HUDSON COUNTY COMMUNITY COLLEGE

STEM Course Syllabus

COURSE: *MAT-112-XX*

COURSE TITLE: *Calculus II*

INSTRUCTOR: _____

TERM: _____

DAY(S) AND TIME(S): _____

LOCATION: _____

OFFICE HOURS: _____

OFF. LOCATION: _____

EMAIL: _____

TELEPHONE: _____

COURSE DESCRIPTION: This course is a continuation of MAT 111. Topics include calculus of transcendental functions, integrations by parts, trigonometric integrals, improper integrals, sequences and infinite series. The use of mathematical software in problem-solving is emphasized.

COURSE PREREQUISITE: MAT 111.

STUDENT LEARNING OUTCOMES

Upon successfully completing this course, students will be able to

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- Find area between two the graphs of two functions by partitioning the x-axis or the y-axis.
- Find the volume of a solid formed by revolving a plane region about a vertical or horizontal straight line.
- Find arc length of a smooth curve over a closed interval of the form f(x) or f(y).
- Find work done by variable force
- Find Hydrostatic pressure and force
- Integrate by parts and derive formula using integration by parts.
- Integrate trigonometric function
- Use trigonometric substitution efficiently.

- Determine whether a series has a sum.
- Use the test for convergence and divergence of a sequence
- Express a function as a Taylor or Maclaurin series and find Taylor and Maclaurin expansions.
- Work with binomial series.
- Represent a function by a power series

TEXTBOOK & SUPPLEMENTAL MATERIALS

Textbook: Calculus, Early Transcendental functions, 7th edition,
Author: Larson Edwards
ISBN: 978-1-978-1337552516

Supplemental Materials:

- **Schuam's series, Calculus, 6th Edition**
  ISBN-13: 978-0071795531
  Author: Frank Ayres, Elliot Mendenson
  ISBN-13: 978-0071795531

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Book Purchase: *Your policy for the purchase of textbooks goes here. Here is an example of such a policy:*

Since we use these books extensively in and out of the class, you **must buy** them before our second meeting. In case you need to wait for the book voucher, it is your responsibility to find a way to make copies of the readings assigned from the books. Any student who has true financial need is eligible to apply for a book scholarship through the Office of the Dean of Students located at 70 Sip Avenue.

ATTENDANCE

Your attendance policy goes here. For your reference, the college policy is generally that a student may fail a course due to lack of attendance if s/he missed more than 6 hours of instructional time for a 3-credit course. You can choose to follow this policy or create your own.

GRADING POLICY

BREAKDOWN OF GRADING:

3 class Exam: ---------- 70%
Final Exam: ----------30%

The grade scale for this class will be as follows:
This is a sample grading scale. You may adjust (within reason) to your own policy regarding grading. Note: At HCCC, we do not have a grade of C-.

100 – 94 = A	
93 – 90 = A-	79—77 = C+
89 - 87 = B+	76—70 = C
86—84 = B	69—60 = D
83—80 = B-	Below 60 = F

CELL PHONE USE POLICY

Please put your policy for the use of cell phones here. The policy may vary from forbidding phone use to the active use of the phone in class. Please be aware that some students may need an exception to the policy, for example if they have small children at home or a sick relative and may need to be notified in the event of an emergency.

MANDATORY USE OF HCCC EMAIL ADDRESS

Members of the HCCC community are required to check their official HCCC email address in order to stay current with College and course communications. All college business communication between faculty, students, and staff must be sent via an official HCCC email address. If an employee or student elects to forward or link his/her HCCC email to a separate and private account, that individual remains responsible for all material transmitted to that account. Employees of HCCC shall not be responsible for any material that remains undelivered, due to defects in the private non-HCCC accounts. Failure in the operations of private email accounts shall not be cause for excuse from communications between the student and the employee. Students that encounter difficulty with HCCC email should view the FAQ's section on the Portal.

INCOMPLETE

An INCOMPLETE grade for the course is given under specific conditions when a student, because of serious and unexpected reasons, cannot complete the requirements of the course. For example, if a student did not attend the final because of illness his or her excuse must be verified by a physician. Other absences from other assigned activities must be made up at another appointed time. To arrange for an incomplete grade, the student must see the instructor before final exam, so proper documentations could established and submitted to Division and The office of Academic Affairs.

DISABILITY SUPPORT SERVICES:

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Students with disabilities who believe that they might need accommodations in this class are encouraged to contact Disability Support Services at (201) 360-4157, as soon as possible to better ensure that such accommodations are implemented in a timely fashion. All disabilities must be documented by a qualified professional such as a

Physician, Licensed Learning Disabilities Teacher Consultant (LDTC), Psychiatrist, Psychologist, Psychiatric Nurse, Licensed Social Worker or Licensed Professional Counselor, who is qualified to assess the disability that the student claims to have and make recommendations on accommodations for the student. All information provided to the Disability Support Services Program will be confidential between the program, professors involved with the student and individual student.

ACADEMIC INTEGRITY

Academic Integrity Standards

Academic integrity is central to the pursuit of education. For students at HCCC, this means maintaining the highest ethical standards in completing their academic work. In doing so, students *earn* college credits by their honest efforts. When they are awarded a certificate or degree, they have attained a goal representing genuine achievement and can reflect with pride on their accomplishment. This is what gives college education its essential value.

Violations of the principle of academic integrity include:

- Cheating on exams.
- Reporting false research data or experimental results.
- Allowing other students to copy one's work to submit to instructors.
- Communicating the contents of an exam to other students who will be taking the same test.
- Submitting the same project in more than one course, without discussing this first with instructors.
- Submitting *plagiarized* work. *Plagiarism* is the use of another writer's words or ideas without properly crediting that person. This unacknowledged use may be from published books or articles, the Internet, or another student's work.

Violations of Academic Integrity

When students act dishonestly in meeting their course requirements, they lower the value of education for all students. Students who violate the college's policy on academic integrity are subject to failing grades on exams or projects, or for the entire course. In some cases, serious or repeated instances of academic integrity violations may warrant further disciplinary action.

Detailed information on the College's Academic Integrity policy may be found in the *HCCC Student Handbook*. The handbook also contains useful information for students on completing research projects and avoiding plagiarism.

Your personal policy for a violation of the College's academic integrity policy go here. You must include this information for your students.

OTHER

Any other information, policies, etc. that you feel a student needs to know can go here.

TENTATIVE COURSE SCHEDULE

Time	sections	Topic	
	Chapter6	Applications of integration	
Week 1,2	7.1	Area of a Region Between Two curves	
	7.2	Volumes: The Disk Method	
Week 3	7.4	Arc Length and Surface of Revolution	
Week 4	**Exam 1**		
	Chapter 8	Techniques of integration	
Week 5	8..2	Integration by Parts	
	8.3	Trigonometric Integrals	
Week 6	8.4	Trigonometric Substitution	
	8.5	Partial Fraction	
Week 7	8.7	Indeterminate Forms and L'Hopital's Rule	
	8.8	Improper Integrals	
Week 7	**Exam 2**		
	Chapter 9		
Week 8	9.1	Sequences	
	9.2	Infinite Series	
Week 9	9.3	The Integral Test	
Week 10	9.4	The Comparison tests	
	9.5	Alternating Series	
Week 11	9.6	Absolute Convergence and the Ratio and Root	
Week 12	9.7	Strategy for testing series tests	
Week 13	9.8	Representations of Functions as Power Series	
Week 14	9.9	Taylor and Maclaurin Series	
Week 15	**Review and Final Exam**		