



Sirindhorn International Institute of Technology
Thammasat University at Rangsit

GTS 116: Mathematics for Technologists I

Semester/Year: 1/2018

Instructors: Associate Professor Dr. Nirattaya Khamsemanan
รองศาสตราจารย์ ดร. นีรัตยา คำเสมานันท์
nirattaya@siit.tu.ac.th

Time:

Section 1: Thursday 9AM-Noon RS 1-506

References:

1. The partial notes of GTS116 Mathematics for Technologists I, Volume 1, Composed by Dr. Nirattaya Khamsemanan, SIIT, TU.
2. The partial notes of GTS116 Mathematics for Technologists I, Volume 2, Composed by Dr. Nirattaya Khamsemanan, SIIT, TU
3. Calculus (Metric version) by James Stewart, Brooks/Cole 7th Edition.

Course webpage: nirattaya.com/gts116f18

Facebook page: Search for “Siitgts116f18” and click like

Grading: Your final grade will base on the followings

Homework	10%
Class Attendance and Quizzes	10%
Quizzes	10%
Midterm Examination	35%
Final Examination	35%

Midterm Examination: 2 Oct 2018 TIME 09:00 - 11:00

Final Examination: 4 Dec 2018 TIME 09:00 - 12:00

Course Description: This course covers differential and integral calculus for functions of one variable and infinite series. Topics include: limits and continuity, derivatives of functions, extrema of functions, indeterminate forms, techniques of integration, and power series.

Calculator: No calculator is needed for this course. Calculators will not be allowed for quizzes, midterm or final exams. So, I strongly suggest not using calculators for your homework.

Quizzes and Exams: All quizzes and exams will be closed book. There will be no makeup's for missed work; an unexcused absence will be given a grade of 0, and an excused absence (and there are very few reasons for excusing a missed exam) may be replaced by the corresponding section of the final exam. **The instructor or coordinator should be notified before missing any exam or quiz if at all possible and immediately thereafter when not possible.** The instructor will determine if the absence from an exam will be excused.

Lectures: You are very STRONGLY encouraged to attend lectures. Although the instructors will follow the book rather closely, it WILL be far simpler to understand the materials from the lectures, rather than from the book alone. Simply reading (or even memorizing!) the book, without achieving an understanding of the ideas involved, will be insufficient to obtain a passing grade. **Students who miss more 30% of classes will not be allowed to take the final exam and will automatically fail (Grade F) the course.**

Homework: As the name suggests, homework is work to be done outside of class. We will not devote much class time to discussing homework problems. Please feel free to see your instructor to obtain assistance. You are encouraged to work with other students on the homework however you must write down your own work. It would be a mistake to skip the homework, because no skill (in mathematics, foreign language, athletics, and so on) can be learned by passive involvement, but only by regular practice. Homework assignments will be graded with attention given to the method and insight rather than final outcomes. **Late work will not be accepted.** Write all your work in paper. You won't get full credit even when your answer is right without all of your work written down.

Please submit all homework in the GTS 116 box in front of the CGS Department which is located on the 3rd floor of RS building.

Goals: The goal for the semester is to learn, understand and be able to work with the main ideas of differential and integral calculus, including limits, continuity, differentiation, integration and various applications of the derivative and the integral. This does not only mean that you should be able to work through a bunch of problems similar to ones seen in the homework. But that you should have the ability to articulate the ideas presented in the course in a clear and coherent manner as well.

Expectations: I expect you to do most of your learning outside of the classroom. You should expect to spend 5-8 hours a week studying and working on calculus outside of class. Mathematics, like most subjects, is learned by doing it. We will not have time in class for you to do a lot of mathematics yourself. However, I do expect you to come to class and participate actively in class discussions. If you must miss a class, I expect you to find out what happened, either from your instructor or one of your classmates. You are responsible for everything that goes on in class.

