CALCULUS 3   MTWF 1:00-1:50PM   FALL 2006   STUART 308

Instructor:	Jonathan White
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Office:	Stuart 316
Office Hours:	MTWF 9:00-9:50am and by appointment
Office Phone:	399-8280
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Text:	*Calculus, Early Transcendentals, 5th Edition*, James Stewart
Problem Sets & Quizzes:	Assorted Problem Sets will be given throughout the term to supplement class work. Many of these will benefit from the use of the software package *Mathematica*, which is available on the computers in the labs in Stuart and Peterson. Quizzes will also be given frequently. Combined these will be worth 200 points (2/7 of the final grade).
Exams:	There will be three in-class exams administered during class time. The dates of these are indicated in the schedule on the back side of this sheet. These exams will be worth 100 points (1/7 of the final grade) each.
	The final exam will be held during finals week at the date and time indicated on the back side of this sheet. The final will be worth 200 points (2/7 of the final grade).
Grading:	Grading will approximately follow a 90% A, 80% B, 70% C, 60% D scale.
Makeups:	Makeups for exams will generally be allowed only under extenuating circumstances, with documentation and advance notice when humanly possible. Late problem sets and quizzes will generally not be accepted, and if accepted due to extenuating circumstances will generally be subject to a penalty of 20% of the possible points for each day past due.

Calculus 3 is the culmination of the calculus sequence, and this presents challenges in at least three respects. First, ability to visualize and use spatial intuition is taken to a new level. Second, computations are in some cases correspondingly bigger and longer. Third, abstract theoretical considerations become a more central element, sometimes overshadowing mere computations as the most important material.

In response to all three of these considerations the judicious use of technology can be a valuable aid. Sophisticated calculators such as the TI-89 and computer software packages such as *Mathematica*, when used properly, can lead to easier and deeper understanding of the course material. However the use of this technology itself involves a significant learning experience, and often significant frustrations. We will attempt to use *Mathematica* in this course when the benefits are the greatest, and assist you in its use enough to keep the frustrations to a minimum.

If at some point these challenges or frustrations get too bad, I strongly encourage you to see me for extra explanation -- don't wait until you're overwhelmed. I'm here to help.

Tentative Schedule

Monday, August 28th §11.7 Series Convergence	Tuesday, August 29th §11.8 Power Series	Wednesday, August 30th §11.9 Series for Functions	Friday, September 1st §11.10 Taylor Series
Monday, September 4th No Class – Labor Day	Tuesday, September 5th §11.12 Using Taylor Series	Wednesday, September 6th §12.1-2 $\mathbb{R}^3$ and Vectors	Friday, September 8th §12.3 Dot Products
Monday, September 11th §12.4 Cross Products	Tuesday, September 12th §12.5 Lines & Planes	Wednesday, September 13th §12.7 Cyl. & Sph. Coord.	Friday, September 15th §13.1 Vector Functions
Monday, September 18th §13.2 & §13.4 $\mathbf{r}'(t)$	Tuesday, September 19th §14.1 f:$\mathbb{R}^n \to \mathbb{R}$	Wednesday, September 20th §14.2 Limits & Continuity	Friday, September 22nd §14.3 Partial Derivatives
Monday, September 25th §14.4 Tangent Planes	Tuesday, September 26th §14.5 Chain Rule	Wednesday, September 27th §14.6 Dir. Derivatives	Friday, September 29th §14.7 Optimization
Monday, October 2nd §14.7 Optimization	Tuesday, October 3rd §14.8 Cons. Optimization	Wednesday, October 4th Review for Exam	Friday, October 6th **Exam 1**
Monday, October 9th §15.1 Double Integrals	Tuesday, October 10th §15.1 Double Integrals	Wednesday, October 11th §15.2 More Double Int.	Friday, October 13th §15.3 General Double Int.
Monday, October 16th No Class – Fall Break	Tuesday, October 17th No Class – Fall Break	Wednesday, October 18th §15.4 Double Int. in Polar	Friday, October 20th §15.5 Applications
Monday, October 23rd §15.5 Applications	Tuesday, October 24th §15.6 Surface Area	Wednesday, October 25th §15.7 Triple Integrals	Friday, October 27th §15.8 Int. in Cyl. & Sph.
Monday, October 30th §15.8 Int. in Cyl. & Sph.	Tuesday, October 31st §15.9 The Jacobian	Wednesday, November 1st Review for Exam	Friday, November 3rd **Exam 2**
Monday, November 6th §16.1 Vector Fields	Tuesday, November 7th §16.2 Line Integrals	Wednesday, November 8th §16.2 Line Integrals	Friday, November 10th §16.2 Line Integrals
Monday, November 13th §16.3 Fund. Thm. L. Int.	Tuesday, November 14th §16.4 Green's Theorem	Wednesday, November 15th §16.5 Curl & Divergence	Friday, November 17th §16.6 Parametric Surfaces
Monday, November 20th §16.7 Surface Integrals	Tuesday, November 21st §16.8 Stokes' Theorem	Wednesday, November 22nd No Class – Thanksgiving Break	Friday, November 24th No Class – Thanksgiving Break
Monday, November 27th §16.9 Div. Theorem	Tuesday, November 28th §16.10 Summary	Wednesday, November 29th Review for Exam	Friday, December 1st **Exam 3**
Monday, December 4th §12.6 Quadric Surfaces	Tuesday, December 5th Complex Numbers	Wednesday, December 6th Complex Numbers	Friday, December 8th Review
Final Exam – 8am Monday 12/11			

Any students with disabilities which might affect their performance in this class should contact me as soon as possible to arrange accommodations.

The faculty has adopted a policy on academic integrity. It is your responsibility to understand and follow it.

Diversity, in all its forms, is valuable.