

# MATH 308/501–502 INFORMATION SHEET

## 1 Course

Texas A&M University at Qatar    Science Program: Mathematics    Math 308/501–502, Spring 2009

**Differential Equations (3-0), Credit 3.** Introduction to differential equations; first-order equations; second-order equations; Laplace transform techniques; numerical solution of differential equations; linear systems of differential equations; phase plane analysis.

Prerequisite: Math 251 or equivalent.

## 2 Classes

- **Lecture:** Sunday/Tuesday/Thursday in TAMUQ 211, as follows.

- Section 501, 8:00–8:50 am
- Section 502, 9:00–9:50 am

- **Supplemental Sessions (if any):** See web if necessary.

## 3 Instructor

**Lecturer**            Art Belmonte ([arthur.belmonte@qatar.tamu.edu](mailto:arthur.belmonte@qatar.tamu.edu))

**Office**                TAMUQ 171

**Phone**                423-0232

**Class Page**        [http://calclab.math.tamu.edu/~belmonte/2009a\\_m308.html](http://calclab.math.tamu.edu/~belmonte/2009a_m308.html)

**Office Hours**      Sunday–Thursday, 10:30–11:20 am + 12:30–1:20 pm, TAMUQ 171, or by appointment.

## 4 Books

**Textbook**            *Fundamentals of Differential Equations and Boundary Value Problems: Custom Edition for Texas A&M University*; ISBN 0-536-46043-4, ©2000, 2004

**Authors**             Nagle, Saff, Snider

**Coverage**            Chapters 1–7, 9

## 5 Evaluations

**Grading:** A (90–100%), B (80–89.99%), C (70–79.99%), D (60–69.99%), F (0–59.99%)

Type	Number	Weight
Exams	4	80%
Final	1	20%
<b>TOTAL</b>		100%

## 6 Notes

1. This is a fourth engineering math course with a technology component. Analytical, numerical, graphical, and qualitative methods will be employed. The class meets three times a week in lecture.
2. In addition to hand (paper-and-pencil) techniques, I encourage you to use a Texas Instruments TI-Nspire CAS Handheld, or the older TI-89 or Voyage 200 calculators.
3. We will also occasionally use MATLAB for numerical solutions and graphics; [selected] MATLAB videos are available. MATLAB is accessible via Citrix. Optionally purchase the MATLAB Student Version 2008b from [www.mathworks.com](http://www.mathworks.com). It includes the Symbolic Math Toolbox 5.1 (among other toolboxes) and runs on PCs and Macs.
4. Please be on time to class. Make sure that you have read the relevant sections in the textbook *beforehand*.
5. Make-ups for exams will be given only in the case of absences authorized under University Regulations.
6. Please bring your ID card to all exams. They held are in TAMUQ 238 on selected Saturdays between 10:00 am and 12:00 noon, as follows.
  - **Exam 1:** Saturday, 31/Jan/2009; covers first-order equations.
  - **Exam 2:** Saturday, 21/Feb/2009; covers linear second- and higher-order equations.
  - **Exam 3:** Saturday, 14/Mar/2009; covers Laplace transform techniques.
  - **Exam 4:** Saturday, 11/Apr/2009; covers homogeneous linear systems.
  - **Final Exam A** (Section 501): Wednesday, 29/Apr/2009, 10:00 am–12:00 noon, TAMUQ 211; comprehensive.
  - **Final Exam B** (Section 502): Thursday, 30/Apr/2009, 8:00–10:00 am, TAMUQ 211; comprehensive.
7. Selected problems from your textbook will be assigned but not graded. See the web for details. It is imperative that you spend time working these problems. When you have questions, please ask for help.
8. Lectures for each section covered in the textbook are provided on the web. This material is copyrighted. I grant you permission to make ONE copy of each document for your personal use. These materials will help to summarize and consolidate the extensive readings in your textbook. In addition, both hand and MATLAB examples are provided. That said, you must read and study your textbook! It provides greater depth and many more examples than are in the lectures.
9. At all times, I expect you to be prepared and to work hard; you can expect the same from me. Each student will be judged on the individual merit of his or her own work.
10. Read the Hot Topics of the day on our class web page. This is the primary means of communication outside of lecture.

## 7 Miscellany

- The American with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for a reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please contact Disability Services in Cain Hall on the Texas A&M College Station campus, Room B118, or contact 1-979-845-1637 (or such other telephone number or room as directed by TAMUQ).
- “An Aggie does not lie, cheat, or steal or tolerate those who do.” You are referred to the Honor Council Rules and Procedures on the Web at <http://www.tamu.edu/aggiehonor>.