Mathematics 2210—6 Calculus III Spring 2025

SYLLABUS - VERSION 2 - please discard all earlier versions!

Week	Date	Lecture	Topic	Textbook	Assignment
1	M 01/06/25	1	Introduction and technicalities, Review of 1210-1220		hw 1 op.
1	W 01/08/25	2	3-space	11.1	
1	F 01/10/25	3	Vectors	11.2	
2	M 01/13/25	4	The Dot Product	11.3	hw 2 op.
2	W 01/15/25	5	The Cross Product	11.4	
2	F 01/17/25	6	Vector Valued Functions	11.5	
3	M 01/20/25		**NO CLASS**		hw 3 op.
3	W 01/22/25	7	Lines and Tangents	11.6	hw 1,2 cl.
3	F 01/24/25	8	Curvature and Acceleration	11.7	
4	M 01/27/25	9	Surfaces	11.8	hw 4 op.
4	W 01/29/25	10	Cylindrical and Spherical Coordinates	11.9	hw 3 cl.
4	F 01/31/25	11	Functions of several variables	12.1	
5	M 02/03/25	12	Partial Derivatives	12.2	hw 5 op.
5	W 02/05/25	13	Review		hw 4 cl.
5	F 02/07/25	14	Exam 1		
6	M 02/10/25	15	Limits and Continuity	12.3	hw 6 op.
6	W 02/12/25	16	Differentiability	12.4	hw 5 cl.
6	F 02/14/25	17	Directional Derivatives and Gradients	12.5	
7	M 02/17/25		**NO CLASS**		hw 7 op.
7	W 02/19/25	18	The Chain Rule	12.6	hw 6 cl.
7	F 02/21/25	19	Tangent Planes and Approximation	12.7	
8	M 02/24/25	20	Maxima and Minima	12.8	hw 8 op.
8	W 02/26/25	21	Lagrange Multipliers	12.9	hw 7 cl.
8	F 02/28/25	22	Double and Multiple Integrals	13.1-2	
9	M 03/03/25	23	Non-rectangular Regions	13.3	hw 9 op.
9	W 03/05/25	24	Review		hw 8 cl.
9	F 03/07/25	25	Exam 2		
10	M 03/10/25		**NO CLASS**		
10	W 03/12/25		**NO CLASS**		
10	F 03/14/25		**NO CLASS**		
11	M 03/17/25	26	Double Integrals in Polar Coordinates	13.4	hw 10 op.
11	W 03/19/25	27	Applications of Double Integrals	13.5	hw 9 cl.
11	F 03/21/25	28	Surface Area	13.6	
12	M 03/24/25	29	Triple Integrals	13.7	hw 11 op.
12	W 03/26/25	30	More triple integrals	13.8	hw 10 cl.
12	F 03/28/25	31	Change of variables	13.9	
13	M 03/31/25	32	Vector fields	14.1	hw 12 op.
13	W 04/02/25	33	Review		hw 11 cl.
13	F 04/04/25	34	Exam 3		
14	M 04/07/25	35	Line Integrals	14.2	hw 13 op.
14	W 04/09/25	36	Path Independence	14.3	hw 12 cl.
14	F 04/11/25	37	Green's Theorem	14.4	
15	M 04/14/25	38	Surface Integrals and Gauss Divergence Theorem	14.5	hw 14 op.
15	W 04/16/25	39	Gauss's Divergence Theorem	14.6	hw 13 cl.
15	F 04/18/25	40	Stoke's Theorem	14.7	
16	M 04/21/25	41	Review		
16	W 04/23/25	42	Reading Day		hw 14 cl.

Notes

Instructor: Peter Alfeld, pa@math.utah.edu, JWB 127. You may wonder how to address me. It makes me feel young when people of your age address me by my first name, so I like it, and you are very welcome to do so. However, if you are more comfortable calling me professor or Mr. Alfeld, or just professor, that's fine too. Math professors do many things, but my favorite activity is teaching classes like this one to eager and ambitious students like yourselves! I am thrilled to be here!

Student Data: You may be wondering what I know about you. Instructors in our department have access to the following information about the students registered in their classes: Name, preferred name (if entered in your CIS account), your student ID number, your major, your status as freshman, sophomore, junior, or senior, and your photograph (to help us learn your names) on your University ID card. Apart from your scores in our class, we do not have access to other parts of your University Record.

