TMATH 125 Autumn Term 2019

MW 1:30-3:30 JOY 105 SLN 22500/22501
Lecturer: Ruth Vanderpool Office: MDS 303C
Drop In Hours:U 12:15-1:15 pm & WF 9:50-10:50am Phone: 253-692-4310
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Course Description:

TMATH 125 is a calculus course studying the mathematics of areas and volumes and its applications. Topics include areas (definite integrals), the Fundamental Theorem(s) of Calculus, 'reversing' differentiation (antiderivatives), and finding functions that are dependent on their own rates of change (differential equations).

Student Learning Objectives:

By the end of the course students should be able to:

1. apply precalculus & differential calculus concepts in the calculus setting to solve problems
2. use finite sums to approximate areas, distances, and integrals
3. know the definition of and be able to find simple antiderivatives
4. utilize the Fundamental Theorem of Calculus to compute integrals
5. compute definite and indefinite integrals using the substitution rule, integration by parts, and trigonometry
6. apply integral calculus to compute area between curves and the volume of solids,
7. use limits to compute improper integrals
8. apply techniques of integration to physics applications
9. set up and solve basic differential equations with applications to biology & chemistry.

The course supports the following department Student Learning Objectives:

- (Env. Sci.) Cultivate skills critical to interpreting scientific concepts for public under- standing, including familiarity with the scientific method, information literacy, statis- tical data analysis, hypothesis formulation, and conceptual modeling, research project design and working collaboratively.
- (Env. Sci.) Participate in engaged inquiry as a means of connection classroom learning to real-world environmental problem solving and establishing the skills needed for life- long learning.
- (Env. Sci) Develop advanced scientific skills necessary to achieve an understanding of and solutions to environmental problems including physical and biological measurement techniques, statistical data analysis, hypothesis formulation and conceptual modeling, research project design and working collaboratively.
- (PPE) Students will strengthen their analytic skills
- (PPE) Students will develop their ability to write with style and precision.
- (PPE) Students will become more competent with quantitative analysis.
- (PPE) Student will develop their ethical and logical reasoning.
- (BIOMED) The ability to apply statistics and other mathematical approaches to examine biological systems.

Useful Items:

- Text: Details including the ISBN and some pricing data is posted on the class website. *Calculus: Early Transcendental Functions* 6th edition by R. Larson & B.H. Edwards
- Online HW: Access to the online homework system WebAssign.
- Calculators: The mathematics program recommends the TI-36X Pro. Scientific calculators, graphing calculators, and applications on smart devices that limit access to the internet (such as Desmos Test Mode) are allowed and encouraged. You may *not* use devices that can access the internet when taking quizzes or exams. The following resources exist to help with student calculator access:

Location	Type/Model	# Available	Duration of Checkout
Library	TI-36X Pro (non-graphing)	20	1 day
Library	TI-83 (graphing)	30	1 day
Library	TI-83 (graphing)	30	4 weeks

Important Dates:

10/16	Exam I	10/1	Last day alter your schedule with no fees
11/6	Exam II	10/15	Last day to add a class
12/9	Final (1:30-3:30pm)	11/12	Last day to change grading option

Opportunities for Mastery: Note the *many* avenues available to master the material!

- WrittenHW & WebAssign allow multiple attempts for full credit.
- Discussion board responses improve WrittenHW or WebAssignHW averages.
- Group presentations before each exam can add up to 4% to your exam scores.

Social Expectations: You are expected to work regularly with others in this class and thus need to make sure you:

- Expect to make mistakes but be sure to reflect/learn from them!
- Are civil and are aware of your impact on others.
- Assume and engage with the strongest argument while assuming best intent.

Activity Procedure: Activity sheets are used almost every day of class to give you an opportunity to work with the material. *Usually* these will not be collected or marked but the group will be asked to post their work & answer to one of the questions on the board. This will allow the class to see the answer as well as other methods to solving problems. (There is *always* more than one way to find a solution!)

Quizzes: A quiz is given every week at the instructor's discretion. Generally you will be given 15 minutes for the quizzes after the homework question period is over on Wednesdays. No make up quizzes, unless previously arranged, will be given, but I will drop the lowest scoring quiz so that you have some flexibility.

Homework Policy:

Two homework assignments will be posted every week on WebAssign. The assignments will be due at 2pm on *Tuesdays* and *Thursdays*. Each assignment will be announced in class and posted on the calendar (found on the class website `http://faculty.washington.edu/rvanderp/`). Ten minutes will be set aside in each class to answer homework questions from the online system. To make the best use of this period I advise you to copy down the questions before class since WebAssign often randomizes the numbers so that individuals have slightly different problems. Note then that when answering questions, I may not be considering your specific problem, but the techniques will usually still apply.

To access WebAssign follow the steps below:

1. Browse to WebAssign through the course website or manually type in the address: `http://webassign.net/login.html`
2. Click on "Enroll with a Class Key" button in the upper right.
3. Enter "uwt 5498 6412 " and hit Submit.
4. If you already have a WebAssign account, type in your login information, if not, create an account and log in.
5. If you cannot log into WebAssign, email me as soon as possible!!

