

Course Syllabus
Math 2644-01: Calculus II
Spring Semester, 2020
University of West Georgia

Instructor: Dr. David G. Robinson, Hum #221, 678-839-4137

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Office Hours: *MW* 12:30 – 1:30, *F* 10 – 10:50, 12 – 12:50, 3:30 – 4:20

Class Meetings: *MW* 2 – 3:15 p.m., *F* 2:25 – 3:15 p.m., Boyd #306

These will consist of a combination of lectures, question-and-answer sessions, and general discussions. All reading will be assigned in advance of the meeting thereon

Text/Resources:

- Stewart, James, Calculus: Early Transcendentals or Single Variable Calculus: Early Transcendentals (Vol. 2), 7th ed., Thompson Brooks/Cole, Belmont, CA, 2012, Chs. 6 – 8, 10 - 11. [required]
- Graphics calculator (**TI-83** or better) [required]
- *Student Solutions Manual and Study Guide* for the above text [optional]

Prerequisites: Math 1634 or the equivalent, with a grade of ‘C’ or better.

Topics:

Applications of Integration (Chapters 6 & 8; 4 weeks): Area between two curves, volume by the disk and shell methods, work, average values, arc length, surface area, moments and centroids, probability.

Techniques of Integration (Chapter 7; 3 weeks): Integration by parts, trig. integrals, trig. substitutions, method of partial fractions, integral tables, improper integrals.

Parametric and Polar Equations (Chapter 10; 2 weeks): Parametric equations of conics, cycloids, Lissajous figures, etc.; slope, arc length and area for parametric curves, polar coordinates, polar equations of cardioids, rose curves, lemniscates, conics, etc.; arc length and area for polar curves.

Sequences and Series (Chapter 11; 5 weeks): Sequences, limits, convergent and divergent sequences, series, convergent and divergent series, geometric series, p-series, tests for convergence (integral, comparison, ratio, root and alternating series tests), absolute vs. conditional convergence, power series, radius and interval of convergence, Taylor’s Theorem, series representations of elementary functions, operations on power series, DeMoivre’s and Euler’s formulas.

Objectives: Besides developing and deepening your understanding of the topics mentioned above, there are some general skills you should master along the way in order to be able to apply what you learn in this course to future courses of study and future work situations. These include:

- use of appropriate mathematical terminology and notation
- effective use of tables, graphs and formulas
- ability to distinguish between ad hoc evidence and mathematical proof
- computation of integrals
- recognition of integration as a summing up of infinitesimal parts
- facility in changing variables and/or coordinate systems
- recognition of basic types of sequences and series and their behaviors
- representation of basic elementary functions by their power series
- translation of practical problems into mathematical models

Evaluation

Procedures: Your understanding of the material and your progress toward the aforementioned objectives will be evaluated on the basis of your performances on *four written tests*. See the attached schedule for test dates.

Homework exercises from the text or from class will be assigned regularly but not collected or graded. These are for practice and class discussion. Be prepared to discuss them as soon as possible after they are assigned.

Evaluation

Criteria:

Grades on all work will be based upon

- accuracy of information (including calculations and use of mathematical symbols and terminology)
- depth and breadth of solutions (when applicable)
- logic and clarity of arguments (when applicable)
- neatness and clarity of presentation
- correctness of grammar and spelling
- thoroughness and timeliness of work
- intellectual honesty and creativity
- achievement of personal potential
- difficulty of the assignment/test

Grades: My scale for converting numerical grades (i.e., percentage points) to letter grades will be as follows:
89-100 A, 77-88 B, 65-76 C, 50-64 D, below 50 F

Your final grade will be based on your *four test scores*. However, you may also earn up to *four* points of 'extra credit' by maintaining a *superior record of attendance*, i.e., *one point per period of zero absences from class meetings between successive tests*. [Note: An absence here means a class day in which you are not present (in body or mind!) for the duration of the class meeting, *regardless of the reason*.]

Important Policies and Reminders:

- Attendance is important! However, should you find for some reason that you must miss a class meeting, remember that you are still responsible for any and all material you may have missed during your absence.
- Cell phones should be turned *off* during class meetings. If you need to make or receive a call/text, please excuse yourself from the class and take care of your business outside the classroom.
- *All work submitted for a grade must be your own work and must be turned in on time to be graded.*
- *Tests must be taken at the prescribed times (see attached schedule), except by prior permission from the instructor, which will only be given under the direst of circumstances (serious illness, e.g.). In order for you to obtain such permission, I must be notified of your "dire circumstances", by e-mail, phone, or otherwise, before the test is over. Otherwise you will almost certainly receive a score of zero for that test.*
- *The Math Tutoring Center is in Boyd #205 and is open daily at the posted times.*
- *All electronic correspondence between student and instructor about matters pertaining to this course should be by way of your UWG e-mail account.*
- I assume you will abide by the *SUWG Honor Code*. So will I! Anyone caught cheating - which means *representing someone else's work as your own* - will receive a grade of zero for that assignment/test.
- Please carefully read the information at the following link, as it contains important material pertaining to your rights and responsibilities in this class: <https://www.westga.edu/UWGSyllabusPolicies/>

Disabilities Act/Accessibility for the Course: If you are a student who is disabled as defined under the Americans with Disabilities Act and require assistance or support services, please notify me and provide me with a copy of your packet from Student Services. The university will provide you with resources for any audio/visual needs that you may have with the learning management system or course content. Please contact UWG Accessibility Services for more information.