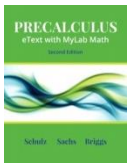
Mathematics 15 – 005: Precalculus; Fall 2018



Mathematics 105 – Section 005

Pre-Calculus Fall 2018

Class Schedule:	Tue & Thu 5:20 – 7:10 PM	**Location:**	Robinson Hall B104
Class Dates:	Tue 28 Aug – Thu 6 Dec	**Final Exam:**	Thu 13 Dec 4:30 – 7:15 PM (in classroom)
Instructor:	Mr. Glenn Preston	**Email:**	gpresto3@gmu.edu
Office:	**Exploratory Hall 4309**	**Office Hours:**	**Tue & Thu 1:30 – 4:30 pm or by appt.**

Prerequisites: Appropriate score on the math placement test or successful completion of the algebra tutorial program offered through the Math Learning Center

Required Textbook & Software:

- **Textbook: "PRECALCULUS: eText with MyLab Math"**, by Schulz, Sachs, Briggs; Published by Pearson, ISBN: 9780134764603
  - You should also buy the **"Explorations and Notes" workbook** that goes along with the textbook
- **Software: MyLab Math (MLM)**: This *used* to be called MyMathLab and comes bundled with the eBook (In fact, that is how you access the eBook.) https://www.pearsonmylabandmastering.com/northamerica/mymathlab/
  - See **"MyLab Math Student Registration Handout for preston25805"** emailed to you or on Blackboard under "Course Content and then in the "MyLab_Math" folder. In case you need it, the course name is "**Math_105-005_Fall_2018_PRESTON**"
    - **VERY VERY IMPORTANT**: Please use your GMU email address to sign up for MyLab Math. **I will not accept any work MLM done under any other email domain than GMU.edu** (i.e. no gmail, yahoo, Hotmail, AOL, etc.) Please also list your name as it appears in Patriot Web/Blackboard (I need to merge data from MLM into Blackboard and it is a nightmare with nicknames that don't match the roster, email addresses like "sugarbear123@yahoo.com", etc.)
  - **YOU WILL NEED EITHER THE MATHEMATICA APPLICATION OR ITS "CDF PLAYER" TO ACCESS THE eBOOK.** A full copy of Mathematica that you can load onto your laptop is available for free through a GMU site license, and is loaded on many of the computers in GMU computer labs. Or you can download the free "CDF Player" from Wolfram
    - Full Mathematica application: https://cos.gmu.edu/mathematica/
    - CDF player from Wolfram Research: https://www.wolfram.com/cdf-player/
    - You can also download the CDF-player from MLM – go to "START HERE" and it is the 1st item at the top

Course Learning Objectives:

- **Per GMU course catalog**: *"Reviews mathematics skills essential to studying calculus. Topics include equations, inequalities, absolute values, graphs, functions, exponential and logarithmic functions, and trigonometry."*
  - ***Notes:*** *This course does not satisfy the university's quantitative reasoning requirement for the BA degree. May not be taken for credit after receiving grade of C or better in any MATH course numbered 113 or higher.*
- **Glenn's additional objective**: Prepare you to be successful in single-variable calculus (Math 113 & 114) and other courses requiring a solid understanding of algebra, trigonometry, and functions (e.g. polynomial, rational, exponential, logarithmic, and trigonometric functions). I realize that some students will go beyond 114 to Calc III, Linear Algebra, and/or Differential Equations but first things first – you gotta get through 113/114 to get there

Philosophy and Approach: WE WILL EMPHASIZE MASTERY OF KEY CONCEPTS AND THE FUNDAMENTALS

- **Learn how to diagnose and "attack" problems** to determine the problem type, deduce and understand the underlying concept(s) behind the problem, determine the appropriate problem solving technique(s), and master the mechanics of executing them to obtain a solution – this will be done by practice, practice, practice
- **Derivations of key theorems and techniques** – these are essential for learning and understanding the "5Ws" of what we are learning: the "who, what, when, where, why, and how" which is what you should focus on. We will do fewer proofs/derivations and generalized problems with parameters than when I took this course (i.e. the Stone Age) but more than you are probably used to.

