Math 252H - 36388 - Integral Calculus (4)
Syllabus - OSU - Winter 2018

Instructor: Filix Maisch

Meetings: MF 1 - 1 : 50 PM, W 12 – 1 : 50 PM
Office Hours: KIDD 348, MW 3 : 30 - 4 : 30 PM

Room: STAG 212

Enforced Prerequisites: Math 251 or 251H with a C- or better or instructor permission (and Honors College approval).

Attendance: Regular attendance to lecture and recitation is expected.

Honor Code: Students are expected to be familiar with Oregon State University’s Expectations for Student Conduct. You may review these with the following web link (you will have to type-in the underscores):

http://studentlife.oregonstate.edu/sites/studentlife.oregonstate.edu/files/code_of_student_conduct.pdf

Statement Regarding Students with Disabilities: Accommodations are collaborative efforts between students, faculty and Disability Access Services (DAS). Students with accommodations approved through DAS are responsible for contacting the faculty member in charge of the course prior to or during the first week of the term. Students who believe they are eligible for accommodations should contact DAS immediately at 737-4098.

Course Description: This course covers definite and indefinite integrals, basic techniques of integration, the calculus of logarithmic and exponential functions, polar coordinates, and applications of integration to areas, volumes, force, work, and growth and decay problems.

Course Content: Antiderivatives and the indefinite integral; Riemann sums and the definite integral; the Fundamental Theorem of Calculus; U-substitution; integral applications including net change, area, volume, arc-length, surface area, mass, work, and force; the logarithm as an integral; exponential models; Integration by Parts; trigonometric substitution; partial fractions; numerical integration; improper integration; separable differential equations; calculus in polar coordinates.

Schedule: See web for tentative term schedule.

Evaluation: Your grade is determined by online homework, group work, a midterm, and a final. Here is the point breakdown:

- Homework ...................... 60 (Take your avg. homework percentage of 60 and round up.)
- Group Work ..................... 60 (Top 6 of 7 group work activities worth 10 points each.)
- Midterm ......................... 120 (Feb. 14th, 12 : 30 – 1 : 50 PM)
- Final ............................ 160 (March 22nd, 12 : 00 – 1 : 50 PM)

Grades will not be harder than:
360 - 400 A/A-, 320 - 359 B+/B/B-, 280 - 319 C+/C, 240 - 279 D, 0 - 239 F.
Homework: Homework is online through www.mymathlab.com. On the web page there is also a list of suggested exercises from the text for extra practice and for studying for exams. You get unlimited attempts for credit. Late homework can be completed, but there is a 10% penalty per day (so after 10 days it is not possible to complete any late homework for any partial credit).

Course ID: maisch10616

Name: Math252_Winter2018

Resources: The Math and Statistics Learning Center is in Kidder 108H and is a great place to drop in for help. It is open from 9 AM to 4 PM, Monday through Friday, starting week 2.

Tests: Note that no calculators of any kind are allowed on the midterm nor the final. You are allowed both sides of one 3x5 inch handwritten note card for the midterm and both sides of one 4x6 inch handwritten note card for the final. If your percentage score on the final is better then the average of your final and midterm replaces the midterm. Tests are not allowed to be made-up unless the circumstances are truly exceptional and contact requesting the accommodation is made PRIOR to the test.

Recitation Group Work: Most weeks during the Wednesday’s meeting you will be asked to complete a group-work activity worth 10 points in groups of 2 − 4, due at the start of the following week’s Wednesday. See the term calendar. Every group member individually is required to submit an activity. It is your responsibility to print the activities from the course web page and to bring them to class. The lowest (of 7) activity score will be dropped. Be aware that only a random subset of each activity will be graded for credit.

Specific Learning Outcomes: A successful student in Math 252 will be able to...

1. Describe the definite integral as a limit of Riemann sums and illustrate and interpret definite integrals as areas and signed areas.

2. Apply the Fundamental Theorem of Calculus to evaluate integrals and to differentiate integrals with respect to a limit of integration.

3. Use integration in applications, such as to find areas and volumes of regions and to calculate physical quantities such as total distance traveled, displacement, work, and center of mass.

4. Evaluate integrals using basic numerical integration rules.

5. Use first order differential equations to model and solve problems of growth and decay, cooling, and mixing.