Course Information: Math 2210 is a 3 credit course. It is the third and last semester of our regular Calculus sequence 1210-1220-2210.

Prerequisite Information: "C" or better in (MATH 1220 OR MATH 1250 OR MATH 1320) OR AP Calculus BC score of at least 4.

Course Description: Vectors in the plane and in 3-space, differential calculus in several variables, integration and its applications in several variables, vector fields and line, surface, and volume integrals. Green's and Stokes' theorems.

Schedule of Events, Office Hours: I am available for meetings after class and by appointment. Here is a schedule of weekly events:

Days	Time	Location	Event
MWF	**9:30-10:30**	**JTB 310**	**class**
MF	**10:30-11:30**	**JWB 127 or MC 152**	**Office Hours**
W	**10:45-11:35**	**LCB 222**	**Study Session**

During the study session I will answer questions from anybody who shows up. The office hours are likely to be similar, although less formal. If these times don't work for you, or if you would like to have a private meeting, talk with me after class and we will set up an appointment.

Important Dates: Last day to drop (delete) this class (without being charged tuition): Friday, January 17, 2025. Last day to withdraw from this class: Friday, February 28, 2025. (If you withdraw, the class will show up as "W" on your transcript, it will not contribute to your GPA, and the University will charge you tuition.)

Textbook: The textbook is the same as for Math 1210 and 1220, Varberg/Purcell, Calculus with differential equations, 9th edition, Prentice Hall, 2007, ISBN-10: 0132306336 or ISBN-13: 978-0132306331. There are various supporting materials, but I don't recommend that you purchase any of those. We will cover chapters 11-14. There is a link to purchasing information on our Canvas home page.

Grading: Grading will be based on the following assignments:

Assignment	weight	total weight
hw 1–14	3% each	42%
3 midterm exams	10% each	30%
final exam	28%	28%
Total		100%

Fixed Scale: Grading is according to the following scale.

≥ 90%	≥ 85%	≥ 80%	≥ 75%	≥ 70%	≥ 65%	≥ 60%	≥ 55%	≥ 50%	≥ 45%	≥ 40%	**else**
A	**A−**	**B+**	**B**	**B−**	**C+**	**C**	**C−**	**D+**	**D**	**D−**	**E**

The fact that this scale is fixed means that you are not competing with your class mates. You won't get a worse grade only because somebody else is getting a better grade.

The One Point Contest. I want this course to be perfect. Therefore, if you find a mathematical or factual error on any of the printed materials (this syllabus, the home work assignments, the exams and their solutions, and possibly additional printed handouts), and bring it to my attention before I can fix it I will add one percentage point to your overall score in this class. Depending on the significance of the error I may also notify the whole class and mention your name to them. I appreciate if you bring other errors, like misspellings or grammatical mistakes, to my attention, but there is no point for errors like that. Anything completely or partially handwritten, specifically our class notes, is not eligible for the one point contest. However, I do appreciate if you bring mistakes in those materials to my attention, as well.

Class Notes: I prepare for class by writing notes before class. These will be online and you can look at them before class. They will contain gaps that we will fill in together, during class. I plan to project those notes onto a screen and fill them in by writing on my laptop. Later that day I will replace the online notes with their annotated version. An asterisk will mark that the replacement took place. The main purpose of making my notes available in this fashion is to enable you to pay full attention to our discussion without being distracted by having to take detailed notes yourself. However, otherwise these notes come without warranties expressed or implied. The notes may contain errors (that hopefully will be recognized and corrected in class), and I may deviate from them during class. In particular, these notes are not eligible for our one point contest. The notes from our Question and Answer sessions will also be published on our home page.

Home Work: The primary purpose of the home work assignments is to give you a guided opportunity to reinforce your understanding, and to hone and improve your skills. In this class you will receive personalized home work assignments that you do on the web at a time that's convenient for you. If you give the wrong answer your computer will tell you so, you can figure out what went wrong, and then you can try again. That way you will receive immediate feedback. The underlying software is called WeBWorK. You may already be familiar with WeBWorK, but if not it will be easy to learn. A new home work will open every Monday morning, one minute past midnight. It will close 10 days later on Wednesdays, 1 minute before midnight. Usually a home work will cover material from the few days before it opens, and the first day or two that it is open. The first home work is largely geared towards familiarizing yourself with WeBWorK and a review of Calculus I and II. Since students move around between classes and sections during the beginning of the semester, the first hw will be open one week longer than usual. The last home work will provide a review of the whole semester. You should finish your work on each home work **before the next set opens** but if you fall behind you have a few days to catch up if necessary.