- Hopefully you will find that by understanding and remembering a core set of knowledge and how to use this knowledge to derive the rest of what you need, you will not need to memorize countless formulas that you will soon forget.
- ➔ **It is easy to forget formulas that you don't understand and/or try to cram in at the last minute. It is much harder to forget a concept that you truly understand.**

- **Emphasize the connection between the algebraic and geometric views and approaches for understanding and attacking problems.** We'll learn/practice/master how to translate symbolic language (e.g. equations) into the corresponding geometric language (e.g. shapes, graphs) and vice versa.
- **Emphasize graphing functions by hand based on understanding the graphical properties of a core set of functions and how to translate these core graphs to match to the particular problem at hand.** This is traditionally a weak area for many students and I am always asked: *"I have a graphing calculator – why do we have to graph by hand?"*
  The reason is simple – **it's not the graph itself that is valuable it's the analytical and deductive reasoning skills you develop to build the graph that are crucial.**
  - Building a graph by hand forces you to analyze the equation/solution to determine its properties to and use deductive reasoning to combine these piece parts of information into a coherent picture.
  - These are skills that are not emphasized/practiced enough, IMHO, and are crucial to being a good problem solver, gaining a deeper understanding of topics in any field, and analyzing results to see if they are valid. **"Trust me", mastery of these analytical and deductive reasoning skills will put you head and shoulders above most of your peers in the work place.**
- **Word problems** – upper-level courses in your major and related courses will be full of word problems so you need to get good at them, if not already. **Problem solving is both an art and a science.** Using an organized approach is vital to being a good problem solver. Doing enough problems of a particular type builds your intuition and insight into the best method(s) to "attack" similar problems. **There is no substitute for practice, practice, practice.**
- **Wherever possible I will introduce calculus concepts/techniques to demonstrate applications of what you will learn in this class, and to help "jump start" you for Calc I & II.** I will make clear what I am introducing simply for your information and what I expect you to know on an examination. I am **NOT** going to hold you accountable for learning any Calculus in this class. However, Calculus is a very relevant application of the concepts you will learn in this course and I do expect you to be able to apply your knowledge to real world problems.

Grades: Course Average Computation and Grading Scale

Graded Component	Nominal	Max Final	Max Mid-term
Mid-term Exams *(3)*	**60%** *(all 3 @ 20% each)*	**40%** (***best 2*** *@ 20% each)*	**75%** *(all 3 @ 25% each)*
Quizzes *(on-line, 1 for each Ch. section)*	**10%**	**10%**	**5%**
Comprehensive Final Exam	**30%**	**50%**	**20%**
TOTAL	**100%**	**100%**	**100%**
EXTRA CREDIT QUIZ BONUS: If you complete **ALL SEVEN** of the quizzes with at least a 70% on each one you will get your quiz average times 5% added to your course average	**5%**	**5%**	**5%**

- A course average will be calculated for each student using all three weightings. I will use the highest of the three averages for each student individually to determine their overall course grade using the grading scale below.

F (0.0)	D (1.0)	C- (1.67)	C (2.0)	C+ (2.33)	B- (2.67)	B (3.0)	B+ (3.33)	A- (3.67)	A (4.0)	A+ (4.0)	Letter Grade (Grade Points)
< 60	≥ 60	≥ 70	≥ 72	≥ 78	≥ 80	≥ 82	≥ 88	≥ 90	≥ 92	≥ 100	Course Average

- **Grades are based on an absolute scale and NOT using a "curve".** Your performance will be evaluated relative to what you need to achieve in order to be successful in future courses not how your classmates do (i.e. a curve). Exams will be designed accordingly and **you will have opportunities to earn extra credit on exams and quizzes**.
- **IMPORTANT NOTE: There are no extra credit assignments or any additional work during or at the end of the semester that can be done to boost your grade.** I still get asked every semester – and the answer is always "no". Please don't ask.

