# Math 1132Q – Calculus II

**Description:** Transcendental functions, formal integration, polar coordinates, infinite sequences and series, parametric equations, with applications to the physical sciences and engineering.

**Prerequisites:** MATH 1131 or advanced placement credit for calculus (a score of 4 or 5 on the Calculus AB exam or a score of 3 on the Calculus BC exam). Recommended preparation: A grade of C- or better in MATH 1131.

**Textbook Information:** EITHER *Calculus: Early Transcendentals* (this includes Multivariable Calculus), 8th Edition, by James Stewart with WebAssign Access Code OR *Single Variable Calculus: Early Transcendentals*, 8th Edition, by James Stewart with WebAssign Access Code.

**IMPORTANT!**
There are three ways to purchase the text and the WebAssign access code:

- Get the text and WebAssign access code bundled together from the publisher's special website for either single variable (1131 and/or 1132) or multivariable (1131, 1132, and 2110) texts.
- Get the text and WebAssign access code bundled together at the UConn Co-op.
- Get the text separately from anywhere, and buy the WebAssign access code when you access your homework through HuskyCT.

We do not recommend using the third option above, because if you buy the WebAssign access code separately then you will have to buy it for 95 dollars for one semester of calculus or 110 dollars for two or three semesters of calculus; by comparison, the cost of the book and WebAssign access code bundled together (from the publisher's website or from the UConn Co-op) is less than 95 dollars. The option to buy the text and WebAssign access code bundled together lets you use that access code for the life of the edition of the textbook.
Graphing calculators: TI 82, 83, 84, 84 plus, 85 or 86 are sufficient but more powerful models are also OK. All calculators are permitted during the common midterm exams (but not during the discussion class quizzes).

## i>clicker Registration:

Clickers will be used in all lectures except section 140. You must register your i>clicker in your HuskyCT page for the lecture you attend (100 or 120), even if you registered an i>clicker in Math 1131 last semester.**IMPORTANT ONLNE CLICKER REGISTRATION INFORMATION:**

- Go to HuskyCT page for your lecture (100 or 120).
- Click on "i>clicker Registration" in the left column.
- Enter the Remote ID for your i>clicker where it is requested in Step 1.
- Double check that the Remote ID you entered is correct.
- Clicker the Submit button in Step 2.

**Warning**: The web version of i>clicker (Apps for iPhone, Android, etc.) will not work in the classrooms.

## Homework and WebAssign:

**Homework:** To access the homework you will have to go through Husky CT single sign-on. In your account you will find a link to do your homework using WebAssign. There will be homework assignments for each section of the text. Each assignment will be made available on WebAssign several days before the section is covered in class. The due date for each assignment will be set by your instructor and will generally be two or three days after the material is covered in class.**You will get five attempts for each question that is not multiple choice and fewer than five attempts for each multiple choice question; the exact number of attempts will depend on the number of choices.** After each attempt, you will be told whether your answer is correct or not. If you are not able to get the correct answer after your initial attempts, we recommend that you seek help from your instructor, the Q-Center, a tutor, or another student.**Warning:** When accessing your online homework, **use Firefox or Chrome as your browser**; there are problems that can occur if you use Internet Explorer or Safari.

**Quizzes:** There will be a quiz on most homework assignments. These quizzes will be either timed assignments on WebAssign or written quizzes in the discussion sections.

**WebAssign Registration:** The homework for Math 1132 is assigned online using the WebAssign online homework system. To access your homework online you must go to Husky CT.

## Grading:

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|---|---|---|---|
| **Homework & Quizzes** | WebAssign | Online | 15% |
| **Clicker & Worksheets** | | Lecture & Discussion | 10% |
| **Exam 1:** | Week 4 | Wed or Thur discussion class | 15% |
| **Exam 2:** | Week 8 | Wed or Thur discussion class | 15% |
| **Exam 3:** | Week 12 | Wed or Thur discussion class | 15% |
| **Final Exam:** | | Common exam Wed. Dec 14, 3:30-5:30 PM | 30% |

## Outline for Math 1132 – Fall 2016

| Week | Date | Section | Topic |
|---|---|---|---|
| 1 | 8/29 | | Administrative Information |

