



MATH 116 section H01, Spring 2019

Analytic Geometry/ Calculus II (Honors)

TTh, 8:40-10:20 am, Exploratory Hall 4106

Instructor: Dr. Sarah Khankan

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Office: Exploratory Hall 4219

Office Hours: M 10:15-11:30 and by appointment

**Credit Hours:** 4

**Text(s):** Thomas' Calculus: Early Transcendentals with Integrated Review, 14th Edition by Hass, Joel — Heil, Christopher — Weir, Maurice; Textbook ISBN-13: 9780134439020

**Prerequisites:** Successful completion of MATH 115, or grade of A in MATH 113 and recommendation of MATH 113 instructor. If you do not meet this requirement but believe that you can do well in this course, please see me.

**Broad purpose of the course:** We will be covering all or parts of chapters 6-10. As the honors version of Calculus 2, we will be covering more aspects of the material in more depth than a typical math 114 class, and we may not always follow the order of the text. Also, I may introduce material not found in the textbook; at such times, I will supply all necessary materials.

**Disability statement:** If you are a student with a disability and you need academic accommodations, please see me and contact the Office of Disability Resources at 703.993.2474. All academic accommodations must be arranged through that office.

**Tutoring Center:** The Math Tutoring Center is located in the Johnson Center Room 344. Help is available on a walk-in basis. For hours of operation see <http://math.gmu.edu/tutor-center.php> University Honor Code: You are expected to follow the GMU Honor Code <http://oai.gmu.edu/the-mason-honor-code/>.

**Exams:**

- Exam 1: 02/22/2019

- Exam 2: 03/28/2019
- Final Exam: TBD

**Grade Distribution:**

Quizzes	25%
Exam 1	25%
Exam 2	25%
Final Exam	25%

**Pop Quizzes:** 10 minutes. Similar to practice problems.

**Course Policies:**

- Exams are closed book, closed notes.
- No makeup exams will be given.
- Attendance is expected.
- Students are responsible for all missed work, regardless of the reason for absence. It is also the absentee's responsibility to get all missing notes or materials.

**Tentative Course Outline:**

The weekly coverage might change as it depends on the progress of the class.

<b>Week</b>	<b>Content</b>
1 (01/22-01/24)	<ul style="list-style-type: none"> <li>• 6.1 Volumes Using Cross-Sections</li> <li>• 6.2 Volumes Using Cylindrical Shells</li> </ul>
2 (01/29-01/31)	<ul style="list-style-type: none"> <li>• 6.3 Arc Length</li> <li>• 6.4 Areas of Surfaces of Revolution</li> <li>• 6.5 Work</li> </ul>
3 (02/05-02/07)	<ul style="list-style-type: none"> <li>• 7.1 The Logarithm Defined as an Integral</li> <li>• 7.2 Exponential Change and Separable Diff Eq.</li> </ul>
4 (02/12-02/14)	<ul style="list-style-type: none"> <li>• 7.3 Hyperbolic Functions</li> <li>• 7.4 Relative Rates of Change</li> </ul>
5 (02/19-02/22)	<ul style="list-style-type: none"> <li>• Review</li> <li>• EXAM 1</li> </ul>
6 (02/26-02/28)	<ul style="list-style-type: none"> <li>• 8.1 Using Basic Integration Formulas</li> <li>• 8.2 Integration by Parts</li> </ul>
7 (03/05-03/07)	<ul style="list-style-type: none"> <li>• 8.3 Trigonometric Integrals</li> <li>• 8.4 Trigonometric Substitution</li> <li>• 8.5 Integration of Rational Functions by Partial Fractions</li> </ul>
8 (03/12-03/14)	<ul style="list-style-type: none"> <li>• SPRING BREAK</li> </ul>
9 (03/19-03/21)	<ul style="list-style-type: none"> <li>• 8.7 Numerical Integration</li> <li>• 8.8 Improper Integrals</li> <li>• 8.9 Probability</li> </ul>
10 (03/26-03/28)	<ul style="list-style-type: none"> <li>• Review</li> <li>• EXAM 2</li> </ul>
11 (04/02-04/04)	<ul style="list-style-type: none"> <li>• 9.1 Solutions, Slope Fields, and Euler's Method</li> <li>• 9.2 First-Order Linear Equations</li> <li>• 10.1 Sequences</li> </ul>
12 (04/09-04/11)	<ul style="list-style-type: none"> <li>• 10.2 Infinite Series</li> <li>• 10.3 The Integral Test</li> <li>• 10.4 Comparison Tests</li> </ul>
13 (04/16-04/18)	<ul style="list-style-type: none"> <li>• 10.4 Comparison Tests</li> <li>• 10.5 Absolute Convergence; The Ratio and Root Tests</li> <li>• 10.6 Alternating Series and Conditional Convergence</li> </ul>
14 (04/23-04/25)	<ul style="list-style-type: none"> <li>• 10.7 Power Series</li> <li>• 10.8 Taylor and Maclaurin Series</li> <li>• 10.9 Convergence of Taylor Series</li> </ul>
15 (04/30-05/02)	<ul style="list-style-type: none"> <li>• Review</li> </ul>