



Figure 1: Owens Logo.

**Course Syllabus
SEMESTER
School of Science, Technology, Engineering, and Mathematics**

<i>Course Name:</i>	Calculus II
<i>Course & Section Number:</i>	232-XXX
<i>Meeting Day(s) & Time(s):</i>	
<i>Credits:</i>	5
<i>Contact Hours:</i>	5
<i>Instructor's Name:</i>	
<i>Office Hours & Location:</i>	
<i>OCC Phone:</i>	
<i>OCC Email:**</i>	

**Please use only Owens email for course communications.

Catalog Description:

The topics to be covered are applications of integration, techniques of integration, infinite series, parameterized curves and polar coordinates.

Prerequisite/Corequisites:

MTH 180 or equivalent

Course Materials:

The textbook is Calculus Volume 2, available for free online at <https://openstax.org/details/books/calculus-volume-2>. You can also order a print copy on the site.

A scientific or graphing calculator such as a TI 84 is required. However, you may not use a calculator that can return derivatives or antiderivatives symbolically. Such handheld calculators are usually marked with "CAS".

Student Learning Outcomes:

Upon the completion of this course the student should be able to:

1. Use antiderivatives to evaluate definite integrals and apply definite integrals in a variety of applications to model physical, biological or economic situations. Whatever applications (e.g. determining area, volume of solids of revolution, arc length, area of surfaces of revolution, centroids, work, and fluid forces) are chosen, the emphasis should be on setting up an approximating Riemann sum and representing its limit as a definite integral.
2. Approximate a definite integral by the Trapezoidal Rule and Simpson's Rule.
3. Employ a variety of integration techniques to evaluate special types of integrals, including substitution, integration by parts, trigonometric substitution, and partial fraction decomposition.
4. Evaluate limits that result in indeterminate forms, including the application of L'Hôpital's Rule.
5. Evaluate improper integrals, including integrals over infinite intervals, as well as integrals in which the integrand becomes infinite on the interval of integration.
6. Graph the equation of a conic section.
7. Determine the existence of, estimate numerically and graphically, and find algebraically the limits of sequences. Determine whether a series converges by using appropriate tests, including the comparison, ratio, root, integral and alternating series tests.
8. Find the n th Taylor polynomial at a specified center for a function and estimate the error term. Use appropriate techniques to differentiate, integrate and find the radius of convergence for the power series of various functions.
9. Analyze curves given parametrically and in polar form and find the areas of regions defined by such curves.
10. Solve separable differential equations.

Disability Services Resource Center: If you have a disability or acquire one, you may be entitled to receive reasonable accommodation intended to assure you an equal opportunity to participate in and benefit from the program. To receive more information or to register for accommodations, please contact the Disability Resource Center in College Hall 116 at 567-661-7007 or email <https://www.owens.edu/disability/>

Tutoring Services: Toledo-area Campus: Learning Commons College Hall Room 173 (Enter Library CH170 and turn right). Findlay-area Campus: Education Center Room 149 Both centers offer Walk-in/Face-to-Face, or Online by appointment. To schedule an appointment or view walk-in hours, please go to <https://www.owens.edu/tutoring/>

Counseling Services: Counseling Services provides assistance to students experiencing personal, educational, interpersonal/relationship, family, social, or psychological difficulties. If you feel you may benefit from this service, please contact them at counselingservices@owens.edu. More information is at <https://www.owens.edu/counseling/>.

Campus and Community Connections: The Center for Campus and Community Connections (College Hall 151) is a walk-in office created to provide retention support through resource stability initiatives and community connections. Go here for more information: <https://www.owens.edu/connection/> or contact connections@owens.edu

Owens Library: The Owens Library offers two locations (Toledo and Findlay) as well as online resources. For more information visit <https://www.owens.edu/library/>.

Students can find more information on campus resources, student support, student life, and security at this [link](#).