How to make the most of the home work: I recommend that you work on the home work problems soon after the set opens. Work the answers out carefully on paper, and then transfer them to WeBWorK. If the answer is a complicated expression you may find it useful to edit the expression in a text editor and then cut and paste it into WeBWorK. There will be many simple one step problems that require you to apply one of the new properties or formulas we discussed in class. There will also be some more complicated problems that require several steps for their solution, and that make it necessary that you recognize those steps and their sequence. It is useful to work on both kinds of problems with class mates. Talk about the problem, how it fits into what we've discussed, and how to solve it. Explain to each other what at first you don't understand. All the problems require for their solution only that you understand the prerequisites for this class (Calc I and II, algebra, trigonometry, some basic facts, and common sense), but you may have to figure out how to put together these concepts in a way that you had not thought of before. Make sure you understand every step, and every aspect, of the solution. You may be able to get the correct answer in ways that will not help your understanding, for example by guessing an answer, asking someone for the answer, searching online for the answer, or getting the answer via some online facility. Avoid shortcuts that do not help your understanding of the subject and the answer of the specific problem. The main purpose of doing the home work is to build your skills and your mastery of the subject. It's nice to get the score, and see things

turn green on your WeBWorK page, but that's all secondary!

Exams: Exams will be written, during our regular classroom meetings, as listed. They will be closed books and notes, and no calculators or other electronic devices. You'll answer the questions on the exam itself and you'll receive a detailed solution set after each exam. Exams lag our classroom discussion since they take place when the last home work covering them is in its final stages. Exams take place on Fridays. (I'm hoping to be able to get the exams graded over the weekend so I can return them in a timely manner.) Before each exam we will have a review session on Wednesday to prepare for the exam.

Coordination: The exam questions will be identical, or almost identical, to home work problems, and examples we have done in class. I may change the numbers involved, or simplify a problem before incorporating it in the exam, but you will greatly benefit from going carefully over our class notes, and making sure you understand the solution of each of the home work problems! (The final exam may contain a few questions written by the Calculus coordinator, and included for assessment purposes.)

Final Exam: The final exam will be in our regular classroom on

Friday, April 25, 2025, 8:00-10:00am.

It will cover the entire semester. Otherwise its format will be like that of the midterms: closed books and notes, and no calculator or other electronic devices. I am planning to schedule at least one additional review session during final's week. Details will be announced.

Make ups: You should make every effort to participate in all exams. If you have to miss an exam for a legitimate reason, then talk to me, preferably before, but no later than one week after the exam. I will add the weight of what you missed to the weight of your final. Thus effectively you will get the same percentage on the missed exam as you will on the final. That's reasonable since the final is comprehensive. As far as the home works are concerned, since you will have a three day grace period for each homework, there will be no make-ups or deadline extensions for home works. Any make-up or substitute for the final exam will be an oral exam, and will be available only in exceptional circumstances. If you miss an exam because you are away on official University business and these procedures do not meet your needs please talk with me.

Subject Matter: Math 2210 covers the Calculus of several (dependent or independent, or both) variables. Here is the official list[−1−] of Expected Learning Outcomes:

1. Perform basic vector computations, as well as dot and cross products of two vectors and projection of one vector onto another vector.
2. Convert between cylindrical, rectangular and spherical coordinates. Understand when it's prudent to switch to one coordinate system over another in computing an integral.
3. Determine the equation of a plane in 3-d, including a tangent plane to a surface in 3-d.
4. Find the parametric equations of a line in 3-d.
5. Perform calculus operations on functions of several variables, including limits, partial derivatives, directional derivatives, and gradients; understand what the gradient means geometrically.
6. Find maxima and minima of a function of two variables; use Lagrange Multipliers for constrained optimization problems.
7. Understand divergence and curl of a vector field.
8. Compute double and triple integrals in rectangular, spherical and cylindrical coordinates; proper use of double or triple integrals for finding surface area or volume of a 3-d region.
9. Compute line and surface integrals.
10. Determine if a vector field is conservative and if so, find the corresponding potential function.
11. Use and understand when to apply Green's Theorem, Gauss' Divergence Theorem and Stokes Theorem.