I suggest you post any homework questions on one of the WebAssign discussion boards. These boards give you a place to discuss any homework problems that were not addressed in class and, if answering a question correctly, earn you extra credit on your homework scores. You may also request WebAssign extensions as they are given freely until the exams.

Hand written assignments will also be collected on *Tuesdays*. Note, the written homework is due on a day that class does *not* meet! An additional ten minutes of class on Mondays will be reserved to address questions from the handwritten assignments. *If completed early, you may turn these in to the Homework folder on Monday at the end of class*, otherwise slide your *stapled* assignment under my office door in MDS 303C by 2pm on Tuesday.

You are responsible to find out what material was covered and assignments given if you miss class. Your homework is expected to be written up neatly, clearly, and completely. No partial credit is given on individual problems so make your final answer and its required supporting work, easy to find and identify. No extensions are given for written homework.

After receiving your corrected homework you are given one week to turn in a rewrite that can earn full marks. Answers are marked only as right or wrong so you are responsible for finding and correcting your mistakes. I am available to help answer questions during Drop In hours, but no additional class time will be dedicated to that homework assignment. Rewrites must be clearly marked as such and stapled on top of the original work with the section number clearly visible.

Grades: The following weights will be used to calculate your percentage in the course. The function f takes your percentage in the course and returns your grade on a 4. scale.

WebAssign assignments	15%
Handwritten assignments	15%
Quizzes	15%
2 Exams	30%
Final	25%

$$f(x) = \begin{cases} 4.0 & \text{if } 90 < x \\ .1x - 5 & \text{if } 57 \leq x \leq 90 \\ 0 & \text{if } x < 57 \end{cases}$$

Outside Resources:

Come visit me in the TLC (Snoqualmie 260) during Drop In Hours! If you are unable to make those, please let me know and I will try to work with your schedule. Also remember that you are not alone in this class and your peers are a valuable (and often underutilized) resource.

Visit the Teaching & Learning Center (TLC)! Math tutors are available Monday through Thursday from 9am-7pm and Fridays from 9am-3pm. Complete information is available at `http://www.tacoma.uw.edu/teaching-learning-center/teaching-learning-center`.

Notes: There is *so* many things to say here!!! A complete list is posted at `https://www.tacoma.uw.edu/faculty-assembly/syllabi-service-statements` but a few are highlighted below.

- I do *not* check my email or extension requests after 4pm. Communication sent after 4pm may not receive a response until the next morning. The University's e-mail policy is posted at the above link.
- While I have attempted to make this syllabus as complete as possible, adjustments will be made throughout the course. Announcements will be made during class and it is the responsibility of the student to keep updated if class is missed.
- Bias Reporting: Report an incident of bias or explore how to effectively respond by visiting `http://www.tacoma.uw.edu/reportbias`.
- UW Tacoma is committed to making physical facilities and instructional programs accessible to students with disabilities. Disability Resources for Students (DRS), located in MAT 354, functions as the focal point for coordination for students with disabilities. If you have a physical, emotional, or mental disability that "substantially limits one or more major life activities [including walking, seeing, hearing, speaking, breathing, learning and working]," and require accommodation in this class, please contact DRS at (253)692-4508, email at drsuwt@uw.edu or visit `http://www.tacoma.uw.edu/drsuwt`.
- The Counseling Center offers short-term, problem-focused counseling to UW Tacoma students who may feel overwhelmed by the responsibilities of college, work, family, and relationships. Counselors are available to help students cope with stresses and personal issues that may interfere with their ability to perform in school. The service is provided confidentially and without additional charge to currently enrolled students. To schedule an appointment, call 253-692-4522 or stop by the Student Counseling Center (SCC), located in MAT 354.

- Campus Safety Information: `http://www.tacoma.uw.edu/campus-safety/home`. Safety escorts are available 24 hours a day, 7 days a week, there is no time limit. Call the main office line at 253-692-4416.
- Inclement Weather: Always check the UW Tacoma Home Page: official campus closures or delays will be announced there first. Course Announcements and Email regarding assignments and expectations during a closure will follow.
- Infants/Children in Class Policy: If you have no choice but to bring a child or children with you to class, please let me know prior to class. You will be responsible for seeing that the child or children are not disruptive to the class. If you are breastfeeding an infant or expressing milk regularly, you may bring an infant or breast pump to class. If you prefer to breastfeed or breast pump outside of class, you may take time out of class to use the lactation room (GWP 410).
- To plagiarize is to use the ideas-or unique phrasings-without acknowledging that they come from someplace other than you. At the UW Tacoma, plagiarism is a violation of the student conduct code and the consequences are serious. If you have questions about what amounts to plagiarism, seek guidance from faculty and the TLC.
- Washington state law requires that UW develop a policy for accommodation of student absences or significant hardship due to reasons of faith or conscience, or for organized religious activities. The UWs policy, including more information about how to request an accommodation, is available at Faculty Syllabus Guidelines and Resources. Accommodations must be requested within the first two weeks of this course using the Religious Accommodations Request form available at `https://registrar.washington.edu/students/religious-accommodations-request/`.