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Honor Code: THIS IS VERY IMPORTANT

- **It is expected that each student will conduct himself or herself within the guidelines of the Honor Code.** At a minimum, this means that sharing information of any kind about exams or quizzes (either before or during the exam/quiz) is forbidden. Any alleged issues related to the honor code will be brought to the attention of the Office of Academic Integrity. Please reread the University Honor Code and abide by it.

Class Schedule and Protocol:

- The nominal schedule for class topics, exams, and quizzes is shown on the "Course Schedule and Homework Exercises". **Modifications to the schedule may be required.** If so, I will announce them in class and post updates on Blackboard. **You are responsible for being aware of any announced, emailed, and/or posted changes.** Please check the posted schedule/homework list and/or the syllabus before asking questions that are already answered in these documents.
- **Electronic devices: Please be courteous and silence all cell phones, pagers, iPods, and other devices during class.** You are welcome to use a laptop or other electronic device to access lecture materials, capture notes, or other legitimate class-related use (but NOT during an exam or quiz). ➔ **Basic principle: Please use common sense and avoid disrupting other students.**

Attendance:

- **Attendance will not be taken and there is no "participation" component to your grade.** It is your choice/responsibility to show up for class, be prepared, and get something out of it. Regardless of whether and how much you attend class, it is vital that you keep pace with the course schedule.
- If for some reason you need to miss class, leave early, or arrive late **no explanation is needed**. I'll assume that you have a valid reason and it's for you to decide what's valid not me. **Please do not email me and ask what we did in class that day. It's up to you to find out from the course schedule, posted materials, or other students – it's not up to me to catch you up.**

Quizzes:

- There are 7 on-line quizzes in MyLab Math – nominally one per chapter except that I split chapter 2 into two quizzes because Exam-1 falls in the middle of chapter 2. There are two quizzes due prior to each mid-term exam covering the same sections that are covered on the exam. The 7th quiz deals with chapter 6 which is not covered on a mid-term exam so it is due prior to the final exam
  - **DUE DATES: 11:59 PM on the night prior to the corresponding exam**
    - **PRIOR TO EXAM-1: Due No Later Than (NLT) 11:59 PM WED Sep 19th**
      - Two Quizzes covering: Chapter 1 and Chapter 2.1-2.3
    - **PRIOR TO EXAM-2: Due NLT 11:59 PM MON Oct 22nd**
      - Two Quizzes covering: Chapter 2.4-2.7 and Chapter 3
    - **PRIOR TO EXAM-3: Due NLT 11:59 PM WED Nov 28th**
      - Two Quizzes covering : Chapter 4 and Chapter 5
    - **PRIOR TO FINAL EXAM: Due NLT 11:59 PM WED Dec 12th**
      - One Quiz covering: Chapter 6
  - **There will be no extension of due dates for any of the quizzes for ANY reason. It is your responsibility to submit "your best shot" prior to the deadline.**
- You have unlimited time to complete the quiz and an unlimited number of attempts. You can save your work part way through and pick up where you left off since you should work on the quizzes as we go and NOT wait until the last minute. **HOWEVER TEMPTING IT MIGHT BE TO PUT THEM OFF UNTIL THE LAST MINUTE – DON'T.**
  - If you take the quiz more than once, MLM will report the score on the **last** attempt regardless of how it compares to the other attempts and that will be the score used for grading purposes –it's not "best of" it's your final attempt that counts
- Don't forget that there is a potential extra credit bonus if you complete all 7 quizzes with at least a 70% or higher on EACH quiz (not just a 70% average)
- You can refer to the textbook and/or your notes as you wish during a quiz. However, I encourage you NOT to refer to the book or notes to make the quiz a true assessment of what you know and what you don't. Taking quizzes closed book better simulates a practice exam environment.

