

MATH&151: CALCULUS I, FALL 2016 - SYLLABUS & SCHEDULE

Instructor:	Denise Brannan
Class Times:	1:15 - 2:20 pm, Monday, Tuesday, Wednesday & Thursday.
Classroom:	IB 3443
Textbook:	Stewart: <i>Calculus, Early Transcendentals</i> , 7th edition
Office Hours:	3 – 3:50 pm Monday & Wednesday, 11:30 – 12:20 am Tuesday & Thursday IB 2428 B (Second floor of the instructional building, freeway side, south end.)
Phone:	206-934-4510
Email:	dbrannan@northseattle.edu
Web sites:	webassign.net & canvas.northseattle.edu

COURSE DESCRIPTION

This is a first course in Calculus and analytic geometry. Topics covered will include limits, continuity, differentiation from first principles, derivatives of functions (including transcendental functions), properties of derivatives, rules of differentiation, applications of derivatives to graphing, optimization and related rates, function linearization, antiderivatives, definite integrals, and the Fundamental Theorem of Calculus.

The prerequisite for this class is the successful completion of a Precalculus sequence that involves a rigorous study of algebra and a very solid background in trigonometry - such as MATH&141 & MATH&142, or the equivalent, or placement by a placement test. This class is a prerequisite for Calculus II.

COURSE OUTCOMES

1. Understand and apply the concepts of limit and continuity to functions, algebraic and transcendental.
2. Understand, analyze, interpret, and solve problems in Calculus using the techniques of differentiation
3. Recognize and describe the appropriate mathematical model for a given concept or phenomenon.
4. Translate, interpret and make inferences from graphical, symbolic, numerical and literal representations of mathematical models.
5. Determine if conclusions or solutions are reasonable
6. Think critically in reading and writing mathematics

These outcomes will be assessed specifically on the demonstration of the ability to “gather” the appropriate processes and resources and use deductive and inductive reasoning to create clear and accurate solutions to complex problems in Calculus.

COURSE MATERIALS

TEXT BOOK: We will be using the **ebook:** Stewart's *Calculus, Early Transcendentals*, 8th edition. You need a **WebAssign** account, which includes the ebook, and can be purchased now through the publisher (<http://services.cengagebrain.com/course/site.html?id=1050025>), or later through WebAssign, or the NSCC bookstore.

ONLINE RESOURCES

Students will be expected to access course materials online and complete online homework assignments on WebAssign. Due to the limitations of the course management system in WebAssign we will also be using Canvas this quarter. I will post daily notes, grades, and additional resources on Canvas, as well as use Canvas to host the student forum and all communication with the class.

WEBASSIGN

Step 1: Registering for the course

- Go to <http://webassign.net/>
- Select the link [I Have a Class Key](#)
- Enter the class key: **northseattle 3028 3551**

Step 2: Login to WebAssign

- **If you do not already have a WebAssign account** select “**I need to create a WebAssign account.**” Click “continue” to set up your account. Set up your WebAssign account. Choose a username and password. In the student information enter your name, the email account I may use to contact you, and your student id number.
- **If you already have a WebAssign account** choose the second option and sign in as normal.

After you have registered for the course online you'll be able to login directly at the WebAssign main page. You will not need the class key again.

For more detailed instructions go to the [Student Quick Start Guide](#)

WebAssign provides free access for first two weeks of class. To continue using WebAssign after the first 2 weeks of class, you must enter an access code. (The access code is available from the ebook purchase from the NSC bookstore or may be purchased online.)

COURSE REQUIREMENTS

Presence + Persistence = Performance

Attend all classes: Material and methods taught in class are will vary from those in the textbook, handouts will be distributed regularly, and class schedules and assignments may change. You are responsible for anything covered in class, unless otherwise announced. If you must miss a class, contact me, or another class member, to find out what you've missed, and make up any work missed before the next class.

Do not be late for class. This is very disruptive to other members of the class.

Participate: Attend class, contribute to class discussions, ask questions where appropriate, collaborate with other students during class-time on group tasks, and generally come to class prepared to be an active learner rather than a passive body in the class.

