Applied Calculus (4 credits), Spring 2020

67-206	Sec. 001: M TWF 8:00-9:00 Swart Hall 326 Sec. 002: M TWF 9:10-10:10 Swart Hall 326
Instructor:	Dr. Kandasamy Muthuvel
Office:	Swart 243
Phone:	0301
E-mail:	muthuvel@uwosh.edu
Office Hours:	MTWF: 10:20-11:20, MTWF: 12:40-1:10 (Other times by appointment)
Text:	*Applied Calculus* 5th ed., by Hughes-Hallett, Gleason, Lock, Flath, et al.
Calculator:	TI-84 Graphic Calculator (If you already have a TI-83, TI-83 Plus, TI-85, or TI-86, you do not need to buy a TI-83 Plus.) Calculators with symbolic capabilities (such as TI-89 and TI-92) will not be allowed on exams and quizzes.
Course Coverage:	We will cover chapters 1-6, with some omissions and additions.
Prerequisite:	Math 104, Math 108 or Math 204 with a grade of C or better, or placement.

Learning objectives:

Upon successful completion of the course, students are expected to have the ability to:

- Solve problems involving compound interest, present and future values of annuity, including Sinking Funds and Amortization
- Understand the definition and fundamental idea of the derivative
- Find the derivative from information presented in graphical form, tabular form, and algebraic form
- Interpret derivatives as an instantaneous rate of change, using everyday language
- Calculate and understand the interpretation of the second derivative
- Use the shortcut formulas for derivatives of standard elementary functions
- Calculate more complicated derivatives using the Chain Rule, the Product Rule, and the Quotient Rule
- Use derivatives for linear approximations
- Identify and classify Critical Points of a function
- Find global extrema of a function
- Know several applications of derivatives, including marginal analyses in economics
- Understand the definition and fundamental idea of the definite integral
- Find areas under curves using the definite integral
- Know the Fundamental Theorem of Calculus and how to use it to calculate definite integrals
- Find anti-derivatives for standard elementary functions
- Model real world problems using definite integrals, including those involving present and future values and producer and consumer surplus

Information on USP (University Studies Program):

The **University Studies Program (USP)** provides students with an assessable, common intellectual experience that also embraces the traditional breadth of a liberal arts education. Liberal Education is an approach to learning that empowers individuals and prepares them to deal with complexity, diversity, and change. It provides students with broad knowledge of the wider world (e.g. science, culture, and society) as well as in-depth study in a specific area of interest. A liberal education helps students develop a sense of social responsibility, as well as strong and transferable intellectual and practical skills such as communication, analytical and problem-solving skills, and a demonstrated ability to apply knowledge and skills in real-world settings.

Math 206 is part of the USP, specifically, in the Nature category of the Explore component of the program. The ability to analyze, break down and solve a mathematical problem and then to apply the knowledge and skills thus gained is an essential part of what the USP and in turn a Liberal Arts Education aim to achieve. Math 206 includes numerous real life applications of the mathematical topics covered and some of the exams and quizzes will include application problems

Exams: There will be two one-hour exams and a final exam. Exam 1: March 4 (Testing Center), Exam 2: April 10(Testing Center), Final Exam May 13(Testing Center) Make up exams will be scheduled only for those with university approved absences.

Quizzes: There will be several in class quizzes.

Text Homework: Homework will be assigned each class from the text. Students are expected to come to class with assignment completed. Homework will not be collected. It is important that you keep up with the homework.

Grading: Exam 1: 24%, Exam 2: 24%, Final Exam: 28%, In class Quizzes 21%, Class Participation: 3%

[91, 100]A [89, 91)A^- [86, 89)B^+ [80, 86)B [78, 80)B^- [75, 78)C^+

[70, 75) C [65, 70)D^+ [61, 65)D [58, 61)D^- [0, 58)F

Drop Date: The last day to drop the course is March 18, 2020. Late withdrawals are approved only when there are extenuating circumstances.

Attendance: Regular attendance is required.

CAR: The Center for Academic Resources (CAR) provides free tutoring for students in most undergraduate classes on campus. CAR is located in the Student Success Center, Suite 102. Check the Tutoring List page on CAR's website (www.uwosh.edu/car) for a list of tutors.

USP Explore Course: Math 104 is an Explore course within the Nature category of UW Oshkosh's University Studies Program. Math 104 and other Explore courses contribute to an education in the Liberal Arts. These classes equip you with transferable skills, like problem solving, which may be utilized in professional life.

Academic Integrity: Examples of Academic Misconduct include, but are not limited to: Plagiarism; Copying another student's homework, assignment; Cheating on an exam; etc.Any form of academic misconduct will be dealt with in accordance with UW system policy UWS 14. Penalties that may be imposed include a failing grade for the course, disciplinary probation, and expulsion from the university.

http://www.uwosh.edu/deanofstudents/university-polices-procedures/academic-misconduct
Remark: If any substantive changes are made in the course syllabus, such as changes in schedule or assignments, notification will be provided in a timely manner and a revised syllabus made available. It is expected that the grading criteria, as distributed to the students, will be adhered to throughout the term.
For accommodations of persons of special needs, talk to me.
The following disclosure statement: "Students are advised to see the following URL for disclosures about essential consumer protection items required by the Students Right to Know Act of 1990: https://uwosh.edu/financialaid/consumer-information/."