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Mid-term Exams:

- **There will be 3 in-class mid-term exams.** Each exam will "cover" particular chapter sections as listed on the class schedule. However concepts and problem solving techniques from prior chapters and prerequisite courses will often be required.
- **Regardless of the chapters being covered, each exam will have one or more occurrence involving these crucial topics/skills:**
  - **Word problem(s) and/or physical application(s)** – you cannot get too good at doing word problems and the only way to get good at them is to do them
  - **A derivation of some type** – you will be required to derive an important result or a given formula/identity by using the fundamental concepts and techniques of the course
  - **Fundamental geometry and algebra concepts and techniques**
  - **Graphs:** Sketching a graph and/or evaluating given graph(s) to determine if it/they are correct
- **On each exam I will be looking for you to demonstrate/show:**
  - **Good problem solving skills:** The ability to **diagnose** a problem to determine the type of problem you are dealing with, recognize and understand the **fundamental concept(s)** involved, determine and **properly apply the appropriate problem solving technique(s)**, and correctly **execute the mechanics** of the technique(s)
  - **A well-organized solution with a logical and mathematically correct progression from step to step**
    - **Show your work**; don't leave large gaps between steps, even if you understand what you are doing, you need to properly demonstrate that understanding by properly documenting your solution. I will give some latitude but for the most part I need to see a clear and correct path – not a collection of correct steps mixed in with incorrect steps that magically result in an answer (disorganized incomplete results won't cut it in the real world where bullet-proof documentation will be needed to communicate with/convince coworkers, your boss, customers, etc.).
    - **What you write down matters** – be careful with notation; be careful with use of an equal sign ➔ both sides of an equation must be equal or else it is an invalid statement
  - **Correct analysis, understanding, and interpretation of a solution in the context of the problem**
  - **Some type of "sanity check" on your answer** – is your answer/solution reasonable?
    - Sometimes you can do an explicit check to prove that an answer is correct. If not, very often you can rule out answers that are not physically possible due to the constraints of the problem and/or identify unreasonably large or small values that can't possibly be correct.
    - Checking your answer gives you a chance to detect and possibly fix an incorrect answer. This is crucial in the real world where there are no answers in the back of the book, no solution manual, and not catching an obviously incorrect result can be disastrous (think possibly being fired if it happens often and/or the mistakes are big enough)
    - ➔ **I expect you to routinely check your work; impossible/blatantly wrong answers will receive very little to no credit comparted to an incorrect answer that is at least plausible.** On an exam if you know something is not right and simply can't find the error **don't try to hide it or gloss over it**! I will take this as a sign that you don't understand the problem. ➔ **Point out the discrepancy to me and explain that you know it is wrong and why/how you know. You will get credit for doing that, not penalized ☺**

Comprehensive Final Exam:

- **The final exam will be comprehensive and will emphasize key concepts/techniques, particularly putting them together to solve "compound" problems, applications, and understanding the "big picture" and "the 5W's".**
- **VERY IMPORTANT FINAL EXAM POLICY NOTES:** *(Refer to GMU Academic Policy AP.3.10 for details.)*
  - GMU policy allows you to arrange an alternate day to take the final if you have a direct conflict between final exams or more than two final exams on the same day. If so, let me know at least a week prior to the final exam so we can make suitable arrangements. **My policy (not GMU's) is that requests less than 48 hours prior to the final exam will not be considered under any circumstances**. My strong preference is to schedule the alternate time the day before or day after the regularly scheduled exam but I will be somewhat flexible on a case-by-case basis.
  - Otherwise, you must take the final exam at the regularly scheduled date and time unless you have excused absence in writing signed by your Dean or Academic Director.