Word Problems: Calculus was invented (more than 300 years ago) to solve word problems (particularly and specifically in physics). Educational systems everywhere in the world make you and millions of others

[−1−] created by Calculus Coordinator Matt Cecil.

take mathematics, and Calculus in particular, not because it builds character, but because it enables you in a general and a specific sense to solve problems outside of mathematics. Word problems usually aren't popular with students because they present an additional layer of difficulty: You have to penetrate the words to get to the mathematics. But learning how to solve word problems is the reason why you are here, and word problems will constitute a substantial part of the home works and exams. Relevant information for specific problems will be given in class or with the problem. The most important ingredient in translating the words into mathematics will be common sense. I am hopeful that you will actually get *excited*, if you aren't already, about what you can do with the mathematics you will learn in this class.

What it Takes

Taking any math class is a serious enterprise that requires your commitment, time, and energy. Obviously, we are all busy, and there are many competing claims to our attention, all of which are legitimate. It's not a moral problem if you don't have enough time to dedicate to this class. But it is a fact of life that understanding new mathematics takes a great deal of time and effort, and if you are not prepared to spend that time and effort you will not understand the mathematics. As a guide-line, when taking a math class on a subject you are not yet familiar with, you should count on spending about three hours out of class studying and doing homework, for every hour in class. So for this 4 unit class you should count on spending a total of about 16 hours per week, approximately and on average. Moreover, you should be able to spend that time in good sized chunks without distractions. If you are unable to spend that kind of time during this semester, you are better off taking Calculus during another semester when you do have the time.

I'm not a math person. Many people feel they are intrinsically unable to learn mathematics. This feeling is usually sincere, but it's also irrational, a poor excuse, and unnecessarily self-limiting. You may not be able to make mathematics your career, but anybody can study mathematics successfully. If you follow the suggestions given here in the next few paragraphs you will succeed.

Make sure you have the prerequisites: Mathematics proceeds in a logical sequence, and you can't understand new mathematics if you don't understand what underlies it. For this class this means **you must understand the basic concepts covered in chapters 1 through 6 of our textbook: limits, derivatives, integrals, the Fundamental Theorem of Calculus, the differentiation and integration of polynomials and trigonometric functions, implicit differentiation, the product, quotient and chain rules, and some of the applications of derivatives and integrals.** A very brief initial review will be given in class during the first week. If you find that you do not understand these topics then you would be spending your time inefficiently and unproductively in this class, and you should go back and prepare yourself better for taking Calculus. If you have any doubts about your preparation for this class I'd be pleased to talk with you and make suggestions for your course of action.

Make sure you do not fall behind: This is the most important suggestion in these pages! If you miss just one key idea now you will not properly understand what we are doing later, and your subsequent time and effort will be wasted. Saving two hours today may result in wasting days and weeks later. In particular, as described above, do the home works right after they open!

Come to class each time: I will keep reminding you of the big picture, point out what parts of the subject are crucial, explain the key ideas, and make suggestions for your study. If you have to miss class on occasion make sure you study the relevant section in the textbook and ask a friend or myself what happened in class. We will be following the textbook, but only in a general sense, the examples and the emphasis in class will often differ from the textbook.

Before attending class: read the relevant section of the textbook. Enabling you to do this is the main reason for giving you the tentative schedule on the first two pages of this handout. You will receive updates if the schedule changes. Even if you spend as little as ten minutes on this task, and you don't understand everything at your prior reading, the discussion in class will be much clearer for you, and overall you will save time.

After attending class: make sure you understand what we did. Go over your notes, do examples, choose and work exercises (see below), think about the big picture, question assertions made in class or in the textbook, try different arguments to get the same result, check things for plausibility and consistency.

Team Work: One of the most effective ways to be successful in any math class is to meet with fellow students in the same class on a regular basis to study together, and to work on the home work together. Don't be shy to ask! Everybody in the class is in the same boat and has the same objectives as you. I will try to help facilitate your meeting other students in the class. It's OK if you and your partner or partners have different levels of experience or ability. One of you will benefit from explaining something and the other from having something explained again in a different way. Another benefit of forming a study group is that you will meet new people and learn new ways of looking at things, which is one of the most enjoyable and valuable parts of your experience as a student here.

More Help: We offer a free tutoring service (see the next item) and there are three questions and answer session every week. Also don't hesitate to contact me by e-mail, phone, or in person. I'll be pleased to talk with you.

