TMATH 125 Spring Term 2012

MW 8:00-10:05 AM JOY 207 SLN 19246
Lecturer: Ruth Vanderpool Office: GWP 430
Office Hours: MW 10:05-10:35AM Phone: 253-692-4310

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Course Description & Objectives:

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).

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.

Useful Items:

- Text: Details including the ISBN and some pricing data is posted on the class website.
  If you plan to take TMATH 126 after this class you need:
  Calculus: Early Transcendentals 7^{th} ed. by James Stewart.
  If you are not going to take TMATH 126 you can use:
  Single Variable Calculus: Early Transcendentals 7^{th} ed. by James Stewart.
- Calculators: The department recommends the use of the TI 36X Pro and prohibits the use of graphing calculators for this course. Thus, only scientific calculators (that cannot access the internet) are allowed for exams and quizzes.

Important Dates:

4/18	Exam I	3/30	Last day alter your schedule with no fees
5/9	Exam II	4/6	Last day to add a class
6/4	Final (8:00-10:05am)	5/13	Last day to change grading option

Homework Policy:

Two homework assignments will be posted every week on WebAssign. One assignment will be due at 8pm on *Tuesday* and the second will be due at 8pm *Friday*. Each assignment will be announced in class and posted on the calendar (found on the class website `http://faculty.washington.edu/rvanderp/`). *Many assignments are due on days that the class does not meet.* Each time we meet ten minutes will be set aside to answer homework questions from the online system. To make the best use of this period I advise you to copy down the questions you have and bring them to class. Note that sometimes WebAssign randomizes the numbers so that individuals may have slightly different problems. Thus, when answering questions I may not be considering your specific problem, however the techniques I use 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 "I have a Class Key" button.
3. Enter "uwt 9342 3457 " and hit Submit.
4. If you already have a WebAssign account, type in your login information, if not, create an account and log in. Note that your institution should be "uwt".
5. If you cannot log into WebAssign, email me as soon as possible. You will not be granted extensions if you cite accessibility issues in the few hours before an assignment is due.

When you first log in you will see a notice about a grace period and payment options. You can register with an Access Code card (available in the enhanced WebAssign textbook) or you can buy an Access Code online with a credit card. After the grace period you will again see the notice and you will not be able to to continue without entering an Access Code.

I suggest you post any homework questions on the WebAssign forum labeled "WebHW Questions & Help". This discussion board gives you a place to discuss any homework problems that were not addressed in class and, if answering a question correctly, can earn you extra credit on your homework scores.

Hand written assignments will also be assigned and collected on *Tuesdays*. An additional ten minutes of class on Monday 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 GWP 430 by 8pm on Tuesday.

If you miss class it is your responsibility to find out what material and homework you are responsible for. Your homework is expected to be written up neatly, clearly, and completely. No partial credit is given on individual problems so I suggest that you make your final answer and its required supporting work, easy to find and identify.

After receiving your corrected homework you are given one week to turn in a rewrite. 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 office 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.

Quizzes:

A quiz is given every week at the instructor's discretion. Generally you will be given 20 to 25 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.

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.

WeBWork assignments	15%
Handwritten assignments	15%
Quizzes	15%
2 Midterms	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 if you have questions! If you are unable to attend my posted office hours but would like to meet, please let me know. I am willing to try and work with your schedule. Also remember that you are not alone in this class and your peers are a valuable (and often underutilized) resource.

The Teaching & Learning Center can offer a number of additional instructional services. Additionally math tutors are available regularly Monday through Thursday. Complete information, hours, and updates are available at `http://www.tacoma.washington.edu/tlc/`.

Notes:

- I do *not* check my email after 4pm. Any questions sent to my email after 4pm may not receive a response until the next morning. The University's e-mail policy is posted at: `http://www.tacoma.washington.edu/policies_procedures/E-mail_Policy.pdf`
- The University of Washington Tacoma is committed to making physical facilities and instructional programs accessible to students with disabilities. Disability Support Services (DSS) functions as the focal point for coordination of services for students with disabilities. In compliance with Title II of the Americans with Disabilities Act, any enrolled student at UW Tacoma who has an appropriately documented physical, emotional, or mental disability that "substantially limits one or more major life activities [including walking, seeing, hearing, speaking, breathing, learning, and working]," is eligible for services from DSS. If you are wondering if you may be eligible for accommodations on our campus, please contact the DSS reception desk at 692-4522.
- 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 undergraduate and graduate students. To schedule an appointment, please call 692-4522 or stop by the Student Counseling Center (SCC), located in MAT 253.
- Safety Escorts are available Monday - Thursday 5:00pm - 10:30pm. They can be reached either through the duty officer or by dialing #300 from a campus phone. Additional safety information and emergency procedures is available at `http://www.tacoma.washington.edu/security`.
- 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.