

MATH 202: Calculus II
Spring 2012 **Section 001** **4 credit hours**

Instructor: Dr. Trent Kull
Office: Bancroft 154

Course time and location:

MWF, 9:30 – 10:45a,
Kinard 305

Office phone: 803.323.4547

Math department: 803.323.2175

Office hours:

MW: 2 – 3:30p
F: 8:15 – 9:15a

Campus email: kullt@winthrop.edu

Instructor Website: <http://faculty.winthrop.edu/kullt/>

Text and materials

- Required Text: Calculus by Anton, Bivens, Davis, & Polaski.
- Students are expected to have a graphing calculator.

Grades

To ensure that you receive a certain letter grade (or better), you must attain a minimum overall percentage. These minima are: A: 90; B: 80; C: 70; D: 60.

Assessments

| Date | Event | Percentage |
|-------------|------------|------------|
| Various | Quizzes | 15 |
| February 1 | Exam 1 | 17 |
| February 27 | Exam 2 | 17 |
| March 28 | Exam 3 | 17 |
| April 20 | Exam 4 | 17 |
| May 1 | Final Exam | 17 |

Homework/quizzes

Expect homework assignments/quizzes to reinforce the lesson material and prepare you for exams. Expectations will be detailed during class, with some notes added to the course website.

Exams

These may be closed book, no notes, no computer, no cell phone, individual effort events.

Missed quiz/exam policy

I will not give make-up quizzes or exams for those missed. Instead, I'll use the following policy: For all quizzes and course exams, a missed event will result in a recorded zero score until the end of the course. At that time, the average score achieved on all other quizzes will replace a single missed quiz score, and the final exam score (percentage) will replace a single missed exam score. Note that all students must take the final exam for a grade. Moreover, once a student has been handed a quiz (exam), the event will be graded.

Accommodations

Winthrop University is dedicated to providing access to education. If you have a disability and require specific accommodations to complete this course, contact the Office of Disability Services (ODS) at 323-3290. Once you have your official notice of accommodations from the Office of Disability Services, please inform me as early as possible in the semester.

Syllabus modifications

The instructor reserves the right to make modifications to this syllabus. Students will be notified in class & by email. Updates will be available at: <http://faculty.winthrop.edu/kullt/MATH 202>.

Course and departmental goals for students

This course meets the Logic, Language, and Semiotics requirement through activities and requirements that require students to: (1) use logic and mathematical information to draw reasonable conclusions and (2) use the symbols and language of mathematics to communicate about problems and present solutions.

Students apply fundamental mathematical concepts and techniques to solve problems and evaluate results.

- Students will apply integration and differentiation techniques to the transcendental functions
- Students will master new techniques of integration (e.g. integration by parts, trigonometric substitution, partial fractions, etc.)
- Students will apply integration, utilizing new techniques, to real world problems
- Students will gain a working knowledge of sequences and series
- Students will use power series to represent transcendental functions over appropriate intervals

For purposes of departmental assessment of student learning in this course, sections of the final exam will be tabulated for all students and cover the goals listed above. Individual tests and course grades may also be used as an indication of progress toward the above goals.

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Policies

1. Review the student code of conduct for university policies on academic misconduct. Academic misconduct will not be tolerated and will result in a failing grade on the assignment and/or in the course. The full handbook is available online at:
(<http://www2.winthrop.edu/studentaffairs/handbook/StudentHandbook.pdf>)
2. All electronic devices (including cell phones) other than a calculator should be on silent and kept in your book bag or purse throughout class time unless otherwise instructed. (Note if you have some educational, health, or physical reason for an electronic device you must work with your professor to inform them of the accommodation.)
3. The University attendance policy is stated in the current catalog
(<http://www.winthrop.edu/recandreg/default.aspx?id=7380>).
4. A grade of C or better in MATH202 is required to enroll in MATH301.
5. Students are expected to use skills from MAED200 to implement the use of *Mathematica*.

SU Deadline: January 24
Spring Break: March 12 – 18

Course Withdraw Date: March 7
Final Exam: May 1

Course calendar

The following is a tentative guideline, as I want to keep the flexibility to modify the pace and add or remove topics as appropriate. Exams do not share this flexibility -- this will allow more effective planning by all.

| | | | | |
|---|------------|------------|------|------------------------------------------------------------|
| M | January 9 | | 5.1 | Area between two curves |
| W | 11 | | 5.2 | Volume: The disk method |
| F | 13 | | 5.3 | Volume: The shell method |
| W | 18 | QUIZ | | |
| F | 20 | | 5.4 | Arc length |
| M | 23 | QUIZ | 5.5 | Area of a surface of revolution |
| W | 25 | | 6.8 | Hyperbolic functions |
| F | 27 | | 7.2 | Integration by parts |
| M | 30 | | | |
| W | February 1 | ASSESSMENT | | Exam 1 |
| F | 3 | | 7.3 | Trigonometric integrals |
| M | 6 | QUIZ | 7.4 | Trigonometric substitutions |
| W | 8 | | 7.5 | Integration of rational functions by partial fractions |
| F | 10 | | 7.7 | Numerical integration |
| M | 13 | QUIZ | | |
| W | 15 | | 7.8 | Improper integrals |
| F | 17 | | | |
| M | 20 | QUIZ | 8.2 | Separation of variables |
| W | 22 | | 8.4 | First order differential equations |
| F | 24 | | | |
| M | 27 | ASSESSMENT | | Exam 2 |
| W | 29 | | 9.1 | Sequences |
| F | March 2 | | 9.2 | Monotonic sequences |
| M | 5 | QUIZ | 9.3 | Infinite series |
| W | 7 | | 9.4 | Convergence tests |
| F | 9 | | 9.5 | Comparison, ratio, and root tests |
| M | 19 | QUIZ | 9.6 | Alternating series Absolute and conditional convergence |
| W | 21 | | | |
| F | 23 | | 9.7 | Taylor polynomials |
| M | 26 | | | |
| W | 28 | ASSESSMENT | | Exam 3 |
| F | 30 | | 9.8 | Taylor series |
| M | April 2 | QUIZ | 9.9 | Convergence of Taylor series |
| W | 4 | | 9.10 | Differentiating and integrating power series |
| F | 6 | | 10.1 | Parametric equations |
| M | 9 | QUIZ | 10.1 | Parametric differentiation |
| W | 11 | | 10.2 | Polar coordinates |
| F | 13 | | | |
| M | 16 | | 10.3 | Polar differentiation & integration |
| W | 18 | | | |
| F | 20 | ASSESSMENT | | Exam 4 |
| M | 23 | QUIZ | | Review |
| M | May 1 | ASSESSMENT | | Final Exam, 3 – 5:30p |