Math 122: Exam 1 Review Guide

Exam Information

Exam 1 will be given on Monday, February 2 from 8-8:50 am. The exam is closed book, closed notes, and without calculator. It will be composed of multiple choice and free response questions. Use the following table to determine your assigned exam location:

<table>
<thead>
<tr>
<th>Exam Room</th>
<th>Instructors</th>
<th>Sections</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAT 61</td>
<td>Grinshpan, Zhang</td>
<td>7, 11, 21</td>
</tr>
<tr>
<td>Disque 103</td>
<td>Papadopoulos</td>
<td>5, 14, 24</td>
</tr>
<tr>
<td>Disque 108</td>
<td>Perlstadt</td>
<td>9, 16</td>
</tr>
<tr>
<td>Ghall 031</td>
<td>Aran, Watson</td>
<td>12, 15, 18, 23</td>
</tr>
<tr>
<td>Nesbitt 111</td>
<td>Lee, Swartz</td>
<td>1, 2, 6, 17</td>
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<tr>
<td>PISB 120</td>
<td>Falco</td>
<td>3, 4, 8</td>
</tr>
<tr>
<td>Korman 249</td>
<td>Extra Time Accommodations</td>
<td>Bring your AVL for the proctor.</td>
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</table>

It is imperative that you go to the correct exam room and that you bring your student ID card.

The exam will cover the following topics:

- Area as a Limit & Sigma Notation (5.4)
- The Definite Integral (5.5)
- The Indefinite Integral & Antiderivatives (5.2)
- The Fundamental Theorem of Calculus (5.6)
- Integration by Substitution (5.3)
- Substitution with Definite Integrals (5.9)
- Area Between Curves (6.1)

Note: The number is parentheses are the corresponding chapters of the recommended textbook. If you use any other textbook or online resource, you should reference the chapters which cover the topics listed.

In addition to reviewing your textbook, make sure that you refer back to the suggested practice problems which are posted on the main course webpage. Be familiar with the expected skills listed within these homework sets.
Formulas

The only formulas that you will be given are:

\[ \sum_{k=1}^{n} k = \frac{n(n + 1)}{2} \]

\[ \sum_{k=1}^{n} k^2 = \frac{n(n + 1)(2n + 1)}{6} \]

\[ \sum_{k=1}^{n} k^3 = \left( \frac{n(n + 1)}{2} \right)^2 \]

Exam Preparation Suggestions

To prepare for this exam, we recommend the following:

- Review your lecture notes, the suggested practice problems, and the appropriate chapter contents of a calculus textbook. Specifically, make sure you have mastered the “Expected Skills” which are listed at the top of each set of practice problems.

- Depending on your learning style, it may be a good idea to form an outline of the important topics discussed in each chapter - including one or two sample examples of the types of problems that you expect to be asked.

- Re-work the suggested practice problems! Try to identify those problems and topics on which you have difficulty and then review the notes or chapter related to that material.

- Form a study group with your peers. After reviewing the material, make a mock-exam and trade with a friend. Try to solve the problems without the aid of a textbook or notes. Again, use this to help you learn which material is still unclear so that you can effectively use any additional study time working on those topics.

- Make sure that you get a good night’s sleep before test day. DON’T CRAM OR PULL AN ALL-NIGHTER!

Exam Taking Tips & Advice

- Know where your exam location is. Visit the room a day or two before the exam to get the lay of the land.

- Arrive early to the exam location. If you arrive late then you get less time, not more time.
• Bring a watch. Cell phones should be turned off and packed away before the exam begins.

• Bring your student ID card. The cards will be checked when you hand in your exam.

• Use a pencil instead of a pen, and bring more than one with you. Cross out or erase any work that you do not want graded.

• As soon as you receive your exam, write your name and section number on the front page. Exams without names or correct section numbers will result in a loss of 5 points.

• Quickly skim through all of the problems on the exam before doing any one problem. Then do the problems that you think are easiest first.

• Pace yourself. Know when you should stop working on a problem and move on to another one. It is not worth leaving a 10-point problem blank because you struggled for ten minutes on a 5-point problem.

• There is no partial credit for multiple choice questions. You can show as little or as much work as you want, and the work does not have to be very organized. You should try to eliminate incorrect answers and, if necessary, you can guess from the remaining choices. Never leave a multiple choice answer blank.

• For the free response questions you must show all of your work. Be sure that your work is organized and legible and that you do not skip a lot of steps. Answers (even correct ones) will not receive a lot of credit without the necessary work to back them up. Partial credit will be awarded based on how much correct work that you show.

• If you have the time, you should check your answers. (Just be sure to manage your time - see “Pace-Yourself” above). It doesn’t pay to leave 20 minutes early without checking your answers. A lot of silly mistakes can be avoided by going through your work again.