CALCULUS 3 MTWF 1:00-1:50PM FALL 2003 HICKOK 207

Instructor:	Jonathan White
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Office:	Hickok 206A
Office Hours:	MTWF 9:00-9:50am and by appointment
Office Phone:	399-8280
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Text:	*Calculus, Early Transcendentals*, 4th Ed., James Stewart, Brooks/Cole
Problem Sets and 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 Maple, which is available on the computers in the labs throughout campus. Quizzes will also be given frequently. Combined these will be worth 200 points (25% of the final grade).
Exams:	There will be four exams during the course of the semester, 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 (12.5% of the final grade) each. The final exam will be given at the time listed on the back side of this sheet, and will be worth 200 points (25% of the final grade).
Grading:	Grading will approximately follow a 90% A, 80% B, 70% C, 60% D scale.
Makeups:	Makeups for quizzes and exams will be allowed only under extenuating circumstances, with documentation and advance notice when possible.

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 Maple, 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 Maple 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 25th §12.1-2 $\mathbb{R}^3$ and Vectors	Tuesday, August 26th §12.3 Dot Products	Wednesday, August 27th §12.4 Cross Products	Friday, August 29th §12.5 Lines & Planes
Monday, September 1st **Labor Day – No Class**	Tuesday, September 2nd §12.6 Quadric Surfaces	Wednesday, September 3rd §12.7 Cyl. & Sph. Coord.	Friday, September 5th §13.1 Vector Functions
Monday, September 8th §13.2 & §13.4 $\mathbf{r}'(t)$	Tuesday, September 9th §13.3 Arc Len. & Curv.	Wednesday, September 10th Review for Exam	Friday, September 12th **Exam 1**
Monday, September 15th §14.1 $f:\mathbb{R}^n \to \mathbb{R}$	Tuesday, September 16th §14.2 Limits & Continuity	Wednesday, September 17th §14.3 Partial Derivatives	Friday, September 19th §14.4 Tangent Planes
Monday, September 22nd §14.5 Chain Rule	Tuesday, September 23rd §14.6 Dir. Derivatives	Wednesday, September 24th §14.7 Optimization	Friday, September 26th §14.7 Optimization
Monday, September 29th §14.8 Cons. Optimization	Tuesday, September 30th Review for Exam	Wednesday, October 1st **Exam 2**	Friday, October 3rd §15.1 Double Integrals
Monday, October 6th §15.1 Double Integrals	Tuesday, October 7th §15.2 More Double Int.	Wednesday, October 8th §15.3 General Double Int.	Friday, October 10th §15.4 Double Int. in Polar
Monday, October 13th **Fall Break – No Class**	Tuesday, October 14th **Fall Break – No Class**	Wednesday, October 15th §15.5 Applications	Friday, October 17th §15.5 Applications
Monday, October 20th §15.6 Surface Area	Tuesday, October 21st §15.7 Triple Integrals	Wednesday, October 22nd §15.8 Int. in Cyl. & Sph.	Friday, October 24th §15.8 Int. in Cyl. & Sph.
Monday, October 27th §15.9 The Jacobian	Tuesday, October 28th Review for Exam	Wednesday, October 29th **Exam 3**	Friday, October 31st §16.1 Vector Fields
Monday, November 3rd §16.2 Line Integrals	Tuesday, November 4th §16.2 Line Integrals	Wednesday, November 5th §16.2 Line Integrals	Friday, November 7th §16.3 Fund. Thm. L. Int.
Monday, November 10th §16.4 Green's Theorem	Tuesday, November 11th §16.5 Curl & Divergence	Wednesday, November 12th **Registration – No Class**	Friday, November 14th §16.6 Parametric Surfaces
Monday, November 17th §16.7 Surface Integrals	Tuesday, November 18th §16.8 Stokes' Theorem	Wednesday, November 19th §16.9 Div. Theorem	Friday, November 21st §16.10 Summary
Monday, November 24th Review for Exam	Tuesday, November 25th **Exam 4**	Wednesday, November 26th **Thanksgiving – No Class**	Friday, November 28th **Thanksgiving – No Class**
Monday, December 1st §9.1 Differential Equations	Tuesday, December 2nd §9.3 Separable Equations	Wednesday, December 3rd §17.1 2nd Order Linear Eq.	Friday, December 5th §17.2 More Linear Eq.
Monday, December 8th §17.3 Applications	Tuesday, December 9th §17.4 Series Solutions	Wednesday, December 10th Review	

The Final Exam will be held at 1pm on Tuesday, December 16th.

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.