Academic Integrity:

A fundamental tenet of all educational institutions is academic honesty; academic work depends upon respect for and acknowledgment of the work and ideas of others. Misrepresenting someone else's work as one's own is a serious offense in any academic setting and it will not be condoned.

Academic misconduct includes, but is not limited to, providing or receiving assistance in a manner not authorized by the instructor in the creation of work to be submitted for academic evaluation (e.g. papers, projects, examinations and assessments - whether online or in class); presenting, as one's own, the ideas, words or calculations of another for academic evaluation; doing unauthorized academic work for which another person will receive credit or be evaluated; using unauthorized aids in preparing work for evaluation (e.g. unauthorized formula sheets, unauthorized calculators, unauthorized programs or formulas loaded into your calculator, etc.); and presenting the same or substantially the same papers or projects in two or more courses without the explicit permission of the instructors involved.

A student who knowingly assists another student in committing an act of academic misconduct shall be equally accountable for the violation, and shall be subject to the sanctions and other remedies described in The Student Code. Sanctions shall include, but are not limited

to, a letter sent to the Dean of Students of the University; a grade of 0 on the assignment, quiz or exam; a grade of F for the course.

Lectures Rules and Regulations

1. I TALK, you LISTEN. Be respectful to your classmates and your instructor. Keep your voice down. No chitchatting. Do not disturb the class.
2. 15 minutes rule: if you attend the class 15 minutes or more after the scheduled class time, you may not earn attendance credit for that day.
3. All communication devices must be off or on silent mode during lecture times.
4. In case of emergency, you have to take your phone call outside. You are not allowed to talk on the phone in class.
5. No snoring during class time.
6. Any violation of academic integrity will not be tolerated.
7. Three strikes you out! If the disorder level is high, noise etc, the whole class will be warned. If it reaches three times, the whole class will not receive the attendance credit that day.
8. Video-taping, taking a photograph, voice recording and any other ways of recoding the lectures are not allowed.
9. Pets are not permitted in class.
10. You must dress according to TU dress codes to attend classes. Otherwise, attendance credits, quizzes and exams will not be granted.

Should you fail to follow any of these rules, you will be asked to leave the classroom, or more penalties will be applied.

Other Remarks

Your time is valuable; I want you to get as much as possible out of your time in the classroom with me. Please don't hesitate to let me know how you feel about the pace, or just about how things are going in general.

Schedule of Lectures GTS116 1/2018: (Updated August 22, 2018)

Lectures are scheduled as shown below, unless announced otherwise by the course coordinator.

Topic	Date
Functions	Thursday, August 16, 2018
Limits	
Continuity	
Rate of Change and Def. of Derivative	Thursday, August 23, 2018
Derivatives	
Derivatives of Trig. Functions and Chain Rule	Thursday, August 30, 2018
Implicit Diff. and Related Rates	
Log. Diff. and L'Hopital's Rule	Thursday, September 6, 2018
Quiz 1	
Increasing, Decreasing and Concavity	Thursday, September 20, 2018
Curve Sketching	
Optimization	Thursday, September 27, 2018
Quiz 2	
Midterm	Tuesday, October 2, 2018
Antiderivatives and Sub. Techniques	Thursday, October 11, 2018
LHS, RHS and Definite Integrals	
Fundamental Theorem of Calculus	Thursday, October 18, 2018
Area b/w Two Curves and Vol. by Slicing	
Vol. by Cylindrical Shells	Thursday, October 25, 2018
Integration by Parts and Trig. Integrals	
Trig. Sub. And Partial Fractions	Thursday, November 1, 2018
Quiz 3	
Improper Integrals	Thursday, November 8, 2018
Sequences	
Series	Thursday, November 15, 2018
Quiz 4	
Maclaurin and Taylor Poly. And Series	Thursday, November 29, 2018
Power Series and Interval of Convergence	
Final Exam	Tuesday, December 4, 2018

****Date changing due to Thammasat University moved the date of Wai Kru ceremony from August 30, 2018 to September 13, 2018.**