



Your University of Choice

COURSE SYLLABUS

Term: Spring 2016 (2015-2)

MATH 230 A Calculus I

Instructor Information:	
Instructor Name	Carrie Hutton
Office Number:	302
Phone Number:	219-473-4284
Email:	chutton@ccsj.edu
Other Contact :	
Hours Available:	Monday, Tuesday, Wednesday, Thursday from 8:00 am – 9:00 am and from 12:00 pm – 1:30 pm; Monday, Wednesday from 3:00 pm – 4:00 pm *Please note that meetings and appointments can effect these hours. **Additional office hours by appointment.
Instructor Background: : B.S. Actuarial Science, Indiana University; M.S. Mathematics and Statistics, Purdue University; M.S.E. Engineering, Purdue University	

Course Information:	
Course Time:	Monday Tuesday Wednesday Thursday 9:00 am – 10:00 am
Classroom:	
Prerequisites:	MATH 104 with a grade of 'C' or better, or an equivalent Accuplacer score
Textbooks:	Stewart, J. <u>Calculus</u> ; Ed 8 Cengage ISBN: 9781285740621 **It is strongly recommended that you have a Texas Instrument 84 (TI-84) for this class.
Learning Outcomes/ Competencies: Through appropriate assessments students will demonstrate that they are able to:	

1. **Remember** the necessary steps and procedures for computing limits, rates of change, derivatives, integrals, and inverse functions
2. **Understand** what each computation means on a conceptual level. Students will also understand the historical context within which calculus was developed.
3. **Apply** their understanding of the concepts and use appropriate computations to solve problems in physics, economics, business, and biology.
4. **Analyze** problems in physics, economics, business, and biology to determine appropriate methods for solving them.
5. **Evaluate** proposed solutions with respect to commonly accepted practices used in physics, economics, business, and biology.
6. **Create** and demonstrate appropriate solutions to discovery projects applying calculus methods in their chosen field of study.

Course Description:

This course is the standard first-semester college Calculus course. Topics include limits, continuity, derivatives and their applications, integration and its applications. Students will study the antiderivative of elementary functions and the applications of the definite integral in geometry, science, and business.

Learning Strategies:

Group discussions, lecture, projects, and lots of practice. The objective is to promote your understanding of mathematics concepts and to enable you to apply them in a meaningful way. You are encouraged to rely on logical thinking, rather than on memorization. It is VERY important that you READ the sections of the textbook, STUDY the examples and WORK problems. **Active participation in class** and utilization of services such as the CCSJ Student Success Center will help ensure your success.

It is also suggested that you utilize Khan Academy for additional help on homework outside of the classroom.

Experiential Learning Opportunities

Derivatives (Building a better roller coaster; where should a pilot start descent?); Theoretical work will be done in the calculus course.

Applications of Integration (The Gini index; Calculus and baseball); Theoretical work will be done in the calculus course.

Assessments:		
Exams:	Three chapter exams (1-3, 4-5, 6-7)	40% of grade
Cumulative Final Exam:	Chapter 1 – Chapter 8	25% of grade
Textbook Homework:	Assigned Weekly per schedule	25% of grade
Experiential Learning Projects	Assigned per schedule	10% of grade

Grading Scale:

Grade	Points
A	100-90
A-	91-90
B+	89-88
B	87-82
B-	81-80
C+	79-78
C	77-72
C-	71-70
D+	69-68
D	67-62
D-	61-60
F	59 and below

Policies and Procedures	
Class Policy on Attendance:	<i>Eighty percent of success is showing up.</i> -Woody Allen Attendance is important and is expected. You are responsible for all material covered in class, including announcements of assignments and quizzes. If you miss class, you must contact the instructor by email (chutton@ccsj.edu) within 24 hours. The instructor is more than willing to meet you halfway on this, but remember that there are

