Analytic Geometry and Calculus II Syllabus
MAC2312, Summer 2018, June 25 - July 27

Course & Faculty Information

Lecturer:  Tess St. John
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WeChat: Tesspi314
Contact hour: 75 hours
Credit: 5
Office hours: By Appointment

Course Description

Techniques of integration, applications of integration, sequences and series, power series and Taylor series, parametric equations and polar coordinates.

Textbook Information

ISBN: 1337275344
You may use a scientific/non-graphing calculator if you wish.

Prerequisites

We assume students are familiar with the standard content of a calculus I course for scientists and engineers. This includes the study of limits, derivatives, optimization of functions of a single variable, using derivatives to sketch graphs, antiderivatives and the method of substitution, definite integrals and Riemann sums, and the fundamental theorem of calculus. Moreover, they should have studied this material in the context of algebraic, exponential, logarithmic, and trigonometric functions.
Assignments and Graded Work

**Attendance:** Students are expected to be in class every day for the full class period. We will be covering a lot of material very quickly, so if you get behind it will be very difficult to catch up.

**Homework and quizzes:** Specific homework exercises will be assigned. It is expected that you will read the sections and complete the assignments by the following class period. It is totally fine and, indeed, encouraged, to help each other solve homework problems. Homework will not be graded. There will be a quiz each day from the homework. Therefore, if you complete the homework, you will just have to copy down your answers.

**Exams:** There will be five tests. The tests will be given every Monday except for the last test which will be given on the last Friday of the semester.

**Grading Policy**

Final grades will be based on the following.

<table>
<thead>
<tr>
<th>Component</th>
<th>Weight</th>
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<tbody>
<tr>
<td>Daily Quizzes</td>
<td>20%</td>
</tr>
<tr>
<td>Tests 1 - 4</td>
<td>60%</td>
</tr>
<tr>
<td>Final Exam</td>
<td>20%</td>
</tr>
</tbody>
</table>

**Grading Scale:**

- A = 90-100%
- B = 80-89%
- C = 70-79%
- D = 60-69%
- F = Below 60%

**Make-Ups:**

This class will go by very quickly. I strongly recommend that you never miss class, since it will be very hard to make up the material you missed and, since mathematics is cumulative, you will run the risk of getting hopelessly behind. There will be an optional final exam on the last day that you may take to replace a missing test grade.
**Academic Integrity**

As members of the Seminole State College of Florida community, students are expected to be honest in all of their academic coursework and activities.

Academic dishonesty, such as cheating of any kind on examinations, course assignments or projects, plagiarism, misrepresentation and the unauthorized possession of examinations or other course-related materials, is prohibited.

Plagiarism is unacceptable to the college community. Academic work that is submitted by students is assumed to be the result of their own thought, research or self-expression. When students borrow ideas, wording or organization from another source, they are expected to acknowledge that fact in an appropriate manner. Plagiarism is the deliberate use and appropriation of another’s work without identifying the source and trying to pass-off such work as the student's own. Any student who fails to give full credit for ideas or materials taken from another has plagiarized.

Students who share their work for the purpose of cheating on class assignments or tests are subject to the same penalties as the student who commits the act of cheating.

When cheating or plagiarism has occurred, instructors may take academic action that ranges from denial of credit for the assignment or a grade of "F" on a specific assignment, examination or project, to the assignment of a grade of "F" for the course. Students may also be subject to further sanctions imposed by the judicial officer, such as disciplinary probation, suspension or dismissal from the College.

**Course Calendar:**

<table>
<thead>
<tr>
<th>Day</th>
<th>Activity</th>
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| June 25 | Syllabus
5.6 – Indeterminant Forms and L’Hopital’s Rule             | June 26 | Quiz over 5.6 homework
5.7 – Inverse Trigonometric Functions: Differentiation
5.8 – Inverse Trigonometric Functions: Integration |
| June 27 | Quiz over 5.7 homework
5.8 – Inverse Trigonometric Functions: Integration
7.1 – Area of a Region between two curves          | June 28 | Quiz over 5.8 homework
7.1 – Area of a Region between two curves
7.2 – Volume: The Disk Method                      |
| June 29 | Review/Question and Answer Session with T.A.
Test over 5.6 – 7.1                                             | July 2  | 7.2 – Volume: The Disk Method
7.4 – Arc Length and Surfaces of Revolution          |
| July 2  | Quiz over 7.2 and 7.4 Homework
7.5 – Work
10.1 – Conics and Calculus                              | July 5  | Quiz over 7.5 and 10.1 Homework
10.2 – Plane Curves and Parametric Equations
10.3 – Parametric Equations and                        |
<table>
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<tr>
<th>July 6</th>
<th>Review/Question and Answer Session with T.A.</th>
<th>Calculus</th>
<th>July 9</th>
<th>Test over 7.2 – 10.3</th>
</tr>
</thead>
</table>
| July 10 | 10.4 – Polar Coordinates and Polar Graphs  
10.5 – Area and Arc Length in Polar Coordinates | July 11 | Quiz over 10.4 and 10.5 Homework  
8.1 – Basic Integration Rules  
8.2 – Integration by Parts |
| July 12 | Quiz over 8.1 and 8.2 Homework  
8.3 – Trigonometric Integrals  
8.5 – Partial Fractions | July 13 | Review/Question and Answer session with T.A. |
| July 16 | Test over 10.4 – 8.5 | July 17 | 8.4 – Trigonometric Substitution  
9.1 – Sequences |
| July 18 | Quiz over 8.4 Homework  
9.1 – Sequences  
9.2 – Series and Convergence | July 19 | Quiz over 9.1 and 9.2 homework  
9.3 – The Integral Test and p-series  
9.4 – Comparisons of Series |
| July 20 | Review/Question and Answer Session with T.A. | July 23 | Test over 8.4 – 9.4 |
| July 24 | 9.5 – Alternating Series  
9.6 – The Ratio and Root Test  
9.8 – Power Series | July 25 | Quiz over 9.5 and 9.6 Homework  
9.8 – Power Series  
9.7 – Taylor Polynomials  
9.9 – Representation of Functions by Power Series |
| July 26 | Review/Question and Answer Session with T.A. | July 27 | Final Exam (cumulative) |