

**NORTHWEST ARKANSAS COMMUNITY COLLEGE  
COURSE SYLLABUS**

**Course:** MATH 2043 Survey of Calculus MW 12:00 – 1:15 p.m. SC 335 Line number: 21572

**Instructor:** Dr. Teresa O'Brien

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**Office Hours:** MW: 7:30–8 a.m.; 9:35–10:30 a.m.; 11:45 a.m.–noon; 1:15–3:30 p.m.; F 9:35 a.m.–noon

**Math Center Hours:** TTh: 8:30 a.m. – 3:30 p.m.

**\*\* In the subject line of all e-mails you send me, please include info to help me identify you. \*\***

For example: Ellen Bertram Survey of Calculus MW noon

**Math Dept. Secretary:** Jill Witt SC 351 479-986-6900 [jwitt@nwacc.edu](mailto:jwitt@nwacc.edu)

**Placement Info:** To demonstrate academic preparedness for placement in Survey of Calculus, all students must verify that they have met one of the following placement criteria: a grade of "C" or better in College Algebra (MATH 1203/1204/1204R) or appropriate placement scores.

**Course Objectives:** Upon successful completion of Survey of Calculus, a student should be able to do the following. Other skills may also be required.

1. Algebraically, analytically, and graphically evaluate limits.
2. Find basic derivatives using the definition, product, quotient and chain rules, and by implicit differentiation.
3. Understand and apply derivatives appropriately to real-world problems to optimize functions and to find instantaneous rates of change, marginal cost, marginal profit, relative rates of change, elasticity of demand, etc.
4. Graph functions by hand, including manually finding the extrema using the first derivative test, intervals where the graph is increasing and decreasing, and finding points of inflection.
5. Integrate "basic" integrals including polynomial functions, natural exponential functions, and ones requiring basic u-substitutions.
6. Apply integrals appropriately to find the areas under and between curves, average value, accumulated value, consumer's surplus and producer's surplus.
7. Find partial derivatives and use them to optimize functions of several variables, including using constrained optimization and Lagrange Multipliers.

**Required Materials:** Calculus and Its Applications, 10<sup>th</sup> ed. Bittinger, Ellenbogen, and Surgent. Pearson, Addison Wesley. 2012. Sections 1.1 – 1.8, 2.1, 2.2, 2.4 – 2.7, 3.1, 3.2, 3.6, 4.1 – 4.5, 5.1, 6.1 – 6.3, 6.5

A folder or 3-ring binder to keep your homework, notes, and other papers neat & organized.

A graphing calculator - preferably a TI-82, TI-83, or TI-84.

**TI-89s, TI-92s, and comparable calculators with CAS may not be used in Survey of Calculus.**

Note: You can rent a TI-82 for one semester by paying \$15 to the cashier and then bringing your receipt to the Math Department secretary, Jill Witt, in SC 351. You will need 4 AAA batteries.

**Please bring your textbook, folder, notes, homework, and calculator to class every day.**

**Additional Resources:** Lecture notes, homework assignments, exam reviews, and other resources prepared by me are available online at <http://faculty.nwacc.edu/tobrien>. Videotapes / DVDs / CDs (content, graphing calculator, math anxiety, time management) are available for check-out from the NWACC Library. Free tutoring is available at the Academic Success Center, the Math Center, and the WCC Student Center. Online tutoring is available through the ASC. Resources available through Pearson and / or the NWACC bookstore include: Student's Solutions Manual and Video Lectures on DVD.

**NOTE:** We will not use MyMath Lab in this section of Survey of Calculus. If you would like to do extra work online, I suggest you use the **FREE** InterAct Math website located at [www.interactmath.com](http://www.interactmath.com).

<b>Grading:</b>	Attendance / Participation [P = $\frac{2}{3}$ pt; E = $\frac{1}{3}$ pt; A = $\frac{0}{3}$ pt]	20 points
	Sum of ten best 12 point Homework Checks = HC Total	120 points
	Two 120 point comprehensive exams	240 points
	One 120 point comprehensive final exam	<u>120 points</u>
		500 points

**Grade Replacement:** If it will improve your overall course grade, I will replace your lowest exam grade **OR** your HC Total grade with your grade on the Final Exam.