	TWO halves. You are allowed to miss 4 classes, without penalty. After that, every class that you are absent from will result in a one (1) percentage point loss from your final grade. You should 'save' your four absences for emergencies. If you are more than 10 minutes late to class, that will count as an absence. BE PRESENT, BE ON TIME.
Class Policy on Electronic Devices	Electronic devices are out of place in the classroom. Please keep them silent and put away during class. Additionally, NO ELECTRONIC DEVICES OF ANY KIND ARE TO BE USED ON QUIZZES OR EXAMS.
Class Participation:	<p>Tests and Quizzes:</p> <ul style="list-style-type: none"> • Three <u>chapter tests</u> will be given during the term and <u>one comprehensive final exam</u> during exam week. • You will be allowed to use one piece of paper (8 ½ x 11), one side only, of notes on your chapter tests. • You will be allowed to use one piece of paper (8 ½ x 11), both sides, of notes on your final exam. • You will be allowed to use a calculator on all exams (you really, REALLY, REALLY should have a graphing calculator). • You will NOT be allowed to use any electronic devices on an exam (i.e. phone, tablet, etc.). • Thoughtful completion of your homework should be done to practice and prepare for your exams. <p>Written homework assignments:</p> <ul style="list-style-type: none"> • Homework is critical to your success in this course. The written homework is meant to serve as practice for the exams. • Your written homework should be neat and organized. Problems should be copied from the book and all necessary work should be shown. Answers without work will not be given credit. • It is expected that you will spend 6-10 hours outside of class each week practicing math. You must practice to succeed. • NO LATE HOMEWORK will be accepted, for any reason, period. You are welcome to turn it in early, but never late.
Statement of Plagiarism:	If an instructor or other Calumet College of St. Joseph personnel find that a student has plagiarized or been involved in another form of academic dishonesty, the instructor or other personnel may elect to bring the matter up for judicial review. The maximum penalty for any form of academic dishonesty is dismissal from the College. The procedures for judicial review are listed under the section of CCSJ handbook that addresses student grievances.

	<p>PLEASE NOTE: All papers can and may be submitted for checks on plagiarism from the Internet/Electronic sources/Databases.</p>
<p>Citation Guidelines:</p>	<p>Calumet College of St. Joseph uses citation guidelines, generally MLA or APA format, to document sources quoted or paraphrased in student papers. Check the syllabus for <u>each</u> course to see what <u>each</u> instructor requires. The Library has reference copies of each manual; the Follett has copies for sale when required by the instructor. In addition, there are brief MLA and APA checklists in your spiral “Student Handbook and Planner” and on the Library website and literature rack. These texts show how to cite references from many sources, including electronic media, as well as how to space and indent the “Works Cited” and “References” pages respectively. EBSCO and ProQuest articles provide both formats for you to copy and paste. Proper documentation avoids plagiarism.</p>
<p>Withdrawal from Classes Policy:</p>	<p>After the last day established for class changes has passed (see College calendar), students may withdraw from a course in which they are registered and wish to discontinue. A written request detailing the reason(s) for the withdrawal must be completed with the Office of Academic Advising and filed with the Registrar. The Office of Academic Advising must receive written request for withdrawal by the last day of classes prior to the final examination dates specified in the catalogue. Written requests should be submitted in person or, when an in-person visit is not possible, may be mailed to the Office of Academic Advising, emailed, or faxed to 219-473-4336. Students are to make note of the refund schedule when withdrawing from courses. If the request requires instructor approval per the College calendar, it must be forwarded to the faculty member, who makes the final determination to accept or deny the request.</p> <p>If the request is honored by the faculty member, the student will receive notification of official withdrawal from the Registrar after meeting or speaking with a member from Academic Advising, Financial Aid and Athletics (if applicable). These departments will notify the student of academic, financial, and athletic eligibility effects of a possible withdrawal.</p> <p>If the request is denied by the faculty member, the notification will indicate why the withdrawal is disallowed. Please note that if the request does not require instructor approval, the student must still meet or speak with a member from Academic Advising, Financial Aid and Athletics (if applicable) before the withdrawal will be processed.</p>

