Syllabus

Class: MAT 222 "Calculus and Analytic Geometry II" (5 credits)

Meeting Times: 8:00–8:50 a.m., Monday through Friday

Instructor: Peter L. Vachuska, office 249, phone 335-5250 ext. 249. I can also be reached by email at `Peter.Vachuska@uwc.edu`.

Office Hours: 10:00–10:50 daily or by appointment.

Textbook: *Calculus with analytic geometry* 2nd edition by Simmons

Grading: Grades will be based on Eight hour exams, each 100 points and a comprehensive final worth 200 points. If you miss an exam or wish to retake the exam because of your exam grade, you must arrange with me for this to be done outside of class and these exams will not be returned to you. If you retake an exam, I will use the higher of the two scores in computing your final grade. *Calculator use is, in general, not allowed on exams.* My grading scale is: 100-90% being the A's, 90-80% being the B's, etc. . ., (with top/bottom 2 percents for +/− in each catagory). This scale may change as the course develops – but by only possibly 1 or 2 percentage points.

Material Covered: We will cover chapters 9-17 omitting a few sections and making adjustments for time as the course progresses.

To do well in this class:

- Attend class and don't fall behind.
- Read the book and do all of the suggested problems.
- Make use of office hours, learning center, study groups, etc., asking question when needed.
- Go beyond the minimum amount that you need to know.

Important Dates:

September 15: Last day to add or to change from or to pass/fail or from audit to credit.
November 10: Last day to drop or to change from credit to audit.
November 27-28: Thanksgiving Recess.
December 15: Last day of classes.
December 17: Final Exam, 8:00–10:00.

Schedule

Date		Section	Problems		
Sept 2	9.1	Review and Review of Trig	page 299:	1-33	odd
Sept 3	9.2	Derivatives of Sine and Cosine	page 302:	1-43	odd
Sept 4	9.3	Integrals of Sine and Cosine	page 309:	1-31	odd
Sept 5	9.4	Derivatives of Other Trig Functions	page 311:	1-29	odd
Sept 8	9.5	Inverse Trig Functions	page 318:	1-29	odd
Sept 9	9.6	Simple Harmonic Motion	page 323:	1-7	odd
Sept 10	9.7	Hyperbolic Functions	page 329:	1-29	odd
Sept 11	Review				
Sept 12	Exam 1				
Sept 15	10.1	The Basic Formulas			
Sept 16	10.2	Substitution	page 339:	1–49	odd
Sept 17	10.3	Trig Integrals	page 344:	1–29	odd
Sept 18	10.4	Trig Substitutions	page 348:	1–29	odd
Sept 19	10.5	Completing the Square	page 350:	1–15	odd
Sept 22	10.5	*continuing and catching up*			
Sept 23	10.6	Partial Fractions	page 356:	1–23	odd
Sept 24	10.7	Integration By Parts	page 362:	1–23	odd
Sept 25	10.8	IBP (conclusion) and mixed bag	page 368:	1–125	odd
Sept 26	Review				

Date		Section	Problems		
Sept 29	Exam 2				
Sept 30	11.1-2	Center of Mass and Centroids	page 391:	1–13	odd
Oct. 1	11.4	Moment of Inertia	page 396:	1–9	odd
Oct. 2	12.1-2	L'Hospital Rule	page 403:	1–25	odd
Oct. 3	12.3	Other Indeterminate Forms	page 408:	1–41	odd
Oct. 6	12.4	Improper Integrals	page 413:	1–19	odd
Oct. 7	Review				
Oct. 8	Exam 3				
Oct. 9	13.1	Infinite Sequences and Series – Intro			
Oct. 10	13.2	Convergent Sequences	page 437:	1–13	odd
Oct. 13	13.3	Convergent and Divergent Series	page 444:	1–15	odd
Oct. 14	13.4	Convergent Series	page 449:	1–9	odd
Oct. 15	13.5	Comparison Tests	page 454:	1–29	odd
Oct. 16	13.6	Integral Test	page 460:	1–7	odd
Oct. 17	13.6	Euler's Constant	page 460:	9–13	odd
Oct. 20	13.7	Ratio and Root Tests	page 464:	1–23	odd
Oct. 21	13.8	Alternating Series Test	page 469:	1–25	odd
Oct. 22	Review				
Oct. 23	Exam 4				
Oct. 24	14.1-2	Power Series	page 489:	1–29	odd
Oct. 27	14.3	Differentiation and Integration	page 494:	1–7	odd
Oct. 28	14.4	Taylor Series	page 503:	1–15	odd
Oct. 29	14.5	Computations with Taylor Series	page 509:	1–9	odd
Oct. 30	14.6	Differential Equations	page 513:	1–5	odd
Oct. 31	14.7	Operation on Power Series	page 519:	1–35	odd
Nov. 3	14.8	Euler's Formula			
Nov. 4	Review				
Nov. 5	Exam 5				
Nov. 6	15.1-2	Circle and Parabolas	page 534:	1–5	odd
Nov. 7	15.3	Ellipses I	page 541:	1–7	odd
Nov. 10	15.3	Ellipses II	page 541:	9–21	odd
Nov. 11	15.4	Hyperbolas I	page 549:	1–15	odd
Nov. 12	15.4	Hyperbolas II	page 549:	17–31	odd
Nov. 13	15.5	Focus-Directrix-Eccentricity			
Nov. 14	15.6	Rotation of Axes	page 557:	1–11	odd
Nov. 17	Review				
Nov. 18	Exam 6				
Nov. 19	16.1	Polar Coordinates	page 563:	1–9	odd
Nov. 20	16.2	Polar Graphs	page 567:	1–5	odd
Nov. 21	16.2	More Polar Graphs	page 567:	7–15	odd
Nov. 24	16.3	More and More Polar Graphs	page 573:	1–19	odd
Nov. 25	16.4	Arc Length and Tangents	page 579:	1–17	odd
Nov. 26	16.5	Areas	page 582:	1–9	odd
Dec. 1	Review				
Dec. 2	Exam 7				
Dec. 3	17.1	Parametric Equations	page 590:	1–13	odd
Dec. 4	17.2	Cycloids	page 600:	7–11	odd
Dec. 5	17.3	Vectors	page 605:	1–13	odd
Dec. 8	17.4	Derivatives of Vector Functions	page 610:	1–11	odd
Dec. 9	17.5	Curvature	page 615:	1–11	odd
Dec. 10	17.6	Components of Acceleration	page 619:	1–9	odd
Dec. 11	Review				
Dec. 12	Exam 8				
Dec. 15	Review				
Dec. 17	Final Exam				