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|---|---|---|---|
| | | 7.2 | Trigonometric Integrals |
| | | 7.3 | Trigonometric Substitution |
| 2 | 9/5 | 7.1 | Integration by Parts |
| | | 7.4 | Integration by Partial Fractions |
| 3 | 9/12 | 7.7 | Approximate Integration |
| | | 7.8 | Improper Integrals |
| 4 | 9/19 | | Practice Exam (Review) |
| | | | Exam 1 (in Wed or Thur discussion class) |
| | | 6.4 | Work |
| 5 | 9/26 | 11.1 | Sequences |
| | | 11.2 | Series |
| 6 | 10/3 | 11.3 | The Integral Test and Estimates of Sums |
| | | 11.4 | The Comparison Tests |
| 7 | 10/10 | 11.5 | Alternating Series |
| | | 11.6 | Absolute Convergence and the Ratio Test |
| 8 | 10/17 | | Practice Exam (Review) |
| | | | Exam 2 (in Wed or Thur discussion class) |
| | | 11.8 | Power Series |
| 9 | 10/24 | 11.9 | Representations of Functions as Power Series |
| | | 11.10 | Taylor and Maclaurin Series |
| 10 | 10/31 | 11.11 | Applications of Taylor Polynomials |
| | | 8.1, 8.2 | Arc Length, Area of Surface of Revolution |
| 11 | 11/7 | 10.1, 10.2 | Curves Defined by Parametric Equations, Calculus with Parametric Curves |

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|---|---|---|---|
| | | 10.3 | Polar Coordinates |
| 12 | 11/14 | | Practice Exam (Review) |
| | | | Exam 3 (in Wed or Thur discussion class) |
| | | 10.4 | Areas and Lengths in Polar Coordinates |
| 13 | 11/21 | | Thanksgiving |
| 14 | 11/28 | 9.1 | Modeling with Differential Equations |
| | | 9.3 | Separable Equations |
| 15 | 12/5 | 9.4 | Models for Population Growth |
| | | | Review |
| 16 | 12/12 | | Finals Week |

**Learning Activities**

| Week | Section | Topic | Worksheet/Review | Video/Flash Cards |
|---|---|---|---|---|
| 1 | 7.2 | Trigonometric Integrals | Worksheet 7.2.pdf | 7.2a<br>7.2b |
| | 7.3 | Trigonometric Substitution | Worksheet 7.3.pdf | 7.3 |
| 2 | 7.1 | Integration by Parts | Worksheet 7.1.pdf | 7.1 |
| | 7.4 | Integration by Partial Fractions | Worksheet 7.4.pdf | 7.4 |
| 3 | 7.7 | Approximate Integration | Worksheet 7.7.pdf | 7.7a,7.7b |
| | 7.8 | Improper Integrals | Worksheet 7.8.pdf | 7.8 |
| 4 | | Midterm Exam 1 | Exam 1 review.pdf<br>Exam 1 True/False.pdf | Flash Cards True/False solutions.pdf |
| | 6.4 | Work | Worksheet 6.4.pdf | 6.4 |
| 5 | 11.1 | Sequences | Worksheet 11.1.pdf | 11.1 |
| | 11.2 | Series | Worksheet 11.2.pdf | 11.2 |
| 6 | 11.3 | The Integral Test and Estimates of Sums | Worksheet 11.3.pdf | 11.3 |
| | 11.4 | The Comparison Tests | Worksheet 11.4.pdf | 11.4 |

| | | | | |
|---|---|---|---|---|
| 7 | 11.5 | Alternating Series | Worksheet 11.5.pdf | 11.5 |
| | 11.6 | Absolute Convergence and the Ratio Test | Worksheet 11.6.pdf | 11.6 |
| 8 | | Midterm Exam 2 | Exam 2 review.pdf<br>Exam 2 True/False.pdf | Flash Cards<br>True/False solutions.pdf |
| | 11.8 | Power Series | Worksheet 11.8.pdf | 11.8 |
| 9 | 11.9 | Representations of Functions as Power Series | Worksheet 11.9.pdf | 11.9 |
| | 11.10 | Taylor and Maclaurin Series | Worksheet 11.10.pdf | 11.10 |
| 10 | 11.11 | Applications of Taylor Polynomials | Worksheet 11.11.pdf | 11.11 |
| | 8.1 | Arc Length | Worksheet 8.1.pdf | 8.1 |
| | 8.2 | Area of Surface of Revolution | Worksheet 8.2.pdf | 8.2a<br>8.2b |
| 11 | 10.1 | Curves Defined by Parametric Equations | Worksheet 10.1.pdf | 10.1 |
| | 10.2 | Calculus with Parametric Curves | Worksheet 10.2.pdf | 10.2 |
| | 10.3 | Polar Coordinates | Worksheet 10.3.pdf | 10.3 |
| 12 | | Midterm Exam 3 | Exam 3 review.pdf<br>Exam 3 True/False.pdf | True/False solutions.pdf |
| | 10.4 | Areas and Lengths in Polar Coordinates | Worksheet 10.4.pdf | 10.4 |
| 13 | No Class | Thanksgiving Break | | |
| 14 | 9.1 | Modeling with Differential Equations | Worksheet 9.1.pdf | 9.1 |
| | 9.3 | Separable Equations | Worksheet 9.3.pdf | 9.3 |
| 15 | 9.4 | Models for Population Growth | Worksheet 9.4.pdf | |
| | | Review | | |
| 16 | | Finals Week | | |