Student Code of Conduct: All students are expected to follow Owens Community College's Student Code of Conduct. If you are unfamiliar with the code, it can be found at [Student Conduct - Owens Community College](#)

Anti-Discrimination and Harassment & Title IX/Sexual Misconduct: All students, faculty, and staff are expected to follow Owens Community College's Antidiscrimination and Harassment Policy and the College's Title IX/Sexual Misconduct Procedures and Guidelines. The college strictly prohibits and will not tolerate harassment, discrimination, intimidation, or hostile/offensive working or learning environments. If you are unfamiliar with the Anti-Discrimination and Harassment Policy, it can be found at: [Owens Community College - Owens Community College](#)
If you are unfamiliar with the Title IX/Sexual Misconduct Procedures and Guidelines, it can be found at: [11-4-17-Title-IX-Sexual-Misconduct-Procedures-and-Guidelines.pdf](#)

Religious Accommodations: A student seeking an accommodation for an absence permitted under Ohio's Testing Your Faith Act must provide the instructor with a written email notice with the specific dates for an absence, and must do so not later than fourteen (14) days after the first day of instruction. Alternative accommodations are not retroactive, and no academic penalty will be imposed for an absence under the policy*. The request for an alternative accommodation will be kept confidential. Students with questions about a religious accommodation under Ohio's

Testing your Faith Act may contact the College's Office of Academic Affairs: provost@owens.edu
The policy may be found on the Owens website: [3358:11-2-63 Accommodation](#) for a Student
Absence for the Observance of Religious Beliefs and Practices Policy

Document Collection: Throughout the semester, your instructors may ask for a variety of assignments including tests and/or quizzes for student learning of institutional general education competencies or program assessment. Please save all your class materials until the end of the semester.

Classroom Admittance: OCC classes shall only be attended by the officially registered OCC students or perspective students, instructor of record, guest lecturer, or substitute. Visitors are not permitted to be in the classroom and should not be invited to attend or participate in the class. See [FERPA](#) regulations for more information.

Inclement Weather Policy: In the event that the College closes due to inclement weather, all on-campus, hybrid, and synchronous mathematics classes will be cancelled. Asynchronous classes will not be affected. If the decision is made to close the College, a public announcement will be communicated via local television, social media, and Owens Alert. Students will not receive individual class cancellation notices.

If the College is open, all on-campus, hybrid, and synchronous classes will meet as regularly scheduled. For addition information about the communication of closings or to learn about Owens Alert, visit <https://www.owens.edu/news/weather.html>

Grading:

MyOpenMath homework (20%) and five tests (16% each) will be used in determining your grade. Your lowest test score (which may due to a missed test) will be replaced with the average of the remaining test scores. A maximum of one make-up exam will be permitted if timely notification (i.e. test day or before) and the reason for the absence from the test are provided. See the last page of the syllabus for tentative test dates. The grading scale is 100-90 = A, 90-80 = B, 80-70 = C, 70-60 = D, <60 F

Tentative Course Schedule

Week of...	DATE	DATE
DATE	Chapter 2	2
DATE	2	2
DATE	2	2
DATE	Test 1	4
DATE	3	3
DATE	3	3
DATE	3	Test 2
DATE	5	5
DATE	5	5
DATE	5	6
DATE	6	Test 3
DATE	TBD	7
DATE	7	7
DATE	7	TBD
DATE	Test 4	Review
DATE	Review	Test 5 (Final Exam)

Topics

2.2-2.3 Volumes of Revolution 2.4 Arc Length of a Curve and Surface Area 2.5 Pumping Liquids from Containers and Fluid Force on a Plate 2.6 Moments and Centers of Mass 4.3 Separable Equations 3.1 Integration by Parts 3.2 Trigonometric Integrals 3.3 Trigonometric Substitution 3.4 Partial Fractions 3.6 Trapezoidal Rule and Simpson's Rule 3.7 Improper Integrals 5.1 Sequences	5.2 Infinite Series 5.3 The Divergence and Integral Tests 5.4 Comparison Tests 5.5 Alternating Series 5.6 Ratio and Root Tests 6.1 Power Series and Functions 6.2 Properties of Power Series 6.3 Taylor Series 7.1 Parametric Equations 7.2 Calculus of Parametric Curves 7.3 Polar Coordinates 7.4 Area in Polar Coordinates 7.5 Conic Sections
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The material on Test 1 addresses the following SLOs: 1

The material on Test 2 addresses the following SLOs: 3,10

The material on Test 3 addresses the following SLOs: 2,4,5,7

The material on Test 4 addresses the following SLOs: 6,8,9

Test 5 is comprehensive