MATH 129 FINAL EXAM INFORMATION – SPRING 2016

PROCEDURES
- The final exam is on **Monday May 9, from 8:00 – 10:00 <u>am</u>**. Do not be late. You will not be given additional time if you arrive after 8:00 am. We recommend arriving 15 minutes early.
- If you use DRC testing accommodations, arrive 15 minutes early to the DRC testing room.
- The final exam is not given in your usual classroom. You will find the room assignments at http://math.arizona.edu/academics/courses/finals#examlocations when they are updated (scroll down to the bottom of the page). You will not be allowed to take the final in a room other than the one assigned to your section.
- You will not be allowed to leave the exam room until 9:00 am.
- Because several sections will be in the same room, students in each section will need to sit together. Additional directions will be given at the test site.
- All cell phones and electronic devices that transmit wirelessly must be turned off and put away during the exam. Vibrate or silence modes are not allowed. Laptops, iPods, language translators, or any devices that can receive a wireless signal are not allowed.
- Bring your graphing calculator. Models that can perform symbolic calculations are NOT allowed on the final exam. These include the TI-89,TI NSpire CAS, HP 50g, and Casio Classpad 330. Students are not allowed to share calculators during the exam. Calculator covers must be removed and put away.
- Bring a picture ID.

ABOUT THE FINAL EXAM – GENERAL
- The final exam study guide is posted at http://math.arizona.edu/~calc/m129.html. The guide for fall 2015 is appropriate for the spring 2016 final exam. Although the questions in the guide are not samples of actual exam questions, they provide an excellent review of the topics that are covered on the exam. Problems at the end of each chapter in the Review Exercises can also provide extra practice and review.
- No formula sheets or notes of any kind are allowed.
- The integral table and Taylor series table posted at http://math.arizona.edu/~calc/m129.html will be provided on the exam. You are strongly encouraged to use these on any applicable questions unless instructed otherwise.
- Except where noted, you must show all work clearly to get credit. Graders are not expected to interpret your work or choose from multiple solutions on your paper. Your final answer must also follow from your work even if your answer is correct. Use proper notation.
- Pay close attention to the instructions in the questions. For example: "SET UP the integral" means you should not waste time evaluating the integral after setting it up. There is also no need to rewrite or simplify your expression or integral provided it is correctly written.
- Some questions may have a short answer format. A short answer could refer to an explanation. It could also refer to an equation or expression that illustrates something. For example: Give an example of an infinite geometric series that does not converge.
- Some questions will have a multiple choice, matching, or True/False format. These formats are usually reserved for answers to questions that would normally receive no partial credit.
- The wording and notation used in the questions are consistent to what is found in the text, WebAssign, and the final exam study guide.
- Questions could incorporate information across several chapters. For example: A volume problem from chapter 8 could involve the evaluation of an improper integral from chapter 7.

ABOUT THE FINAL EXAM – SPECIFIC

- You need to know the terminology used throughout this course. Terms and phrases include, but are not limited to, Riemann sum, solids of known cross-section, method of slicing, closed form, initial value problem, slope field, and stable or unstable equilibrium solutions.
- Unless specifically asked to estimate, your final answers should be given in exact simplified form. For example: If your answer is ln2, do not write 0.693. On the other hand, if your answer is $\cos(\pi/4)$, we expect you to write $\sqrt{2}/2$ or $1/\sqrt{2}$.
- You should not use approximation techniques unless specifically asked to do so. For example: do not use the built-in numerical integration feature on your calculator if the Fundamental Theorem can be used to evaluate a definite integral.
- Units should be included in your answers for all questions involving units even if there are no explicit instructions to do so.
- Any of the following function types can appear: polynomial, rational, exponential, logarithmic, trigonometric (all six), inverse trigonometric (arcsin, arctan), and piecewise defined.
- Functions can be given in any form: tables, graphs, equations, words. Equations could also include parameters.
- You need to know the following integration techniques: substitution, integration by parts, the method of partial fractions, and trigonometric substitution.
- Algebraic techniques such as factoring, completing the square and polynomial long division may be needed before using a formula on the integral table.
- You need to be able to find the Midpoint and Trapezoid rules for a small choice of *n* given a table or graph. You should be able to determine when the Midpoint and Trapezoid rules provide under or over estimates.
- You need to know the following geometry formulas: volume of a cylinder and box; area of a rectangle, triangle, and circle; Pythagorean Theorem. You need to be able to set up ratios for similar right triangles.
- You need to know how to use slicing and density to find total mass of an object.
- You need to know the physics application of work. Units will be given in pounds and feet.
- You need to know the difference between convergence of a sequence and convergence of a series.
- You need to be able to recognize a geometric sequence or series.
- You need to know the integral and ratio tests for convergence of a series.
- You need to be able to make comparisons of improper integrals and infinite series using

$$\int \frac{1}{x^p}\,dx \text{ and } \sum \frac{1}{n^p} \text{ , respectively.}$$

- There will be no questions that ask specifically about conditional versus absolute convergence.
- If asked to find an interval of convergence, you will not need to investigate convergence at the endpoints.
- There will be no questions that require the specific use of a calculator program (such as Allsums or Slopefield).