

# Syllabus: Methods of Applied Mathematics II

Information on the class web page supersedes any information on this sheet:  
[http://www.math.tamu.edu/~bonito/MTH603\\_2009\\_600.php](http://www.math.tamu.edu/~bonito/MTH603_2009_600.php)

## Instructor

ANDREA BONITO, Office: Blocker 641F, Office Hour: We 2:00 - 3:00 p.m. or by appointment,  
Phone (979) 862 4873, email: [bonito@math.tamu.edu](mailto:bonito@math.tamu.edu).

## Textbooks

There is no required text for the course. Sets of notes covering most *but not all* topics discussed will be posted on the class website. I recommend *not* to buy any textbook for this class. The following references might be consulted for additional help:

- [1] *Linear Algebra and Its Applications* by Gilbert Strang, Harcourt, Brace, Jovanovich, 1988.
- [2] *Introduction to Vectors and Tensors*, by Ray M. Bowen and C. C. Wang, Plenum Press, 1976.
- [3] *Matrix Analysis*, by Roger A. Horn and Charles R. Johnson, Cambridge University Press, 1985.
- [4] *A Brief on Tensor Analysis*, by James G. Simmonds, Springer-Verlag, 1982.
- [5] *An Introduction to Continuum Mechanics*, by Morton E. Gurtin, Academic Press, 1981.
- [6] *Principles of Applied Mathematics*, by James P. Keener, Addison Wesley, 1988.
- [7] *Applied Partial Differential Equations*, by David J. Logan, Springer-Verlag, 1998.
- [8] *Partial Differential Equations: Analytical Solution Techniques*, by J. Kevorkian, Springer-Verlag, 2000.
- [9] *Applied Partial Differential Equations*, by John Ockendon, Oxford University Press, 1999.
- [10] *Partial Differential Equations: An Introduction*, by Walter A. Strauss, Wiley, 2007.

## Course Description

Several topics on applied mathematics are discussed in this class: Introduction to vector spaces, matrix and tensor algebra, selected topics in vector and tensor analysis, introduction to partial differential equations. Prerequisite: MATH 601 or 311 or permission of the instructor.

## Office Hours

You have priority over graduate students and other people I work with during my office hours. You are welcome to stop by without appointment during the office hours. *Please use the office hours!* If you are not able to come during regular office hours, you still have the possibility to schedule an appointment by email, I will do my best to be available.

## Grading System

Exam	Tentative Date	Weight
Homework	About every three weeks	50 %
Midterm examination	October 29	25 %
Final exam	December 16 (8 am)	25 %

The grades will be posted on the elearning system

*<http://elearning.tamu.edu>* .

Late homework are penalized as follow: 10% off if returning the next day and 5% off per additional day.

## **Make-up**

Excused absences for the midterm exam and final according to Rule seven (see Student Rules) will be dealt with on an individual basis, but require convincing documentation. Absences for religious holy day have to be arranged during the first two weeks of classes. When possible, other absences have to be arranged two weeks prior the exam day.

## **Academic Integrity**

The Aggie Honor Code "An Aggie does not lie, cheat or steal, or tolerate those who do" applies, see also the Honor Council Rules and Procedures at

*<http://aggiehonor.tamu.edu>* .

Students are strongly encouraged to work together and discuss homework problems with each other. However, copying or stealing work done by others is an act of academic dishonesty and will be persecuted according to the University policy.

## **Disabilities**

The Americans 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 reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please contact Disability Services, in Cain Hall, Room B118, or call 845-1637. For additional information visit

*<http://disability.tamu.edu>* .