The **T Benny Rushing Mathematics Student Center** is located on the President's Circle between the Widtsoe and Cowles buildings (JWB and LCB). It offers very pleasant study space (right next to our library), free tutoring, and a computer lab. My office is just down the hall from the center. For information on facilities and hours of the center call our director of student services, Lisa Penfold, at 801-585-9478, send her e-mail at penfold@math.utah.edu, or check out

`http://www.math.utah.edu/ugrad/mathcenter.html`

Focus on understanding the subject rather than memorizing recipes for doing simple things. You understand a piece of mathematics if you can explain it in terms of simpler mathematics, you can make multiple logical connections between different facts and concepts, and you can figure out how to apply the mathematics you do understand to solve new problems, inside and outside of mathematics. Too much teaching of mathematics is directed towards memorizing and rehearsing the application of simple recipes to narrow classes of problems. Focusing on the underlying connections and learning how to figure things out is vastly more efficient and empowering than trying to memorize countless formulas.

Exercises: You can learn mathematics only by doing mathematics. In this class you will of course do many exercises in the context of WeBWorK, but you have to go beyond that. Which and how many additional exercises you should do depends on your background, your current understanding, and your interests. Rather than giving you a list of exercises I believe you are better served by your picking the exercises yourself and me giving you just some general guidelines. The best way to find good exercises is to make them up yourself, but there are also a great many (more than 6,500) exercises in the book, ranging from very simple problems letting you practice just one specific technique to quite sophisticated and deep questions. But, don't hesitate to make up your own exercises! Ask yourself "what if ..." and see where it takes you. Follow these guide-lines:

- It's more useful to do a few involved exercises carefully and thoroughly than rushing through a large number of routine problems.
- Particularly useful are the "Concept Reviews" in the book where you are asked to respond with true or false. These aren't really "problems", rather they are statements designed to check and improve your understanding. In every section that we cover you should go through these and if it isn't obvious to you whether a statement is true or false then go back to your notes and the text and figure out the correct answer (and *why* it's correct).
- Regarding the other exercises you should be *able* to do any of them unless they call for some mathematics that we didn't cover, or there are some arcane details of a word problem that you are unfamiliar with.
- However, this does not mean you should do all of those problems. Instead, look over the problems. If it's obvious how to do a particular problem, and it's not otherwise interesting to you, skip it. If you are not sure, start the problem, and either finish it, or once it becomes clear what's happening, drop it. If you have no idea how to do a problem, and your difficulties are related to the math we are doing, then go back over your notes, talk with people, figure out what you are missing, and then return to the problem.

Simplify Your Problem: A major problem solving technique that is often ignored by students is simplification. You will not solve a difficult problem on the first attempt. When a problem seems hopeless, then simplify it until you reach a problem that's still related to the original problem but that you can solve. Then solve the simpler problem and use what you learned in the process for the solution of the more difficult problem. We'll see many applications of this idea in the course of the semester.

Always Check your Answers: Everybody makes mistakes, and you simply have to recognize this fact and guard against it. You should always check your answers. The answers to odd numbered problems are in the book, but that should not discourage you from working even numbered problems or making up your own[−2−]. You can check your answers by computing the same result in different ways, by checking for plausibility and consistency, or by using more specific techniques such as substituting in the original function or equation, checking integration by differentiation, drawing a graph, or making sure that physical units are consistent. (For example, if your analysis calls for adding two seconds to a square foot than something must have gone wrong.) One major checking technique deserves it own paragraph:

Always Have Expectations: Before you enter into any calculations think about what kind of answer you expect. When you are through compare your answer to your expectations. There are several possibilities. Your answer may meet your expectations. That's great, it will give you a warm and gratifying feeling, even though you may not have learned a lot. If the answer differs from your expectations then there are two possibilities: You may have made a mistake and you are now alerted to that fact, and you can figure out what went wrong. Or, and this is the more exciting, if perhaps less likely, case, there is something you misunderstood before you began work on this problem, and now you can improve and correct your understanding, and learn something new!

Hostile Testing: When checking your answers, to be effective in finding errors, apply what the air and space industry calls *hostile testing*[−3−]. This means that you approach your answer with the expectation that it's wrong and you try to prove that it is wrong. That way, if you fail, then maybe your answer is actually correct! Apply the same attitude to your textbook and to what your teacher tells you. (If you think I'm making a mistake in class, don't hesitate to speak up!) You are more likely to find errors, and you end up processing what you read or hear with a much higher degree of awareness and effectiveness.

