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COURSE TITLE: MTH_252: Calculus II, Winter 2018  
CRN: 17854 / 18069  
DAYS & HOURS: MW: 08:00 – 10:50 / 14:00 – 16:50  
LECTURE ROOM: ST209  
OFFICE: ST203  
OFFICE HOURS: Tuesday & Thursday 14:00-15:30 in ST203 or ST101, Saturday Open Lab: 09:00-13:00 in ST204, or by appointment.  
RECOMMENDED: Free Maple Player or the Computer Algebra Systems (CAS) Maple 18 or later. Visit the course download site for more information.  
COURSE DESCRIPTION: Includes antiderivatives, the definite integral, topics of integration, improper integrals, and applications of differentiation and integration. Required: Graphing calculator. TI-89 Titanium or Casio Classpad 330 recommended. Prerequisites: MTH 251. Audit available.  
This class is a foundational course for many STEM majors. Some topics are of particular importance for students continuing into MTH 253 including: using L’Hôpital’s rule to evaluate limits, improper integrals, and error estimates for definite integrals. Students may be taking this course concurrently with calculus based physics courses. It can be beneficial for these students if the integral symbol is introduced early on to represent anti-derivatives. Partial fractions are a particularly important technique for engineering students (which will be revisited in MTH 253 and MTH 256). Students should be able to do simple partial fraction expansions by hand, but may use the expand command on their CAS for more complicated problems. Because this course is also a pre-requisite for MTH 261, logic and correct application of theorems should be emphasized.  
Lab time shall be used by students to work on group activities. The activities to be used during lab are at http://spot.pcc.edu/~kkidoguc/m252_download.html.
**OUTCOMES:** Upon successful completion students should be able to:

- Analyze real world scenarios to recognize when derivatives or integrals are appropriate, formulate problems about the scenarios, creatively model these scenarios (using technology, if appropriate) in order to solve the problems using multiple approaches, judge if the results are reasonable, and then interpret and clearly communicate the results.
- Appreciate derivative and integral concepts that are encountered in the real world, understand and be able to communicate the underlying mathematics involved to help another person gain insight into the situation.
- Work with derivatives and integrals in various situations and use correct mathematical terminology, notation, and symbolic processes in order to engage in work, study, and conversation on topics involving derivatives and integrals with colleagues in the field of mathematics, science or engineering.
- Enjoy a life enriched by exposure to Calculus.


**EXAMINATIONS:** There will be three in-class examinations: two midterm examinations and a final examination. Each of these examinations will come in two parts. Technology will be allowed in Part 1 of the examination while Part 2 will be a traditional non-technology examination.

Results from the final examination and the higher of the two midterm examinations will be used for end of term grade computation. The lower of the two midterm examination marks will be discarded. All examinations will be cumulative and will include material from assumed previous knowledge.

For all in-class examinations use of textbooks, paper lecture notes and other supplementary materials will be forbidden. Any hint of cheating during an examination will result in a zero for all student work to that point in the term. The instructor will decide what constitutes a hint of cheating.

Make up examinations may be allowed in exceptional cases. Requests for a make-up examination shall be via typed, signed and dated letter from the student that presents compelling reasons that make the allowance of a make-up examination appropriate. Acceptance of this request shall be at the instructor's discretion.

**LAB REPORT SUBMISSION REQUIREMENTS:** Lab Reports are due at the end of the lab period unless otherwise specified. Lab Reports shall:

- be prepared on 8½" x 11" paper,
- include a cover page with assignment name, submission date, and group member names,
- provide legible, coherent presentations of problem solutions, with the problem being worked clearly identified and resulting conclusions and/or final solutions unambiguously stated per the MTH252 Documentation Standards for Mathematics,
- have a one inch margin (border) surrounding every submitted sheet that shall be free of any markings that may obstruct insertion of instructor notes and/or comments, and
- be clearly paginated at the bottom centre of every page (even for one page submissions).

**PROBLEM SETS:** Problem Sets are optional exercises. Lab problems will often be selected from Problem Sets. Problem Set solutions are available from the course download site at: [http://spot.pcc.edu/~kkidoguc/m252_download.html](http://spot.pcc.edu/~kkidoguc/m252_download.html).
EVALUATION: Student assessment will be based on the elements listed and weighted as indicated below.

