

# Course Information

Math 5315–001

Principles of Classical Applied Analysis Fall 2015

CRN 17007

August 24, 2015

**Instructor:** Prof. Lance D. Drager. Office: Math 236. Office Phone: 834-8161. If you let the office phone ring long enough, you'll get me or a voice mail system you can leave a message on. My e-mail address is `lance.drager@ttu.edu`.

Course materials will sometimes be posted on my web page, which is `http://www.math.ttu.edu/~drager`.

**Announcements and Class Forum:** This term we will be using Piazza for class discussion. The system is highly catered to getting you help fast and efficiently from classmates, the TA, and myself. Rather than emailing questions to the teaching staff, I encourage you to post your questions on Piazza. You can post a question anonymously, if you want. If you have any problems or feedback for the developers, email `team@piazza.com`.

I will look at Piazza at least once each business day.

Sign up for our site at `piazza.com/ttu/spring2014/math5319001`

Find our class page at `piazza.com/ttu/spring2014/math5310001/home`

I will also post class announcements (including assignments) on Piazza, so check it to see what is happening.

If your message is not of general interest to the class, or you want to keep it private, send it to me privately or use my regular email (email address above).

There is a formula editor for generating and posting mathematical formulas. You can also post formulas using  $\LaTeX$ . This is the standard system for doing math on computers in science and engineering, so it's worth learning about it. The Piazza help has a link to a tutorial, and there are many resources for  $\LaTeX$  on the web (we only need to look at how to do formulas, not how to do a whole document).  $\LaTeX$ code is entered in the Piazza editor between double dollar signs (`$$ ... $$`).

Alternatively, if you search for online equation editors on the web, you'll find WYSIWYG editors with a mouse/menu interface that produce the  $\LaTeX$  code for the formula, which you can then cut and paste into Piazza (put it between

double dollar signs:  $\$ \$ \dots \$ \$$ ). Some of these editors also produce PNG or GIF files you can paste into email, if you need to do that. (If you use Thunderbird, look for  $\LaTeX$  plugins.) I can't really tell you which editor is the best. This is a topic the class may want to discuss.

**Office Hours:** MF 2:00-5:00, W 2:00 to 3:00, unless I have an appointment. These hours are subject to change. You can come by outside of formal office hours; I'll usually have time to talk to you. Please feel free to come by if you need help.

**Other Sources of Help:** Forming informal study groups with other students can be very helpful. I'll help all I can. My office is near the Lounge Math 238. You may want to have a study group there during my office hours, when I can help.

**Text:** The text is J. David Logan, **Applied Mathematics, Fourth Edition**, Wiley, 2013, ISBN 978-1118475805. We will cover most of the material in Chapters 1–4 and selected topics from Chapter 9.

**Learning Outcomes:** The course will cover Dimensional Analysis, one and two dimensional Dynamical Systems, Perturbation Methods and Asymptotic Expansions, Calculus of Variations and topics in Discrete Models.

**Assessment of Learning Outcomes:** The assessment of student's mastery of the skills and concepts as specified in the expected learning outcomes will occur, with appropriate course grades assigned, as follows:

1. Homework
2. A semester project
3. A final exam

The homework is written. Writing it on paper with a pencil is sufficient. The project can be done the same way or, alternatively, typed.

There will be homework just about every week. *Selected* problems will be graded.

If you need help getting started on a problem you are highly encouraged to talk with me. You *may* discuss the homework problems with your classmates, but after understanding how to do it, go off by yourself and write up the assignment; don't just copy someone else's writeup.

The project will be on a topic of the chosen by the student and approved by the instructor. The tentative due date for the project is Nov. 20.

The homework is worth 70% of the final grade, the project is worth 20% and the final exam is worth 10%.

The letter grades will be based on performance relative to the rest of the class and what is expected of graduate students. I can't give percentage cutoffs until the final grades are in, but feel free to discuss your standing with me.

**Final Exam:** The final exam is on Monday, Dec. 7, from 10:30am to 1:00pm. It will be in our usual classroom.

**Makeups:** For late homework I may require a serious, legitimate excuse.

**Class Attendance:** To begin with, I will not count attendance towards the grade, although I may pass out a sign up sheet to check the class roll. Many studies show that class attendance is *very* important in getting a good grade. *I will institute an attendance system if it seems necessary!!*

Remember, you are responsible for all material covered in class and all announcements made in class or on Piazza. If you have to miss a class, you should check with Piazza and me or a classmate to see what happened and get notes from another member of the class.

**Formative Assessment:** Continuous formative assessment of the progress of the course will occur via ongoing communication between the instructor and the students. To this end, all students are encouraged to ask questions during class and to seek the instructor's help out of class when needed. Other activities in support of student-instructor communication will include: practice exams and quizzes, review of homework, and personal interviews with students doing poorly on work assigned at the beginning of the course.

**Identification:** You should be prepared to show your Texas Tech picture ID at any quiz or exam.

**Accommodations for Disabilities:** Any student who, because of a disability, may require special arrangements in order to meet course requirements should contact the instructor as soon as possible to make necessary accommodations. Students should present appropriate verification from Disabled Student Services, Dean of Students Office (AccessTECH). No requirement exists that accommodations be made prior to completion of this approved University process.

**Religious Holy Days:** A student may be absent from class for a religious holy day, as legally defined, and will be allowed to make up any missed examination or assignment within a reasonable time after the absence. See [http://www.depts.ttu.edu/officialpublications/catalog/\\_AcademicsRegulations.php](http://www.depts.ttu.edu/officialpublications/catalog/_AcademicsRegulations.php)

**Academic Misconduct:** It is the aim of the faculty of Texas Tech University to foster a spirit of complete honesty and a high standard of integrity. The attempt of students to present as their own work any work that they have not honestly performed is regarded by the faculty and administration as a serious offense and renders the offenders liable to serious consequences, possibly suspension.

For more information, and a description of what is considered to be misconduct, see [http://www.depts.ttu.edu/officialpublications/catalog/\\_AcademicsRegulations.php](http://www.depts.ttu.edu/officialpublications/catalog/_AcademicsRegulations.php)

**Civility in the Classroom:** Students are expected to assist in maintaining a classroom environment that is conducive to learning. In order to assure that all students have the opportunity to gain from time spent in class, unless otherwise approved by the instructor, students are prohibited from engaging in any other form of distraction. Inappropriate behavior in the classroom shall result, minimally, in a request to leave class. For more information, see [http://www.depts.ttu.edu/officialpublications/catalog/\\_AcademicsRegulations.php](http://www.depts.ttu.edu/officialpublications/catalog/_AcademicsRegulations.php)