Johnson County Community College

Course Syllabus
Mathematics Division
Math 241: Calculus I
Section 450 (Self-Paced)
Spring 2023 (CRN 11429)

Instructor Information

Primary Instructor:	Prof. Phil Veer
Campus Phone:	913-469-8500, ext. 4700
Campus Office:	CLB 233
Campus E-mail:	pveer@jccc.edu
Web Site:	http://www.jccc.edu/academics/math-science/mathematics/self-paced.html
Division Office:	CLB 243 (our mailboxes are here)
Division FAX:	913-469-2537 (delivery to our mailboxes is not instantaneous)
Office Hours	**ATTENTION: Times other than posted office hours are available by appointment.** Monday/Wednesday 10 a.m. – 11:30 a.m. Tuesday/Thursday 1:00 p.m. – 2:00 p.m.
Other instructors:	Prof. Melissa Weston-Puett, mweston5@jccc.edu Prof. Stacey McMillen, smcmill9@jccc.edu

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Course Information

Credit Hours:	5
Prerequisite:	A grade of C or higher in either Math 171 (College Algebra) and Math 172 (Trigonometry), or Math 173 (Precalculus), or an appropriate score on a placement test.
Textbook:	Thomas' Calculus: Early Transcendentals, 14th ed. by Hass, Heil, and Weir, (pub. Pearson, 2018). A license for MyMathLab is required while the textbook is optional.
Supplies:	A graphing calculator is required. Recommended calculators include the Texas Instruments TI-83+ or TI-84+. **Forbidden calculators** include those with computer algebra systems (e.g. TI-89, TI-92), computers, and cell phones. You will also need a computer for HW and possibly a webcam for testing.
Kansas Regents Shared Number Courses Syllabus Statement	KRSN Course Mat 2010 The learning outcomes and competencies detailed in this course outline or syllabus meet or exceed the learning outcomes and competencies specified by the Kansas Core Outcomes Groups project for this course as approved by the Kansas Board of Regents.

Description:
This is the first of a three-semester sequence on calculus designed for engineering, physics and math majors. Rates of change and areas will be studied. To accomplish this, the students will study and apply limits and continuity. Differentiation and integration of algebraic, trigonometric and transcendental functions will also be a major focus of this course.

Course Objectives:
After completing this course, the student should be able to:

1. Evaluate the limits of functions.
2. State whether a function is continuous or discontinuous based on both the graph and the definition of continuity.
3. Use limits to describe instantaneous rate of change, the slope of the tangent line and the velocity and acceleration of a moving particle.
4. Differentiate algebraic, trigonometric and transcendental functions explicitly and, where appropriate, implicitly.
5. Use derivatives for curve sketching.
6. Use and interpret the derivatives of functions to solve problems from a variety of fields, including physics and geometry.
7. Integrate algebraic, trigonometric, and transcendental functions.
8. Compute definite integrals.
9. Integrate using numerical techniques and substitution.
10. Use integration results to calculate areas and mean values.

Content Outline and Competencies: http://catalog.jccc.edu/coursedescriptions/math/#MATH_241

Important Dates

January 10, 2023:	Last day to pay without being dropped. (After this date, you must enroll and pay on the same day)
2 weeks from enrollment waiver date:	Last day to drop with 100% refund.
6 weeks from enrollment waiver date:	Last day to drop with no refund and with no grade on transcript.
May 12, 2023:	Last day to complete course without an incomplete. (Caution: Incompletes can affect financial aid.)
6 months from enrollment waiver date:	Last day to drop with a withdrawal **"W"** on transcript or request a Pass/Fail grade option.
9 months from enrollment waiver date:	Length of time to complete a self-paced math course. (Extensions require extenuating circumstances.)

Caveats

To successfully complete the pre-requisite(s) for this course, a student must earn at least a "C" or better in the pre-requisite course(s) or earn an appropriate score on a placement exam. If a student is found not to have successfully fulfilled the prerequisite(s) for this course, the student will not be allowed to enroll in a self-paced course.

All JCCC Math students are expected to follow the Student Code of Conduct http://www.jccc.edu/about/leadership-governance/policies/students/student-code-of-conduct/student-code-conduct.html, as well as the Student Handbook - http://www.jccc.edu/student-resources/student-handbook.html and the Mathematics Division Policies. Grade penalties may be assessed for incidents of academic dishonesty. Further action may be taken based on the severity of the incident.

