Section 001: TTh 11:00-12:20am, CLEM 126

Instructor: Dr. Thomas Carr  
Contact Information: office- Clements 233, phone- 768-3460, email- tcarr@smu.edu

Office Hours: Tuesday and Thursday, TTh 10:00-11:00 & 12:30-2:00  
Except in unusual circumstances I guarantee that I will be in my office during the designated office hours. You are always welcome to stop by or call at other times to see if I am available.

Required textbooks:  
*Vector Calculus*, by P.C. Mathews.  

Other resources:

- I strongly suggest that you have available your calculus text to use as a reference and a source of additional exercises.
- "Schaum's Outlines: Partial Differential Equations," by P. DuChateau et al. Inexpensive and also a good source of worked problems. However, the level is a bit higher than in our class.

Grades:  
Homework = 10%  
Three exams = 3x30%=90%

**Homework:** Completing and understanding the homework assignments are critical for success in the class. Solutions to the homework assignment will be posted on the web after class on the day it is due. You should check your work against the posted solutions. If after checking your work against the solutions you have questions, please come see me in my office.

It is permissible to discuss the homework problems with fellow students. However, you must turn in your own solutions. Copying someone elses work is not permissible and will only hurt you come the exams.

**Exam Dates:**

- Exam 1: Thursday, September 26
- Exam 2: Thursday, October 31
- **Exam 3: Saturday, December 14, 8-11am.**  
The final exam date and time can not be changed. Plan your travels accordingly.

Please note the following

- Late homework will not be accepted.
- There are no make up exams or extra credit work.
- Calculators and cellphones will not be permitted during exams.

**Student-Learning Outcomes**

- Students can compute the gradient, divergence, and curl and use the Stokes’ and divergence theorems to solve problems relevant to practical applications.
- Students can use the method of characteristics and separation of variables to solve partial differential equations.
Course Outline

Vector Calculus

- Review of vectors, dot and scaler products, planes and surfaces.
- Line & surface integrals
- Div, Grad, Curl
- Integration theorems: Stokes, Divergence, Greens Thms.

Fourier Sine and Cosine Series

- Convergence

Partial Differential Equations

- Derive heat equation
- Separation of variables & Fourier series
- Laplace’s equation and Wave Equation.
- Fourier transform

Honor Code: Please review the Honor Code documented in the SMU Undergraduate Bulletin. The highest level of academic honesty and integrity will be expected.

Official SMU notices:

- Disability Accommodations: Students needing academic accommodations for a disability must first contact Ms. Rebecca Marin, Coordinator, Services for Students with Disabilities (214-768-4557) to verify the disability and establish eligibility for accommodations. They should then schedule an appointment with the professor to make appropriate arrangements. (See University Policy No. 2.4.)

- Religious Observance: Religiously observant students wishing to be absent on holidays that require missing class should notify their professors in writing at the beginning of the semester, and should discuss with them, in advance, acceptable ways of making up any work missed because of the absence. (See University Policy No. 1.9.)

- Excused Absences for University Extracurricular Activities: Students participating in an officially sanctioned, scheduled University extracurricular activity should be given the opportunity to make up class assignments or other graded assignments missed as a result of their participation. It is the responsibility of the student to make arrangements with the instructor prior to any missed scheduled examination or other missed assignment for making up the work. (University Undergraduate Catalogue)