How to take Exams: There is only one fundamental way to prepare for an exam: make sure you understand the material. Rather than worrying about what specific problems might or might not be on the exam, just make sure the mathematics covered by the exam make sense to you, following the suggestions above. If you understand the math you'll be able to handle anything that might appear on the exam. Here are some more suggestions specifically with respect to exams:

- **Cramming does not work**. That is particularly true in mathematics. Instead study steadily throughout the semester, and **relax** and do something fun the day or the night before the exam.
- Make sure you arrive for the exam well rested and with time to spare.
- When you actually receive the exam, relax, and read all the instructions and all the problems, **before** you start working on any of them.
- Then do those problems that are easy or obvious. Not only does that give you a good start but also it may teach you or remind you of something that's useful for the other problems. There is rarely a good reason to do the problems in exactly the sequence in which they appear on your piece of paper.
- If you get stuck put that problem aside and return to it after you are done with the more tractable problems.
- When you are through and there is time left, **don't leave!** Instead, check your answers and make sure they are correct. You've spent a lot of time and money getting to the stage where you are taking that exam, and a lot is riding on it. Being able to correct a mistake you made far outweighs the benefits of being able to spend 20 minutes more on whatever else you like to do.
- Even if you feel you don't understand a question, or several questions, at all, don't just leave. Write what you do understand and spend all the time you have available trying to figure out even those problems that appear hopeless.
- After the exam go over the answers (which you will receive as you walk out the door). The exam is not an end in itself, you are here to learn the subject, and reading and thinking about problems you have just wrestled with is extremely helpful in this process.

[−2−] If you are not sure of an answer to an even numbered problem, or one you made up, talk to me.
[−3−] This is not the testing we inflict upon our students!

Study-Guide: Go to Google, type the phrase "understanding mathematics", and pick the first item that you will see. This will resolve all your math issues.

Great Math Book: The book by Courant and Robbins: "What is Mathematics" (566 pages, 2nd edition, August 1996, Oxford Univ Press, ISBN: 0195105192) was first published in the 1940s. The book has been phenomenally successful and is still in print. It has turned on untold numbers of youngsters to mathematics (including myself some time ago). It's available as an inexpensive and highly recommended paperback.

Language: A necessary part of understanding mathematics is mastering the relevant language. Don't skip over words you don't understand fully. Instead, pause to make sure you know what they mean. I recommend that you keep an ordinary dictionary handy during your studies. You may also want to purchase a mathematical dictionary like the excellent and inexpensive Harper Collins Dictionary of Mathematics, ISBN 0064610195.

TEX: During this semester you will receive a number of handouts (like this syllabus, exams, answer sets) containing **typeset** mathematics. I'm using the TEX typesetting system which is a true work of genius[−4−]. You can use it yourself easily, and you may enjoy learning about it. There are two versions of TEX, the original, now called *plain TEX*, and a newer version called LATEX. I have a bias towards plain TEX, but you are probably better off learning LATEX. It is now used much more widely than plain TEX. To get going borrow or purchase the book "LATEX: A Document Preparation System", 2nd ed., by Leslie Lamport, the author of LATEX. The TEX and LATEX software is free, you can use it on most University systems, and you can download it to your PC or Mac.

The Keynote Speech for this class is given by Sir Isaac Newton who lived 1643-1727 and was one of two independent inventors[−5−] of Calculus. You want to learn how to reason nimbly and judiciously, rather than turn into a vulgar mechanick:

A Vulgar Mechanick can practice what he has been taught or seen done,
but if he is in an error he knows not how to find it out and correct it,
and if you put him out of his road, he is at a stand; Whereas he that
is able to reason nimbly and judiciously about figure, force and motion,
is never at rest till he gets over every rub.

Isaac Newton to Nathaniel Hawes, 25 May 1694

(That's how they talked and wrote in the 17th century. Obviously, the vulgar mechanic or he that is able to reason nimbly or judiciously may be a woman or a girl.)

Basic Principle: I used to write long explanations of the dire consequences of waiting too long to begin work on a project, but after many years I managed to condense those treatises into three words. Believe me:

Procrastination is Hazardous!

You are going to learn some powerful stuff, and hopefully you'll even have some fun in this class, but get going right away and make sure you stay on top of things!

[−4−] The genius is Computer Science Professor Don Knuth of Stanford University. Calling TEX a work of genius is controversial, I have also seen it called a "hideous hack". I believe in my opinion, but you will have to form your own.