Attendance

There is no attendance in a self-paced course. Students will be required to set up a reasonable testing schedule with the instructor. Students are encouraged not to procrastinate and begin the course immediately. Students taking a class self-paced usually find that this format takes more time than taking the class in a face-to-face classroom. With this in mind, be sure to schedule plenty of time to study and don't underestimate the time it may take you to finish this course.

Course Requirements

Thirty homework assignments are required to be done in MyMathLab. All homework problems can be taken an unlimited number of times. Homework from the textbook is optional but it is important to note that the homework in MyMathLab may not be enough to master the material. Practice is important. To get started, you need to point your browser to http://pearsonmylabandmastering.com/ Click on the "register" button under Students. Here you will put in your access code and your course id. **The Course ID for MYMATHLAB is veer90134 and the Course Name is Self-Paced Math 241 – Spring 2023.** Don't forget to write down your login name and password so you will be able to continue to log in as you proceed through the course.

Five unit exams and a comprehensive final exam are required.

Most calculators are allowed on exams. Cell phones, Smart Watches, computer algebra systems, TI-92s, TI-89s, books, and notes are **not** allowed. All formulas should be memorized.

Show your work on your unit and final exams. Incorrect answers cannot receive partial credit without your accompanying work. Some questions may request a specific process, and no partial credit will be awarded without that particular process.

Unit and final exams are taken at JCCC. All exams are required to be taken in an approved college or university testing center. If you live in the KC area, your test will be taken at the JCCC Testing Center (SC 334). When testing, be sure to bring a photo ID and JCCC ID number. Typically, only one exam is available at any time. If you are outside of the KC area, you will need to find a college or university testing center to proctor all of your exams and it will need to be approved by your instructor.

All exams taken at JCCC must be scheduled in advance. Students can sign up to test at the testing center using the link entitled "Schedule Course Exam" on this webpage. https://www.jccc.edu/student-resources/testing-centers/testing/. The testing center is normally open for testing Monday through Thursday 8 a.m. to 6 p.m. and Friday 8 a.m. to 5 p.m. These hours are subject to change during dates that occur between semesters.

Your grade is typically posted online within two school days and is followed up with an email of your results. Weekends and holidays will have a longer response time.

The unit exams may be retaken, but not the final exam. You may take unit exams two times each (original and one retake). When an exam is taken more than once, the highest score for that exam is recorded. All retakes and homework must be completed before the final exam. **The final exam is the last requirement for the class and may be taken only once. Taking the final exam, ends the course.**

Evaluation: Your course grade will be determined by your exam scores, as follows:

TYPE OF WORK	Number	Points each	Total points
Homework	30		100
Unit Exams	5	100	500
Final Exam	1	150	150
TOTAL			**750**

Grade	Percentage
A	90% - 100%
B	80% - 89%
C	70% - 79%
D	60% - 69%
F	0% - 59%

All correspondence in this course should be completed using Canvas or the JCCC student email.

Motivation

The biggest hurdle in a self-paced math class is having the self-discipline to study on your own. Set goals for each chapter and try to stick to them. Set aside regular times each week to work on your math, and don't let them get bumped by other activities. Read the course note and textbook. Study the examples in each and work the homework problems in MyMathLab until you have mastered them. Seek help when you find the going difficult. If you feel the urge to put your work off for a week, beware! Procrastination can easily become a habit. Don't take this class self-paced simply out of convenience or because you can't get into another section of the course.

Assistance

- Your instructor can help you by email or Zoom meeting (necessary to view your previously taken tests).
- The Math Resource Center, or MRC, is located in LIB 104 and is available for extra assistance, including free tutoring, group help sessions, videotapes, solutions manuals, and computer software.

- Math Resource Center is also available for online tutoring.
  Please go to https://www.jccc.edu/student-resources/resource-centers-tutoring/math-resource-center/ for access to the Math Resource Center online services.