Grading scale: A = 450-500<sup>+</sup>; B = 400-449; C = 350-399; D = 300-349; F = 0-299

- My Expectations:** I expect you to bring your notes, homework, textbook, graphing calculator, paper and pencil to every class; to read the text and work through examples before class; to attend every class for the full 1 hour and 15 minutes; to actively participate in class; to take notes; to ask and answer questions; to complete all assigned homework, including cycle-back problems; to study 2 to 3 hours outside of class for every hour you spend in class; to use all the resources available to you when you need help; to properly prepare for exams by working every problem on the review sheet and reviewing the text and your notes; and to take responsibility for your learning by doing all that you can to be successful with this class.
- Attendance / Participation:** Regular attendance and participation in class is crucial to your success in this course and as such is mandatory. Missing class, coming to class late, leaving class early, coming to class unprepared, and/or not participating in class activities may result in a loss of attendance / participation points.
- Homework Checks:** We will have a homework check once a week. Usually you will turn in your homework from the previous week. Each HC is worth 12 points. The sum of your best ten HCs will be your HC Total which is equivalent in point value to an exam.
- Any homework turned in late will be worth a maximum of 6 points (half credit).**
- Exams:** All exams are comprehensive and each is worth 120 points. You may earn back up to 25% of the points you miss on exams 1 and 2 by correctly reworking the problems you missed. Test corrections are due one week from the day exams are returned.
- Make-up Policy:** Make-up exams will be given only in dire circumstances and by prior arrangement. If you do not take an exam, your grade on the Final will be used as your score for the missed exam. If you have to miss class on the day of an HC, you should either turn your homework in early, have someone slide it under my office door, e-mail it to me, or fax it to me. Homework turned in late will be worth a maximum of half credit (6 points).
- Extra Credit Points:** You may earn a maximum of 10 extra credit points by doing a combination of the following. An individual essay, interview, or art project is worth, at most, 5 points.
- meeting with me for ~15 minutes (2 points)
  - forming a study group and keeping a log of who attends and for how long (1 pt per three hours)
  - working extra credit problems posted on my website or discussed in class (1 pt per problem)
  - interviewing someone about how s/he uses math at work
  - writing an essay on some aspect of math history or an application of math
  - creating a math-related mobile, poster, or other decoration
  - keeping a math journal about your experiences in this class & submitting it once every 3 weeks
- All written projects must be 300 words minimum, typed or neatly printed.  
Grading Criteria: Depth; Length; Content; your Opinion; References; Grammar & Spelling. All extra credit must be turned in by Friday May 6.
- Withdrawal Policy:** If at some point in the semester you are having difficulty and you are thinking about dropping this course, I would strongly urge you to see me first. I will do everything that I can to help you. If in the end you do decide to withdraw, you must fill out the appropriate form from the registrar. Not attending class is not the same as withdrawing. To officially withdraw and avoid an "F" or an "FP" on your transcript, you must fill out a drop slip. The deadline for dropping is Friday April 1.
- Disability Services:** If you feel you need adaptations or accommodations because of a disability, please contact the Disability Resource Center (SC 114) at [disability@nwacc.edu](mailto:disability@nwacc.edu) or by phone at 479-986-4076. Additionally, if you have a medical condition that may result in an emergency situation during class or you need special arrangements in case the building must be evacuated, you should also contact the DRC. The DRC coordinates reasonable accommodations for students who have documented disabilities. Once your registration with that office is complete, you should contact me privately to discuss your specific needs.
- Bad Weather Policy:** On days when the weather is bad, you may call the Student Information Line at 619-4377 or visit the NWACC website at <http://www.nwacc.edu> to find out if classes are canceled. If classes are not canceled and / or the College opens late, if we can meet for at least half the period, our class will meet. If you feel the journey to class could put you in danger, you will not be penalized if you choose not to attend. However, it is your responsibility to make up what you missed.