Ask questions: If you don't understanding something, assume that there is at least one other person in the class who is also confused. You are doing everyone a service by asking questions (at appropriate times.)

Collaborate: I hope that students will very quickly form study groups and will work together to complete assigned work. The Math Learning Center is an excellent facility for this. You learn far more by discussion with your peers!

Complete the **daily homework**, submit all **assignments** on time, complete all **tests** on their assigned date.

Electronics: Disappear everything except your calculator. (which cannot be your cell phone!) Class time is for human interaction. You have endless hours in the day to be online and connected with others electronically. You do not need your computer or tablet. You do not need to take screen shots of the board. Mathematics is about writing logically using the language of mathematics. Please turn the sound off on all cell phones, etc. during class.

Calculator: You will need a graphics calculator. I strongly recommend the TI 89 or TI 89 Titanium or a "TI Nspire CX with CAS".

GRADING & ASSESSMENT

Your grade will reflect my assessment of what you understand and know how to do. Every individual has a unique learning style, so to fairly assess your progress in the course I will use a variety of different tasks. You will have written assignments, weekly online quizzes, and 4 written tests. To prepare for this assessment you will have a large amount of practice from homework, and a test guide/review before the class tests. It is your responsibility to complete assigned tasks, to communicate to me the level of confidence you have in your understanding and ability BEFORE CLASS TESTS, and to seek additional help where needed.

Assessment Tasks and their Weighting:

Tests are worth 70% and the homework, quizzes and assignments are worth 30%.

Then there's some padding ...

Tests	70%
Assignments	10%
Homework	10%
Quizzes	10%
Extra Credit as assigned	3%

Make-up/Late policy: No late tests without an extremely compelling reason. No make-up tests, or late assignments or quizzes. Late homework is penalized as per the program.

Homework: Problem sets will be assigned after each lesson and should be completed before the next class. Homework assigned from the previous lesson will be discussed during the first 15 minutes or so of each lesson. Although daily homework is not graded it is the most important component of this course.

If you want a particular homework problem to be discussed at the start of class, please write the set & question number on the upper left hand side of the blackboard before the start of class.

Assignments: Questions will be assigned weekly, and will be turned in the next week. The solutions to assignments will be available on the due date for each assignment. Consequently **no late assignments can be accepted**.

The final exam: The last test is comprehensive and is scheduled in the Final Exam Week, Wednesday December 16. It cannot be rescheduled. The final exam can be skipped under the following conditions: all assignments, homework and quizzes have been submitted, with an average of 80% or better in each category; and each of Tests 1, 2 and 3 has a score of 70% or better.

Standards

All grades are awarded at the instructor's discretion, using the following standards:..

Grade	Total %	Grade	Total %	Grade	Total %	Grade	Total %
4.0	96% and above	3.3	85 - 88%	2.3	75 - 77%	1.0	50 - 59%
3.7	93 - 95%	3.0	81 - 84%	2.0	70 - 75%	I	Incomplete
3.5	90 - 92%	2.7	78 - 80%	1.7	66 - 69%	NC	No Credit

LEARNING SUPPORT & ADDITIONAL RESOURCES

Office Hours: 3 – 3:50 pm Monday & Wednesday, 10 – 10:50 am Tuesday & Thursday. Occasionally I may need to cancel my office hours if I have college meetings scheduled. Some days I will go to the MLC (below) instead – I will announce this in class.

The Math Learning Center: The Math Learning Center (MLC) is located in the HSSR building room 1639. Free math tutoring is available to all students enrolled in Math at North Seattle College. The main room of the MLC accommodates students from all levels of math, as well as physics, chemistry and computer science students. The back room of the MLC is reserved for students in pre-college math (Math 081 – Math 098) only.

To find out more about the MLC and its hours, go to <http://webshare.northseattle.edu/MLC/>.