	<p>An official withdrawal is recorded as a "W" grade on the student's transcript. Discontinuing a course without a written request for withdrawal automatically incurs an "FW" grade for the course (see Refund Schedule). Failure to Withdraw (FW) is indicated when the student does not complete withdrawal paperwork with the Office of Academic Advising nor does the student notify the instructor of their intent to withdraw due to an illness, accident, grievous personal loss, or other circumstances beyond the student's control. <u>This grade is submitted by the instructor at the end of term.</u></p>
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Resources	
<p>Student Success Center:</p>	<p>The Student Success Center supports Calumet College of St. Joseph students through an interactive learning experience. Students work with faculty tutors to develop course competencies and study skills such as time management, test preparation, and note taking. In addition, students are provided with tutoring support to help pass courses, to improve grade point average, and to promote continuing education and career advancement. Tutors have a specific charge: to help students learn how to master specific subject matter and to develop effective learning skills. The Student Success Center is open to all students at Calumet College of St. Joseph at no charge and is available to support academic courses at the introductory and advanced levels. For assistance, please contact the Student Success Center at 219 473-4287 or stop by the Library.</p>
<p>Disability Services:</p>	<p>Disability Services strives to meet the needs of all students by providing academic services in accordance with Americans Disability Act (ADA) guidelines. Students must meet with the Coordinator of Disability Services to complete an intake form in order to request an accommodation and/or an auxiliary aid (e.g., <i>additional time for tests, note taking assistance, special testing arrangements, etc.</i>). It is the student's responsibility to contact the Academic Support Programs Office to request an accommodation at least <u>one month prior to enrollment</u> for each academic term. Students who are requesting an accommodation and/or an auxiliary aid must submit documentation from a professional health care provider to verify eligibility under Section 504 of the Rehabilitation Act of 1973 and/or the Americans with Disabilities Act of 1990. The cost of obtaining the professional verification is the responsibility of the student.</p> <p>If a student believes that he or she needs a "reasonable accommodation" of some kind because of a physical, psychological, or mental condition, he or she should contact Disabilities Services. The Coordinator will secure documentation pertinent to the disability and work with faculty</p>

	<p>and staff, if necessary, to address the matter. All questions and inquiries pertaining to disability services should be directed to the Disability Services Coordinator at 219-473-4349.</p>
<p>CCSJ Alert:</p>	<p>Calumet College of St. Joseph utilizes an emergency communications system that transmits messages via text, email, and voice platforms. In the event of an emergency, of weather related closings, or of other incidents, those students who are registered for the system shall receive incident specific message(s) notifying them of the situation. Please sign-up for this important service at any time on the College’s website. Alternatively, you can register at the time you register for classes. This service requires each user to register once per academic year. Therefore, at the beginning of each academic year, please remember to re-register for the system. This can be done at: http://www.ccsj.edu/alerts/index.html.</p> <p style="text-align: center;"><u>School Closing Information:</u></p> <p><u>Internet:</u> http://www.ccsj.edu</p> <p style="text-align: center;">http://www.EmergencyClosings.com Facility: Calumet College of St. Joseph Phone: 219.473.4770</p> <p><u>Radio:</u></p> <p style="text-align: center;">WAKE – 1500 AM WGN - 720 AM WIJE – 105.5 FM WLS – 890 AM WZVN – 107.1 FM WBBM NEWS RADIO 78</p> <p><u>TV Channels:</u></p> <p style="text-align: center;">2, 5, 7, 9, 32</p>

I reserve the right to change this schedule to meet the needs of the class

DATE	TOPIC	HOMEWORK ASSIGNMENT(S)	DUE DATE(S)
1-11-16	Introduction to class 1.1 Four ways to represent a function	Textbook (TB): p.96 #1-38 all; #45-50 all	Tuesday, January 26, 2016
1-12-16	1.2 Mathematical models: A catalog of essential functions 1.3 New functions from old functions		
1-13-16	1.4 The tangent and velocity problems		
1-14-16	1.5 The limit of a function		
1-18-16	No class in observance of MLK Jr. Day		
1-19-16	1.5 The limit of a function 1.6 Calculating limits using the limit laws		
1-20-16	1.6 Calculating limits using the limit laws 1.8 Continuity		
1-21-16	Recitation – bring homework questions		
1-25-16	2.1 Derivatives and Rates of Change	TB: p.196 #1-44 all, 48, 50, 59, 73, 74, 76, 77, 78, 80, 81	Tuesday, February 16, 2016

