

Syllabus

Class: MAT 124 “Precalculus” (5 credits)

Meeting Times: 1:00–1:50 p.m., M–F

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: *Precalculus* 8e by Sullivan

Grading: Grades will be based on six hour exams, each 100 points and a final worth 200 points. One retake of each exam is allowed, but it must be arranged before the next exam date. My grading scale is: 100-90% being the A’s, 90-80% being the B’s, etc. . . . This scale may change as the course develops – but by only possibly 1 or 2 percentage points.

Material Covered: We will cover chapters 2–13 as listed on other side.

To do well in this class:

- Attend class and don’t fall behind. We move fast
- Read the book and do 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:

February 8: Last day to add or to change from or to pass/fail or from audit to credit.

March 23–27: Spring Break.

April 12: Last day to drop or to change from credit to audit.

May 12: Last day of classes.

May 15: Final Exam, 8:00–10:00.

Schedule and Suggested Problems*

Date	Section	Problems [†]
January 26	2.1. Functions	page 60: 39–77
January 27	2.2. The Graph of a Function	page 67: 9–27
January 28	2.3. Properties of Functions	page 78: 11–59
January 29	2.4. Library of Functions; Piecewise-defined Functions	page 89: 9–39
January 30	2.5. Graphing Techniques: Transformations	page 101: 7–61
February 02	3.1. Linear Functions and Their Properties	page 124: 13–35
February 03	3.3. Quadratic Functions and Their Properties	page 142: 11–65
February 04	3.5. Inequalities Involving Quadratic Functions	page 156: 3–31
February 05	Review	
February 06	Exam 1	
February 09	4.1. Polynomial Functions and Models	page 180: 11–61
February 10	4.2. Properties of Rational Functions	page 192: 11–51
February 11	4.3. The Graph of a Rational Function	page 206: 7–47
February 12	4.4. Polynomial and Rational Inequalities	page 213: 3–39
February 13	4.5. The Real Zeros of a Polynomial Function	page 226: 11–67
February 16	4.6. Complex Zeros; Fundamental Theorem of Algebra	page 234: 7–39
February 17	5.1. Composite Functions	page 247: 11–67
February 18	5.2. One-to-One Functions; Inverse Functions	page 260: 31–69
February 19	5.3. Exponential Functions	page 273: 29–77
February 20	5.4. Logarithmic Functions	page 286: 9–73

*This is the first time that I have used this textbook and we may have to adjust this schedule if we need more time to cover the material. In this case, we may omit some material.

[†]Do the odd problems, but in cases where you know the material, or are short on time, every other odd is recommended.

Date	Section	Problems†
February 23	5.5. Properties of Logarithms	page 297: 7–71
February 24	5.6. Logarithmic and Exponential Equations	page 303: 5–59
February 25	Review	
February 26	Exam 2	
February 27	6.1. Angles and Their Measure	page 353: 23–89
March 02	6.2. Trigonometric Functions: Unit Circle Approach	page 369: 11–91
March 03	6.3. Properties of the Trigonometric Functions	page 384: 11–93
March 04	6.4. Graphs of the Sine and Cosine Functions	page 397: 19–65
March 05	6.5. Graphs of the Tangent, Cotangent, Cosecant, and Secant Functions	page 407: 17–39
March 06	7.1. The Inverse Sine, Cosine, and Tangent Functions	page 438: 13–65
March 09	7.2. The Inverse Trigonometric Functions (Continued)	page 444: 9–65
March 10	7.3. Trigonometric Identities	page 451: 19–87
March 11	7.4. Sum and Difference Formulas	page 460: 9–77
March 12	7.5. Double-angle and Half-angle Formulas	page 469: 7–39
March 13	7.7. Trigonometric Equations (I)	page 479: 7–43
March 16	7.8. Trigonometric Equations (II)	page 487: 5–45
March 17	Review	
March 18	Exam 3	
March 19	8.1. Applications Involving Right Triangles	page 504: 29–57,67,69
March 20	8.2. The Law of Sines	page 515: 9–41
March 30	8.3. The Law of Cosines	page 523: 9–35
March 31	8.4. Area of a Triangle	page 528: 5–23,33–37
April 01	9. Polar Coordinates; Vectors	page 557: 11–81
April 02	9.1. Polar Coordinates	page 573: 13–59
April 03	9.2. Polar Equations and Graphs	page 581: 11–59
April 06	9.3. The Complex Plane; DeMoivre's Theorem	page 581: 11–51
April 07	9.4. Vectors	page 591: 7–49
April 08	9.5. The Dot Product	page 599: 7–23
April 09	Review	
April 10	Exam 4	
April 13	10.2. The Parabola	page 631: 11–53
April 14	10.3. The Ellipse	page 642: 13–53
April 15	10.4. The Hyperbola	page 654: 13–59
April 16	10.5. Rotation of Axes; General Form of a Conic	page 663: 11–51
April 17	11.1. Systems of Linear Equations: Substitution and Elimination	page 699: 17–45
April 20	11.2. Systems of Linear Equations: Matrices	page 715: 37–69
April 21	11.3. Systems of Linear Equations: Determinants	page 725: 15–47
April 22	11.4. Matrix Algebra	page 741: 7–49
April 23	11.6. Systems of Nonlinear Equations	page 756: 5–49
April 24	Review	
April 27	Exam 5	
April 28	12.1. Sequences	page 789: 9–63
April 29	12.2. Arithmetic Sequences	page 796: 3–51
April 30	12.3. Geometric Sequences; Geometric Series	page 806: 9–81
May 01	12.4. Mathematical Induction	page 812: 1–17
May 04	12.5. The Binomial Theorem	page 818: 5–41
May 05	13.1. Counting	page 830: 7–27
May 06	13.2. Permutations and Combinations	page 838: 7–39
May 07	13.3. Probability	page 847: 7–21
May 08	Review	
May 11	Exam 6	
May 12	Review	
May 18	Final Exam	