Computers are also available in the computer area of the MLC, and also at the Library (library.northseattle.edu/hours) and the Open Computer Labs (itservices.northseattle.edu/content/open-computer-lab.) To use the college computers you will need to have a current **NET ID** for NSC. If you don't have one, to set up got to <https://northseattle.edu/online-services/netid>.

Online Resources: There are many helpful websites. A lot of students recommend "Paul's Online Notes", the MIT Open Course library, and the Kahn Academy. If you find a helpful site, please send the link to me or the class forum and I will make sure it gets circulated. Go to the "Section Links" page of our website for more.

**** Please contact me immediately if you have any problems! *****

SPECIAL CIRCUMSTANCES

Students who have learning disabilities are encouraged to contact the NSC Disability Services office at 206-934-3697 or <https://northseattle.edu/disability-services> . If you have other special circumstances that I should be aware of please contact me before class, by email, during my office hours or by phone.

DIVERSITY & LEARNING

Respect for diversity is a core value of NSC. Our college community fosters an optimal learning climate and an environment of mutual respect. We, the college community, recognize individual differences. Therefore, we are responsible for the content and tone of our statements and are empathetic speakers and listeners.

CHEMICAL SENSITIVITIES POLICY

Due to the increasing numbers of individuals developing chemical sensitivities and to the increased awareness of such conditions, everyone who attends this class is asked to refrain from wearing any fragrance or perfume. The greatest feasible efforts will also be taken to ensure a fresh air environment free of fragrances, and potentially harmful substances such as carbon monoxide, formaldehyde, carpet odor, organic solvents, etc.

North Seattle College is a non-smoking campus.

IMPORTANT DATES:

- **Test 1** – Tuesday, October 18
- **Test 2** – Tuesday, November 15
- **Test 3** – Tuesday, December 6
- **Final Exam** – Thursday, December 15, 1 – 3 pm in room CC 3443

College closed on the following days:

- Friday, November 11, in observance of Veterans' Day
- Thursday, November 24, & Friday, November 25: Thanksgiving Holiday

Final Exam period – no regular classes or office hours:

- Tuesday December 13, Wednesday December 14, Thursday December 15

Last day of Fall 2016 quarter: Thursday, December 15

First day of Winter 2017 quarter: Monday, January 3

See <http://seattlecolleges.edu/district/calendar/calendar2016-17.aspx> for a complete list of dates

Math 151.06 Fall 2016 – Tentative Schedule

Week beginning		Topics
Week 1	9/26	2.1 The Tangent & Velocity Problems 2.2 The Limit of a Function
Week 2	10/3	2.3 Calculating Limits Using the Limit Laws 2.4 The Precise Definition of a Limit 2.5 Continuity
Week 3	10/10	2.6 Limits at Infinity & Horizontal Asymptotes 2.7 Derivatives & Rates of Change 2.8 The Derivative as a Function
Week 4	10/17	Review Test 1 - Tuesday 10/18 3.1 Derivatives of Polynomials & Exponential Functions 3.2 The Product & Quotient Rules
Week 5	10/24	3.3 Derivatives of Trigonometric Functions 3.4 The Chain Rule 3.5 Implicit Differentiation
Week 6	10/31	3.6 Derivatives of Logarithmic Functions 3.7 Rates of Change in the Natural & Social Sciences 3.8 Exponential Growth & Decay
Week 7	11/7	3.9 Related Rates 3.10 Linear Approximations & Differentials 4.9 Antiderivatives
Week 8	11/14	Review Test 2 - Tuesday 11/15 4.1 Maximum & Minimum Values 4.2 The Mean Value Theorem 4.3 How Derivatives Affect the Shape of a Graph
Week 9	11/21	4.4 Indeterminate Forms & l'Hospital's Rule 4.7 Optimization Problems
Week 10	11/28	5.4 Indefinite Integrals & the Net Change Theorem 5.2 The Definite Integral 5.1 Areas & Distances
Week 11	12/5	Review Test 3 - Tuesday 12/6 5.3 The Fundamental Theorem of Calculus 3.11 Hyperbolic Functions
Finals Week	12/12	Review Final Exam: Thursday December 15, 1 - 3 pm