		Applied Project: Building a Better Roller Coaster (p.144) OR Where should a Pilot Start Descent (p.161)?	Tuesday, February 16, 2016
1-26-16	2.1 Derivatives and Rates of Change 2.2 The Derivative as a Function		
1-27-16	2.2 The Derivative as a Function 2.3 Differentiation Formulas		
1-28-16	2.3 Differentiation Formulas 2.4 Derivatives of Trigonometric Functions		
2-1-16	2.5 The Chain Rule		
2-2-16	2.6 Implicit Differentiation		
2-3-16	2.7 Rates of Change in the Natural and Social Sciences		
2-4-16	2.8 Related Rates		
2-8-16	Recitation – bring homework questions		
2-9-16	3.1 Maximum and Minimum Values	TB: p.286 #1-26, 33, 35, 46, 48, 53, 54, 59, 60	Tuesday, March 8, 2016

2-10-16	3.2 The Mean Value Theorem 3.3 How Derivatives Affect the Shape of a Graph		
2-11-16	3.3 How Derivatives Affect the Shape of a Graph		
2-15-16	3.4 Limits at Infinity; Horizontal Asymptotes		
2-16-16	3.5 Summary of Curve Sketching		
2-17-16	No Class – Professional Development absence		
2-18-16	No Class – Professional Development absence		
2-22-16	3.5 Summary of Curve Sketching 3.6 Graphing with Calculus and Calculators		
2-23-16	3.7 Optimization Problems		
2-24-16	3.9 Antiderivatives		
2-25-16	Recitation – bring homework problems		
2-29-16	No class – spring break		

3-1-16	No class – spring break		
3-2-16	No class – spring break		
3-3-16	No class – spring break		
3-7-16	Exam I (CH1 – CH3) Derivatives and their Applications		
3-8-16	4.1 Areas and Distances	TB: p.349 #1-24, 35-40, 46, 47, 48	Tuesday, March 22, 2016
3-9-16	4.2 The Definite Integral		
3-10-16	4.2 The Definite Integral 4.3 The Fundamental Theorem of Calculus		
3-14-16	4.3 The Fundamental Theorem of Calculus		
3-15-16	4.4 Indefinite Integrals and the Net Change Theorem		
3-16-16	4.5 The Substitution Rule		
3-17-16	Recitation – bring homework problems		
3-21-16	5.1 Areas Between Curves	TB: p.393 #1-15, 27, 28 Applied Project: The Gini Index (p.364) OR Calculus and Baseball (p.392)	Tuesday, March 29, 2016 Tuesday, April 5, 2016

3-22-16	5.2 Volumes		
3-23-16	5.2 Volumes 5.3 Volumes by Cylindrical Shells		
3-24-16	5.4 Work 5.5 Average Value of a Function		
3-28-16	Recitation – bring homework problems		
3-29-16	Exam II (CH4 – CH5) Integrals and their Applications		
3-30-16	6.1 Inverse Functions 6.2 Exponential Functions and their Derivatives	TB: p.505 #1-4, 11- 40 (exclude #37), 63 – 76, 92-100	Tuesday, April 12, 2016
3-31-16	6.3 Logarithmic Functions 6.4 Derivatives of Logarithmic Functions		
4-4-16	6.5 Exponential Growth and Decay 6.6 Inverse Trigonometric Functions		
4-5-16	6.8 Indeterminate Forms and l’Hospital’s Rule		
4-6-16	Recitation – bring homework problems		

4-7-16	7.1 Integration by Parts 7.2 Trigonometric Integrals	TB: p.577 #1 – 27 (exclude #17)	Thursday, April 21, 2016
4-11-16	7.3 Trigonometric Substitution 7.4 Integration of Rational Functions by Partial Fractions		
4-12-16	7.4 Integration of Rational Functions by Partial Fractions 7.5 Strategy for Integration		
4-13-16	7.5 Strategy for Integration		
4-14-16	7.7 Approximate Integration		
4-18-16	7.8 Improper Integrals		
4-19-16	Recitation – bring homework problems		
4-20-16	Exam III (CH6 – CH7) Inverse Functions and Techniques of Integration		
4-21-16	Review for Final Exam		
Week of 4-25-16	Final Exam week – we will follow the CCSJ final exam schedule – to be		Congratulations! You have finished the semester!

	released at a later date		
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