- Cancelled Class Policy:** Missed class days are not vacation days. If class is cancelled due to bad weather or some other unexpected event, I expect you to follow the class schedule. Download the lecture notes from my website at <http://faculty.nwacc.edu/tobrien>; read the appropriate text book sections; and continue working on the assigned problems.
- Family Educational Rights and Privacy Act:** NWACC is committed to your right to privacy as outlined in the Family Educational Rights and Privacy Act (FERPA). This means I can only communicate with you about your grade in person or via your NWACC e-mail account.
- Academic Dishonesty:** Plagiarism, cheating, and any other form of academic dishonesty will be dealt with according to college policy as stated in the student handbook in the catalog..
- Administrative Drop:** Students are expected to attend all classes. Instructors are permitted to use attendance as part of grading for a particular course and have the authority to lower a grade or fail a student based on attendance. If an instructor chooses to use attendance as part of grading, the specific attendance policy will be distributed with other course information at the beginning of the semester.
- (College Policy)
- In order to maintain College compliance with federal and state regulations and to report correct data to the state, instructors will complete an electronic form to initiate an administrative drop from a course if a student has not participated in at least one session of a class by the census reporting date, i.e., the end of the eleventh day of classes in a regular term and the end of the fifth day during each summer term. Instructors teaching online courses will complete the same electronic form to initiate an administrative drop if the student has not fulfilled the initial participation requirements established in the course syllabus.
- There will be no reinstatement of students dropped for non-attendance.
- FP Grade:** Students will be assigned a grade of "FP" (failure to participate) if they do not complete at least 50% of the assigned coursework. Students must demonstrate participation by submitting assignments, completing quizzes and assignments, and accessing course functions. Failure to participate in all courses attempted by a student is considered an unofficial withdrawal and the student may be required to repay all or a portion of the financial aid received for the semester. Federal regulations mandate that the Financial Aid Office determine the percentage of the semester the student completed. This calculation will establish the amount of financial aid funds that must be returned to the Department of Education.
- (College Policy)
- Emergency Information:** To be prepared for a campus emergency, students should read the [Emergency Preparedness Handout](#).
- Blackboard Information:** Technical support is provided by the Student Technology Help Desk and by the Distance Learning Department. Please contact the Student Technology Help Desk at 479-619-4376 or [studenthelpdesk@nwacc.edu](mailto:studenthelpdesk@nwacc.edu). Support may also be obtained from the Distance Learning Department at [dl@nwacc.edu](mailto:dl@nwacc.edu). Courses are designed to be accessed using a traditional desktop/laptop computer. Please be sure to check your computer for compatibility with the [Blackboard Browser Checker](#). Alternate direct access to Blackboard at <https://nwacc-bb9.blackboard.com>.
- Student Handbook:** The current NWACC Student Handbook can be found on the [Current Student Resources](#) page.
- Link to All College-wide Syllabus Policies:** <http://content.nwacc.edu/tlc/syllabus/policies.php>
- Additional Policies:** Cell phones, tablets, laptops, and similar devices should be on silent mode during class.
- During class, your attention should be focused on learning and you should not use your calculator, laptop, cell phone, or other electronic devices to play games, surf the internet, listen to music, or for any other non-class related activities.
- You should not make calls, receive calls, nor send or receive text messages during class unless you are on-call for work or you have a family emergency.
- You may not use a cell phone or similar device for any purpose during an exam. This is a departmental policy.

**Important Dates:**

January 26	Last Day to Drop and Receive 100% Refund.
February 2	Last Day to Drop and Receive 80% Refund & Last Day to Drop and Not Receive "W" on Transcript.
March 21 – 26	Spring Break for Students and Faculty
April 1	Last Day to Withdraw with "W" on Transcript with 0% Refund.
May 6	Last Day of Classes.
May 7 – 13	Final Exams.
May 14	Commencement
May 17	Grades due to Registrar by noon
May 19	Grades available to students online.

For the complete Academic Calendar for Spring 2016, go to <https://www.nwacc.edu/web/nwacc/calendar.php>.

**Tentative Schedule:**

Date	Section to be Overviewed	Homework	Homework Checks
Mon Jan 18	Martin Luther King Day – No class		
<b>Weds Jan 20</b>	<b>Course Intro, 1.1</b>	<b>A1</b>	
Mon Jan 25	1.1	A1	
Weds Jan 27	1.2	A2	Syllabus Quiz
Mon Feb 1	1.3	A3	
Weds Feb 3	1.4	A4	HC 1: 1.1, 1.2 (A1, A2)
Mon Feb 8	1.5	A5	
Weds Feb 10	1.6	A6	HC 2: 1.3, 1.4 (A3, A4)
Mon Feb 15	1.7	A7	
Weds Feb 17	1.8	A8	HC 3: 1.5, 1.6 (A5, A6)
<b>Mon Feb 22</b>	<b>Exam 1</b>		
Weds Feb 24	2.1	A9	HC 4: 1.7, 1.8 (A7, A8)
Mon Feb 29	2.2	A10	
Weds Mar 2	2.3	A11	HC 5: 2.1 (A9)
Mon Mar 7	2.5, 2.6 (self-study)	A12, A13	
Weds Mar 9	2.7	A14	HC 6: 2.2, 2.3 (A10, A11)
Mon Mar 14	3.1	A15	
Weds Mar 16	3.2	A16	HC 7: 2.5, 2.6, 2.7 (A12, A13, A14)
<b>Mar 21 – Mar 26</b>	<b>Spring Break for Students &amp; Faculty</b>		
Mon Mar 28	3.6	A17	
<b>Weds Mar 30</b>	<b>Exam 2</b>		HC 8: 3.1, 3.2 (A15, A16)
Mon Apr 4	4.1	A18	
Weds Apr 6	4.2	A19	HC 9: 3.6 (A 17)
Mon Apr 11	4.3	A20	
Weds Apr 13	4.4	A21	HC 10: 4.1, 4.2 (A18, A19)
Mon Apr 18	4.5	A22	
Weds Apr 20	5.1	A23	HC 11: 4.3, 4.4 (A20, A21)
Mon Apr 25	6.1	A24	
Weds Apr 27	6.2	A25	HC 12: 4.5, 5.1 (A22, A23)
Mon May 2	6.3	A26	
Weds May 4	6.5	A27	HC 13: 6.1, 6.2 (A24, A25)
<b>Mon May 9</b>	<b>Final Exam 12:30 – 2:30 p.m.</b>		