance for administrative purposes is recorded by homework submission.
Classroom Citizenship	Please be respectful to your classmates by minimizing disturbances. Class time is prescheduled and should be considered to be analogous to a business meeting.
Student Conduct and Discipline	The University of Texas System and The University of Texas at Dallas have rules and regulations for the orderly and efficient conduct of their business. It is the responsibility of each student and each student organization to be knowledgeable about the rules and regulations which govern student conduct and activities. General information on student conduct and discipline is contained in the UTD publication, *A to Z Guide*, which is provided to all registered students each academic year. The University of Texas at Dallas administers student discipline within the procedures of recognized and established due process. Procedures are defined and described in the *Rules and Regulations, Board of Regents, The University of Texas System, Part 1, Chapter VI, Section 3*, and in Title V, Rules on Student Services and Activities of the university's *Handbook of Operating Procedures*. Copies of these rules and regulations are available to students in the Office of the Dean of Students, where staff members are available to assist students in interpreting the rules and regulations (SU 1.602, 972/883-6391). A student at the university neither loses the rights nor escapes the responsibilities of citizenship. He or she is expected to obey federal, state, and local laws as well as the Regents' Rules, university regulations, and administrative rules. Students are subject to discipline for violating the standards of conduct whether such conduct takes place on or off campus, or whether civil or criminal penalties are also imposed for such conduct.

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Academic Integrity	The faculty expects from its students a high level of responsibility and academic honesty. Because the value of an academic degree depends upon the absolute integrity of the work done by the student for that degree, it is imperative that a student demonstrate a high standard of individual honor in his or her scholastic work. Scholastic dishonesty includes, but is not limited to, statements, acts or omissions related to applications for enrollment or the award of a degree, and/or the submission as one's own work or material that is not one's own. As a general rule, scholastic dishonesty involves one of the following acts: cheating, plagiarism, collusion and/or falsifying academic records. Students suspected of academic dishonesty are subject to disciplinary proceedings.
Email Use	The University of Texas at Dallas recognizes the value and efficiency of communication between faculty/staff and students through electronic mail. At the same time, email raises some issues concerning security and the identity of each individual in an email exchange. The university encourages all official student email correspondence be sent only to a student's U.T. Dallas email address and that faculty and staff consider email from students official only if it originates from a UTD student account. UTD furnishes each student with a free email account that is to be used in all communication with university personnel. The Department of Information Resources at U.T. Dallas provides a method for students to have their U.T. Dallas mail forwarded to other accounts.
Withdrawal from Class	The administration of this institution has set deadlines for withdrawal of any college-level courses. These dates and times are published in that semester's course catalog. Administration procedures must be followed. It is the student's responsibility to handle withdrawal requirements from any class. In other words, I cannot drop or withdraw any student. You must do the proper paperwork to ensure that you will not receive a final grade of "F" in a course if you choose not to attend the class once you are enrolled.
Student Grievance Procedures	Procedures for student grievances are found in Title V, Rules on Student Services and Activities, of the university's *Handbook of Operating Procedures*. In attempting to resolve any student grievance regarding grades, evaluations, or other fulfillments of academic responsibility, it is the obligation of the student first to make a serious effort to resolve the matter with the instructor, supervisor, administrator, or committee with whom the grievance originates (hereafter called "the respondent"). Individual faculty members retain primary responsibility for assigning grades and evaluations. If the matter cannot be resolved at that level, the grievance must be submitted in writing to the respondent with a copy of the respondent's School Dean. If the matter is not resolved by the written response provided by the respondent, the student may submit a written appeal to the School Dean. If the grievance is not resolved by the School Dean's decision, the student may make a written appeal to the Dean of Graduate or Undergraduate Education, and the deal will appoint and convene an Academic Appeals Panel. The decision of the Academic Appeals Panel is final. The results of the academic appeals process will be distributed to all involved parties. Copies of these rules and regulations are available to students in the Office of the Dean of Students, where staff members are available to assist students in interpreting the rules and regulations.
Incomplete Grades	As per university policy, incomplete grades will be granted only for work unavoidably missed at the semester's end and only if 70% of the course work has been completed. An incomplete grade must be resolved within eight (8) weeks from the first day of the subsequent long semester. If the required work to complete the course and to remove the incomplete grade is not submitted by the specified deadline, the incomplete grade is changed automatically to a grade of **F**.

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Disability Services	The goal of Disability Services is to provide students with disabilities educational opportunities equal to those of their non-disabled peers. Disability Services is located in room 1.610 in the Student Union. Office hours are Monday and Thursday, 8:30 a.m. to 6:30 p.m.; Tuesday and Wednesday, 8:30 a.m. to 7:30 p.m.; and Friday, 8:30 a.m. to 5:30 p.m. The contact information for the Office of Disability Services is: The University of Texas at Dallas, SU 22 PO Box 830688 Richardson, Texas 75083-0688 (972) 883-2098 (voice or TTY) Essentially, the law requires that colleges and universities make those reasonable adjustments necessary to eliminate discrimination on the basis of disability. For example, it may be necessary to remove classroom prohibitions against tape recorders or animals (in the case of dog guides) for students who are blind. Occasionally an assignment requirement may be substituted (for example, a research paper versus an oral presentation for a student who is hearing impaired). Classes enrolled students with mobility impairments may have to be rescheduled in accessible facilities. The college or university may need to provide special services such as registration, note-taking, or mobility assistance. It is the student's responsibility to notify his or her professors of the need for such an accommodation. Disability Services provides students with letters to present to faculty members to verify that the student has a disability and needs accommodations. Individuals requiring special accommodation should contact the professor after class or during office hours.
Religious Holy Days	The University of Texas at Dallas will excuse a student from class or other required activities for the travel to and observance of a religious holy day for a religion whose places of worship are exempt from property tax under Section 11.20, Tax Code, Texas Code Annotated. The student is encouraged to notify the instructor or activity sponsor as soon as possible regarding the absence, preferably in advance of the assignment. The student, so excused, will be allowed to take the exam or complete the assignment within a reasonable time after the absence: a period equal to the length of the absence, up to a maximum of one week. A student who notifies the instructor and completes any missed exam or assignment may not be penalized for the absence. A student who fails to complete the exam or assignment within the prescribed period may receive a failing grade for that exam or assignment. If a student or an instructor disagrees about the nature of the absence [i.e., for the purpose of observing a religious holy day] or if there is similar disagreement about whether the student has been given a reasonable time to complete any missed assignments or examinations, either the student or the instructor may request a ruling from the chief executive officer of the institution, or his or her designee. The chief executive officer or designee must take into account the legislative intent of TEC 51.911(b), and the student and instructor will abide by the decision of the chief executive officer or designee.

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