MATH225-Fall 2008 Differential Equations

Course Syllabus

Instructor Info

Instructor: Phone:

Office: Email:

Office Hours: Section Website:

Course Website:
`http://www.mines.edu/Academic/courses/math_cs/math225/`

Grading

Exams (2 @ 25% each):	50%
Final Exam:	30%
Discretionary:	20%
Total:	100%

90 - 100%	A
80 - 89%	B
70 - 79%	C
60 - 69%	D
Below 60%	F

Course Description

Classical techniques for first and higher order equations and systems of equations. Laplace transforms. Phase plane and stability analysis of nonlinear equations and systems. Applications to physics, mechanics, electrical engineering, and environmental sciences. Prerequisites: MATH213 or MATH223

Text

Differential Equations, 3^{rd} ed., P. Blanchard, R. Devaney and G. Hall, Thomson Brooks/Cole, Boston University, 2006.

Important Dates

First Day of Class	August 19
Last Day to Drop Without a W	September 3
Exam I	October 9
Fall Break	October 13-14
Last Day To Withdraw	October 28
Exam II	November 13
Thanksgiving Break	November 26-28
Last Day of Class	December 4

Academic Honor Code

I pledge to uphold the high standards of academic ethics and integrity expressed by the Colorado School of Mines Student Honor Code by which I am bound. In particular, 'I will not misrepresent the work of others as my own, nor will I give or receive unauthorized assistance in the performance of academic coursework.' I understand that my instructor will report any infraction of academic integrity to the Department Head and that any such matter will be investigated and prosecuted fully.

Course Schedule

Week of	Section	Week of	Section
August 17	1.1	**October 12**	3.6, 4.1
August 24	1.2, 1.3, 1.4	**October 19**	4.2, 4.3
August 31	1.5, 1.6, 1.8	**October 26**	Appendix B, 6.1
September 7	1.9, 2.1	**November 2**	6.2, 6.3
September 14	Project I, 2.2	**November 9**	6.4, Review
September 21	2.3, 3.1, 3.2	**November 16**	5.1
September 28	3.3, 3.4	**November 23**	5.2
October 5	3.5, Review	**November 30**	Dead Week

Recommended Problems

To understand the course material it is absolutely essential that you do all of the recommended problems. The following list highlights key material from the text.

Section	Problems	Section	Problems
1.1	4, 6, 12, 15, 21	3.6	3, 6, 9, 12, 13-15, 21-23, 29, 34, 38
1.2	1, 2, 9, 15, 19, 28, 35	4.1	1, 4, 9, 12, 13, 20, 21, 31, 37
1.3	1, 7, 11, 13, 15, 17	4.2	1, 8, 9, 12, 13, 17, 19
1.4	2, 4, 13	4.3	9, 17, 21
1.5	3, 6, 9, 10, 12	Appendix B	1, 3, 11, 15
1.6	2, 9, 11, 14, 21, 25, 29, 30, 33, 34, 37	6.1	1, 3, 9, 13, 15, 23, 25
1.8	2, 3, 7, 10, 13	6.2	2, 3, 4, 7, 10, 11, 14
1.9	3, 5, 21, 23, 24	6.3	3, 5, 15, 16, 19, 27, 30, 31
2.1	1-4, 10, 15, 20, 22	6.4	1, 3, 4, 7
2.2	2, 4, 9, 11, 13, 17, 19, 21, 23, 27		
2.3	2, 4, 5, 15, 18, 19	5.1	1, 4, 7, 11, 12, 17
3.1	6, 9, 17, 21, 25-27	5.2	5, 9, 10, 15, 17
3.2	1, 4, 7, 10, 12, 13, 15, 18, 21, 24		
3.3	1, 5, 8, 10, 11, 13, 16, 20, 21, 24		
3.4	2, 3, 6, 7, 9, 12, 14, 15, 22, 23		
3.5	3, 4, 7, 8, 11, 19, 21-23		

Solutions to these problems are on reserve, and available for purchase, at Arthur Lakes Library.

The software associated with the text can be found at: `http://alamode.mines.edu/bdh.html`