

**Math 206    Applied Calculus for Business**  
**Spring 2020**

**Section 3    10:20 – 11:20    MTW F    Room: Swart 325**  
**Section 4    11:30 – 12:30    MTW F    Room: Swart 325**

**Instructor:** Dr. Steve Winters      **Phone:** 424 – 7344      **Office:** Swart 202  
**E-mail:** [winters@uwosh.edu](mailto:winters@uwosh.edu)

**Office Hours:**      9:10 – 10:10    MTW F  
                                 1:50 – 2:50    M W (by appointment)  
                                 and other times by appointment.

Talk to me after class, email or call to set up an appointment.

**Text:** *Applied Calculus* 5<sup>th</sup> edition, Hughes-Hallett, Gleason, Lock, Flath, et. al.

**Required Calculator:** The TI-83, TI-83+ or the TI-84+ is required.

**Prerequisites:** Math 104 or 108 or 204 with a grade of C or above or placement.

**Topics:** We will cover finance topics and chapters 1 – 6 with some omissions and additions.

**Exams:** There will be four exams given at the testing service. Exam dates will be listed in Canvas.

**Group Work:** We will be solving problems by working in small groups each class period. Some of this work will be turned in for grading and some will be presented in class by your group. Class participation is expected.

**Grades:** Your course grade will be based on 425 total points:

Exams	400
Group Work & Class Participation	25

391 – 425	A	378 – 390	A-	366 – 377	B+
353 – 365	B	340 – 352	B-	327 – 339	C+
289 – 326	C	276 – 288	D+	264 – 275	D
251 – 263	D-	0 – 250	F		

**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 will include application problems.

**Tutoring Resources:** Tutoring is available free-of-charge through the Center for Academic Resources (CAR).

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

- Understand the definition of simple and compound interest
- Set up and solve financial applications involving annuities, 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
- Evaluate anti-derivatives using the method of substitution
- Model real world problems using definite integrals, including those involving present and future values and producer and consumer surplus