- Printed study guides available for this course include:
  - The Study and Solutions Guide, which contains solutions of the odd exercises. It can be purchased in the college bookstore.
  - The Complete Solutions Guide, which contains solutions of all of the exercises. It is available for use in the Math Resource Center.
- Electronic assistance available for this course includes:
  - The e-book along with a multitude of multi-media helps are available in MyMathLab. In addition, don't hesitate to click the "Ask your Instructor" link when you get stuck.
  - Unit Exam reviews and grades for all exams are available in Canvas. Point your browser to https://canvas.jccc.edu/ and log on using your JCCC email ID and password.
- Other assistance available includes:
  - JCCC provides a range of services to allow persons with disabilities to participate in educational programs and activities. If you are a student with a disability and if you are in need of accommodations or services, it is your responsibility to contact Access Services and make a formal request. To schedule an appointment with an Access Advisor or for additional information, you can contact Access Services at (913) 469-3521 or accessservices@jccc.edu. Access Services office is located in the Success Center on the second floor of the Student Center.

Campus Health and Safety Measures

Campus Health Guidelines for COVID-19:

JCCC Wellness Information: COVID-19 restrictions are no longer in effect as of August 2022. Check https://www.jccc.edu/media-resources/wellness-safety/ for updates to wellness and safety guidelines and procedures.

Campus Safety: Information regarding student safety can be found at http://www.jccc.edu/student-resources/police-safety/.
Classroom and campus safety are of paramount importance at Johnson County Community College and are the shared responsibility of the entire campus population. Please review the following:

- **Report Emergencies**: to Campus Police (available 24 hours a day)
    - In person at the Midwest Trust Center (MTC 115)
    - Call 913-469-2500 (direct line) – *Tip: program in your cell phone*
    - Phone app - download JCCC Guardian (the free campus safety app: www.jccc.edu/guardian)
        - instant panic button and texting capability to Campus Police
    - Anonymous reports to KOPS-Watch
        - https://secure.ethicspoint.com/domain/en/report_company.asp?clientid=25868
        - or 888-258-3230
- **Be Alert:**
    - You are an extra set of eyes and ears to help maintain campus safety
    - Trust your instincts
    - Report suspicious or unusual behavior/circumstances to Campus Police (see above)
- **Be Prepared:**
    - Identify the red/white stripe Building Emergency Response posters throughout campus and online that show egress routes, shelter, and equipment
    - View A.L.I.C.E. training (armed intruder response training - Alert, Lockdown, Inform, Counter and/or Evacuate) – Student training video: https://www.youtube.com/watch?v=kMcT4-nWSq0
    - Familiarize yourself with the College Emergency Response Plan
- **During an Emergency:** Notifications/Alerts (emergencies and inclement weather) are sent to all employees and students using email and text messaging
    - students are automatically enrolled, see JCCC Alert - Emergency Notification
- **Weapons Policy:** Effective July 1, 2017, concealed carry handguns are permitted in JCCC buildings subject to the restrictions set forth in the Weapons Policy. Handgun safety training is encouraged of all who choose to conceal carry. Suspected violations should be reported to JCCC Police Department 913-469-2500 or if an emergency, you can also call 911.

Section	**Topic**
2.2	Limit of a Function and Limit Laws
2.3	The Precise Definition of a Limit
2.4	One-Sided Limits
2.5	Continuity
2.6	Limits Involving Infinity; Asymptotes of Graphs
	EXAM 1

2.1	Rates of Change and Tangents to Curves
3.1	Tangents and the Derivative at a Point
3.2	The Derivative as a Function
3.3	Differentiation Rules
3.4	The Derivative as a Rate of Change
3.5	Derivatives of Trigonometric Functions
3.6	The Chain Rule
	EXAM 2

3.7	Implicit Differentiation
3.8	Derivatives of Inverse Functions and Logarithms
3.9	Inverse Trigonometric Functions
3.10	Related Rates
3.11	Linearization and Differentials
	EXAM 3
4.1	Extreme Values of Functions
4.2	The Mean Value Theorem
4.3	Monotonic Functions and the First Derivative Test
4.4	Concavity and Curve Sketching
4.6	Applied Optimization
4.7	Newton's Method
	EXAM 4
4.8	Antiderivatives
5.1/8.7	Area and Estimating with Finite Sums/Numerical Integration
5.2	Sigma Notation and Limits of Finite Sums
5.3	The Definite Integral
5.4	The Fundamental Theorem of Calculus
5.5	Indefinite Integrals and the Substitution Method
5.6	Substitution and Area Between Curves
	EXAM 5
	COMPREHENSIVE FINAL EXAM