Calculus 2  
Spring 2019

Course no.  2314.020  
Instructor  Trey Smith  
Time  MWF 1:00  
Location  MCS 112  
Office  MCS 219A  
Office Hours  MTWRF: 10:00-11:00, 2:00-3:00  
Others by Appointment  
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Grading  This is a Standards Based Course; you will need to demonstrate mastery of twelve different standards in order to be successful. You will do this by taking twelve quizzes – one for each standard. These quizzes will be given on the Fridays designated in the schedule below. You will receive credit for a 70% or above on each quiz. If you make less than 70%, you will receive no credit. Your final grade will be computed using the averages of those twelve quizzes subject to the final exam which will be discussed below. There is a worksheet included at the end of this syllabus to help you keep up with your quiz grades. You are encouraged to print this and keep it in your notebook.

The final exam will affect your grade in the following way: if you score less than 60% on the final, your quiz average will be reduced by a letter grade. If you score a 90% or above on the final, your grade will improve by a letter grade.

Homework  You will be assigned homework every class period. The next class, the homework will generally be collected. Your homework average will be used as bonus points (up to 10) for your final exam.

Attendance  Regular class attendance is expected. There will be no make-up for missed homework, so a missed day may result in a zero.

Calculators  Calculators will generally not be allowed during exams.

Course Outline  The following is a tentative outline of the material to be covered. I reserve the right to change the material and/or sequence.

Topics by Week

1) Review of Calculus 1  
2) The definite integral and the Fundamental Theorem of Calculus  
3) The Substitution Rule  
4) Trigonometric Integrals
General University Policies

Student Disability Services
ASU is committed to the principle that no qualified individual with a disability shall, on
the basis of disability, be excluded from participation in or be denied the benefits of the
services, programs or activities of the university, or be subjected to discrimination by the
university, as provided by the Americans with Disabilities Act of 1990 (ADA), the
Americans with Disabilities Act Amendments of 2008 (ADAAA), and subsequent
legislation.
The Office of Student Affairs is the designated campus department charged with the
responsibility of reviewing and authorizing requests for reasonable accommodations
based on a disability, and it is the student’s responsibility to initiate such a request by
contacting:

Dallas Swafford
Director of Student Disability Services
Office of Student Affairs
325-942-2047
dallas.swafford@angelo.edu

Title IX
Angelo State University is committed to the safety and security of all students. If you or
someone you know experience sexual harassment, sexual assault, domestic or dating
violence, stalking, or discrimination, you may contact ASU’s Title IX Coordinator:

Michelle Boone
Director of Title IX Compliance
325-486-6357
michelle.boone@angelo.edu

Student Absence for Observance of Religious Holy Days: A student who intends to
observe a religious holy day should make that intention known in writing to the instructor
prior to the absence. (http://www.angelo.edu/opmanual/ -- OP 10.19)
**Incomplete Grade Policy:** It is policy that incomplete grades be reserved for student illness or personal misfortune. Please contact faculty if you have serious illness or a personal misfortune that would keep you from completing course work. Documentation may be required. See ASU Operating Policy 10.11 [Grading Procedures](#) for more information.

**Student Conduct Policies**

**Academic Integrity**
Students are expected to maintain complete honesty and integrity in all work. Any student found guilty of any form of dishonesty in academic work is subject of disciplinary action and possible expulsion from ASU. The College of Science and Engineering adheres to the Statement of [Academic Integrity](#).

**Plagiarism**
Plagiarism is a serious topic covered in ASU’s [Academic Integrity policy](#) in the Student Handbook. Plagiarism is the action or practice of taking someone else’s work, idea, etc., and passing it off as one’s own. Plagiarism is literary theft. In your discussions and/or your papers, it is unacceptable to copy word-for-word without quotation marks and the source of the quotation. It is expected that you will summarize or paraphrase ideas giving appropriate credit to the source both in the body of your paper and the reference list. Papers are subject to be evaluated for originality via Turnitin. Resources to help you understand this policy better are available at the [ASU Writing Center](#).

**Copyright Policy**
Students officially enrolled in this course should make only one printed copy of the given articles and/or chapters. You are expressly prohibited from distributing or reproducing any portion of course readings in printed or electronic form without written permission from the copyright holders or publishers. General Policies Related to this Course: All students are required to follow the policies and procedures presented in these documents: [Angelo State University Student Handbook](#) [Angelo State University Catalog](#).

**Student Learning Outcomes**

1. **The students will demonstrate factual knowledge including the mathematical notation and terminology used in this course.** Students will read, interpret, and use the vocabulary, symbolism, and basic definitions used in Calculus II as they pertain to integrals, parametric equations, and polar coordinates.

2. **The students will describe the fundamental principles including the laws and theorems arising from the concepts covered in this course.** Students will
identify and apply the laws and formulas that result directly from the definitions; for example, integral formulas and integration techniques, and applying calculus operations to parametric and polar equations.

3. **The students will apply course material along with techniques and procedures covered in this course to solve problems.** Students will use the facts, formulas, and techniques learned in this course to calculate areas, volumes, and surface areas; to find lengths of curves; to analyze problems in physics.

4. **The students will develop specific skills, competencies, and thought processes sufficient to support further study or work in this field or related fields.** Students will acquire a level of proficiency in the fundamental concepts and applications necessary for further study in academic areas requiring Calculus II as a prerequisite, or for work in occupational fields requiring a background in Calculus II. These fields might include computer science, engineering, the physical and natural sciences as well as mathematics.

**Textbook:** *Essential Calculus: Early Transcendentals, 2nd ed.* by James Stewart. The following chapters are covered. (See textbook "Contents")

5. **Integrals.** Areas, the definition of the definite integral, the Fundamental Theorem of Calculus, properties of the definite integral, indefinite integrals, substitution.

6. **Techniques of Integration.** Integration by parts, trigonometric integrals, trigonometric substitution, completing the square, integration by partial fractions, improper integrals.

7. **Applications of Integration.** Areas, volumes, arc length, applications to physics and engineering.

8. **Parametric Equations; Polar Equations.** Parametric equations: definition, tangents and areas, arc length and surface area; polar equations: definition, areas, and length, conic sections.
Standards Quiz Worksheet

Procedure: You will be expected to take two quizzes on each of the six designated Quiz Days. If you do not pass a particular quiz, you may attempt it again on another Quiz Day or come by my office and set up a time to take it. There is currently no limit on the number of times you may take a quiz, but if a quiz is taken outside of my class, it will be during my office hours or at another time convenient for me. Also, if you take a quiz in order to improve your grade, you will receive the result of the new quiz regardless of whether the score is lower or higher.

In order to take a particular quiz, you must sign up for it on the Wednesday immediately preceding a Quiz Day. I will pass around a sign-up sheet. If you are absent on that Wednesday, you must come by my office and sign up. The designated Quiz Days are:

January 25th
February 8th
February 22nd
March 8th
April 5th
April 26th

The last possible day to take a quiz is Friday, April 26th.

Standards:

1) ________ Review Material
2) ________ Definite Integrals and the FTC
3) ________ The Substitution Rule
4) ________ Trigonometric Integrals
5) ________ Integration by Parts
6) ________ Trigonometric Substitutions
7) ________ Partial Fraction Decompositions
8) ________ Integration Techniques (Matching)
9) ________ Areas and Volumes
10) ________ Applications
11) ________ Parametric Equations
12) ________ Polar