<table>
<thead>
<tr>
<th>Evaluation Element</th>
<th>Weight</th>
</tr>
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<tbody>
<tr>
<td>Labs</td>
<td>20%</td>
</tr>
<tr>
<td>Midterm Examination (One of Two)</td>
<td>40%</td>
</tr>
<tr>
<td>Final Examination</td>
<td>40%</td>
</tr>
</tbody>
</table>

The final mark, $M_F$, will be the weighted mean of each element percentage. For example, at the end of the term a student has 90% for her labs, 53% for Midterm I, 76% for Midterm II, and 78% for her final examination. Her final mark would be:

$$M_F = (90)(0.2) + (76) (0.4) + (78)(0.4) = 79.6$$

So her effective end of term percentage would be 80%.

GRADES: Traditional letter grades, defined in the Academic Policy Handbook, will be awarded as indicated below.

<table>
<thead>
<tr>
<th>Grade</th>
<th>Interval</th>
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<tbody>
<tr>
<td>A</td>
<td>$90 \leq M_F \leq 100$</td>
</tr>
<tr>
<td>B</td>
<td>$80 \leq M_F &lt; 90$</td>
</tr>
<tr>
<td>C</td>
<td>$70 \leq M_F &lt; 80$</td>
</tr>
<tr>
<td>D</td>
<td>$60 \leq M_F &lt; 70$</td>
</tr>
<tr>
<td>F</td>
<td>$M_F &lt; 60$</td>
</tr>
</tbody>
</table>

Other grade options are described at http://www.pcc.edu/registration/grading-policy/. Selection of a non-letter grade option must be student initiated.

EMAIL NOTICE: Due to Federal laws and concerns about privacy, all email communication between instructor and student shall be done via PCC assigned email address.

N.B.: email from non-PCC email accounts and/or email with an unspecified subject will be discarded.

RESOURCES: Student Learning Centre (SY Library, http://www.pcc.edu/resources/tutoring/). District-wide tutoring information (includes math).
- Multicultural Centre (SY CC 202, http://www.pcc.edu/resources/culture/). One-on-one help for math courses, drop-in or by appointment.
- Mini-Lab (SY ST104) — EMIT access.
- Student Computing Centre (SY Library, http://www.pcc.edu/resources/computer-labs/sylvania/). Internet access, mathematics computer programs, and more (orientation required).

GENERAL POLICIES: A student will be institutionally withdrawn from the class roster for an unexcused absence during the first week of the term.
- A student will be removed from class for any disruptive behaviour. This includes, but is not limited to, audible mobile phones.
- A student will be removed from class for inappropriate use of PCC property.
- Students are advised that PCC computers are subject to remote monitoring.
Students are required to comply with the Student Rights and Responsibilities Handbook. Included are policies on Students Rights, Student Conduct, Grade Appeal, Academic Integrity, Consensual Relationship Statement, and Children on PCC properties. [http://www.pcc.edu/about/policy/student-rights/](http://www.pcc.edu/about/policy/student-rights/).

**ADA Accommodation:** PCC is committed to ensuring that classes are accessible. Disability Services [www.pcc.edu/disability](http://www.pcc.edu/disability) works with students and faculty to minimize barriers. If students elect to use approved academic accommodations, they must provide in advance formal notification from Disability Services to the instructor.

**Nondiscrimination Nonharassment Equal Opportunity:** Under this policy, equal opportunity for employment, admission, and participation in the College’s programs, services, and activities will be extended to all persons, and the College will promote equal opportunity and treatment through application of this policy and other College efforts designed for that purpose. Under the College’s policy, harassing, discriminatory, or retaliatory behaviors will not be tolerated. [www.pcc.edu/about/affirmative-action/nonharassment.html](http://www.pcc.edu/about/affirmative-action/nonharassment.html).

**College Policies and Deadlines Regarding Grades and Registration Status:**
- Adding and Dropping: [http://www.pcc.edu/registration/dropping.html](http://www.pcc.edu/registration/dropping.html)
- Grading Options: [http://www.pcc.edu/registration/grading-policy/](http://www.pcc.edu/registration/grading-policy/)

**Flexibility Statement:** The instructor reserves the right to modify course content and/or substitute assignments and learning activities in response to institutional, weather, or class situations.

**Audio/Visual Recording Policy:** Students who wish to make an auditory or visual recording of any portion of the class must speak with the instructor ahead of time. Any such recording is for personal use only. It may not be shared, copied, uploaded to the Internet, and/or distributed without written permission from the instructor as well as any student who appears or is heard in the recording.