

Doing Mathematics With *Mathematica* (Math 498)

Location and Time: Bouillon 103,
T: 3:00-3:50 pm, W: 3:00-4:50, F: 3:00-3:50

Instructor: Dr. Dan Curtis

Office: 107a Bouillon

Office Hours: MTWThF 12:00-12:50, and by appointment. You can drop by my office at any time and usually I'll be able to talk with you.

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Final Exam: Friday, June 6, 2008, 4:00-6:00 pm

Textbook: No Text. We will use materials supplied as part of the *Mathematica* system, together with materials that will be provided as *Mathematica* notebooks.

Course Content: We will learn how to use *Mathematica* to solve a wide variety of mathematical problems.

Learner Outcomes: After completing this course, the student will understand:

- how to do basic mathematical calculations with *Mathematica*
- how to display curves, surfaces, and various types of data using the graphics capabilities of *Mathematica*
- how to solve ordinary differential equations both symbolically and numerically using *Mathematica*
- how to do linear algebra in *Mathematica*
- how to encrypt and decrypt messages via the RSA encryption method using functionality included in *Mathematica*.
- how to write programs in *Mathematica* in cases where functions provided by *Mathematica* are not what is needed to solve a problem
- How to write a *Mathematica* package

Grading: Your course grade will be determined by the following:

1. Regular assignments to be handed in and worth a total of up to 100 points
2. Two in-class exams worth 100 points each
3. A final exam worth 100 points.

A perfect score on each of the above categories would result in a total of 400 points. Your course grade will be determined by the percentage p of these points you earn, according the following scale.

$90 \leq p$	A	$65 \leq p < 77.5$	C
$89 \leq p < 90$	A-	$64 \leq p < 65$	C-
$87.5 \leq p < 89$	B+	$62.5 \leq p < 64$	D+
$80 \leq p < 87.5$	B	$50 \leq p < 62.5$	D
$79 \leq p < 80$	B-	$p < 50$	F
$77.5 \leq p < 79$	C+		

Class Schedule

Date	Class Activity	Date	Class Activity
03/24		05/05	
03/25	Classes Begin	05/06	
03/26		05/07	
03/27		05/08	
03/28		05/09	
03/31		05/12	
04/01		05/13	
04/02		05/14	
04/03		05/15	Exam 2
04/04		05/16	
04/07		05/19	
04/08		05/20	
04/09		05/21	
04/10		05/22	
04/11		05/23	
04/14		05/26	Holiday: Memorial Day
04/15		05/27	
04/16		05/28	
04/17	Exam 1	05/29	
04/18		05/30	Last day of classes
04/21		06/02	Prof. Dev./ Student Study Day
04/22		06/03	
04/23		06/04	
04/24		06/05	
04/25		06/06	
04/28			
04/29			
04/30			
05/01			
05/02			