[−5−] the other was Gottfried Leibniz, 1646-1716. Newton invented Calculus first, but Leibniz published his work first. The two of them were bitter enemies who fought viciously about who should get credit. Despite being perhaps the greatest mathematician in history, Newton in particular was not an easy man to get along with. In his later years he served as the director of the English Mint, and in that capacity proved one William Chaloner guilty of high treason for counterfeiting and got him executed.

Additional Information

The remainder of the information in this syllabus is provided by the University of Utah and taken from the page

cte.utah.edu/instructor-education/syllabus/institutional-policies.php

Mandatory Institutional Policies for Syllabi

last updated May 2024.

Americans With Disabilities Act (ADA)

The University of Utah seeks to provide equal access to its programs, services, and activities for people with disabilities.

All written information in this course can be made available in an alternative format with prior notification to the Center for Disability & Access (CDA). CDA will work with you and the instructor to make arrangements for accommodations. Prior notice is appreciated. To read the full accommodations policy for the University of Utah, please see Section Q of the Instruction & Evaluation regulations.

In compliance with ADA requirements, some students may need to record course content. Any recordings of course content are for personal use only, should not be shared, and should never be made publicly available. In addition, recordings must be destroyed at the conclusion of the course.

If you will need accommodations in this class, or for more information about what support they provide, contact:

Center for Disability & Access
801-581-5020
disability.utah.edu
162 Union Building
200 S. Central Campus Dr.
Salt Lake City, UT 84112

Safety at the U

The University of Utah values the safety of all campus community members. You will receive important emergency alerts and safety messages regarding campus safety via text message. For more safety information and to view available training resources, including helpful videos, visit safeu.utah.edu.

To report suspicious activity or to request a courtesy escort, contact:

Campus Police & Department of Public Safety
801-585-COPS (801-585-2677)
dps.utah.edu
1735 E. S. Campus Dr.
Salt Lake City, UT 84112

Addressing Sexual Misconduct

Title IX makes it clear that violence and harassment based on sex and gender (which includes sexual orientation and gender identity/expression) is a civil rights offense subject to the same kinds of accountability and the same kinds of support applied to offenses against other protected categories such as race, national origin, color, religion, age, status as a person with a disability, veterans status, or genetic information.

If you or someone you know has been harassed or assaulted, you are encouraged to report it to university officials:

Title IX Coordinator & Office of Equal Opportunity and Affirmative Action

801-581-8365
oeo.utah.edu
135 Park Building
201 Presidents' Cir.
Salt Lake City, UT 84112

Office of the Dean of Students
801-581-7066
deanofstudents.utah.edu
270 Union Building
200 S. Central Campus Dr.
Salt Lake City, UT 84112

To file a police report, contact:

Campus Police & Department of Public Safety
801-585-COPS (801-585-2677)
dps.utah.edu
1735 E. S. Campus Dr.
Salt Lake City, UT 84112

If you do not feel comfortable reporting to authorities, the U's Victim-Survivor Advocates provide free, confidential, and trauma-informed support services to students, faculty, and staff who have experienced interpersonal violence.

To privately explore options and resources available to you with an advocate, contact:

Center for Student Wellness
801-581-7776
wellness.utah.edu
328 Student Services Building
201 S. 1460 E.
Salt Lake City, UT 84112

Academic Misconduct

It is expected that students comply with University of Utah policies regarding academic honesty, including but not limited to refraining from cheating, plagiarizing, misrepresenting ones work, and/or inappropriately collaborating. This includes the use of generative artificial intelligence (AI) tools without citation, documentation, or authorization. Students are expected to adhere to the prescribed professional and ethical standards of the profession/discipline for which they are preparing. Any student who engages in academic dishonesty or who violates the professional and ethical standards for their profession/discipline may be subject to academic sanctions as per the University of Utahs Student Code: Policy 6-410: Student Academic Performance, Academic Conduct, and Professional and Ethical Conduct.

Plagiarism and cheating are serious offenses and may be punished by failure on an individual assignment, and/or failure in the course. Academic misconduct, according to the University of Utah Student Code:

...Includes, but is not limited to, cheating, misrepresenting ones work, inappropriately collaborating, plagiarism, and fabrication or falsification of informationIt also includes facilitating academic misconduct by intentionally helping or attempting to help another to commit an act of academic misconduct.

For details on plagiarism and other important course conduct issues, see the U's Code of Student Rights and Responsibilities".