Make-up Exams:

- **There will be NO make-up exams except as noted above for final exam conflicts and as discussed below for mid-term exams. Missed exams will receive a score of 0.**
- **Under special circumstances and WITH PRIOR ARRANGEMENT,** you may be able to take a mid-term exam at an alternate time. This applies only to situations consistent with GMU Academic Policy AP.1.6.1

- **Religious Observance** - I have done my best to deconflict the course schedule with religious holidays. However, if the schedule changes or there is a situation/conflict I am not aware of, please let me know ASAP.
- **Participation in university-sponsored activities** (e.g., intercollegiate athletics, forensics team, dance company). For academic activities I will interpret this more broadly than strictly "GMU-sponsored" on a case-by-case basis.
- **My strong preference is to arrange the alternate time to be before the exam is given rather than allowing extra time to prepare.** However that may not always be possible.
- If you have a conflict that meets the above criteria, please identify the conflict(s) to me in the first two weeks of class (or ASAP if there is a schedule change) so that we can make suitable arrangements. **Last minute requests (< 48 hours) will not be considered under any circumstances**. ➔ Planning ahead is an important survival skill in the "real world"

General Exam Information:

- **NO NOTES OR REFERENCES:** All exams will be closed book and no notes or other reference material of any kind will be allowed. There may be situations where I provide a few formulas or other reference material that I don't expect you to know off the top of your head. If so, I will let you know prior to the exam what, if any, reference material/formulas will be provided.
- **DURING EXAMS YOU MAY USE ANY SCIENTIFIC CALCULATOR OF YOUR CHOICE, PREFERABLY NOT A GRAPHING CALCULATOR, AND DEFINITELY NO SMARTPHONES OR LAPTOPS.** I'd very much prefer that it not be a graphing calculator, but if that's all you have, then I'm not going to make you buy another one (even though you can get a good basic scientific calculator at the bookstore for about $15). However, if you have a graphing calculator, you may use it to CHECK your answer not to DERIVE it (see note below).
  - **VERY, VERY, VERY IMPORTANT NOTE**: You WILL be required to graph functions by hand on every exam and the questions will be structured such that if all you do is plug a formula into a graphing calculator and copy the graph onto the exam, you will get ZERO credit.
- **Please TURN-OFF** (not just vibrate mode) and **PUT AWAY** all cell phones, mp3 players, and any other electronic devices.
- **FOOD & BEVERAGES:** Please no bags of chips, full-course meals and other food that will make noise or otherwise distract fellow students. "Quiet" snacks are OK. Water and other non-alcoholic beverages are also OK.
- **NO SHARING OF PENS, PENCILS, ERASERS, PAPER … ANYTHING:** If you need something – see me.

Homework Exercises:

- **WORD TO THE WISE: If you don't do a thorough and comprehensive job on the homework exercises, you will almost certainly fail the course – it is that simple. I learned that lesson the hard way when I was in college and I've seen countless student fall into this trap in my courses – don't be one of them.**
- **Recommended homework exercises for this class are shown on the "Course Schedule and Homework Exercises".** These assignments have no due dates and there is no requirement to submit your homework, BUT, **do 'em and don't fall behind**.
  - Homework exercises are necessary for you to learn the concepts and problem solving techniques of the course and to master them through practice, practice, practice. **You are doing the homework for YOUR benefit not mine** since homework will not be formally collected or count directly in your grade. However, homework will have a HUGE indirect impact on your grade. It may take a few attempts, but **in the end, you should be able to do any homework problem start-to-finish on your own.**
- You will find that virtually all homework exercise problems can (and should) be done by hand. Computation in some of the word problems may be facilitated by using a calculator and that is perfectly fine. For practice DO try to estimate an expected range of values by hand for practice (i.e. an upper and lower bound on reasonable answers). You may struggle at first but once you get the hang of it you will be amazed how easy and useful this is.

Getting Help:

- **Don't let a small problem turn into a big one by getting behind – it will be very difficult to catch up. Help options include:**
  - **Contact me** via email and/or come see me during regular office hours or make an appointment.
  - **Contact one of our undergraduate learning assistants (contact info to be provided).** They are available to help but please do be respectful of their time as they are students too.
  - **Find a buddy and/or form a study group** – there is nothing wrong with working collaboratively. However, make sure that you don't simply "go along for the ride" when working in a group. **Watching someone else do a problem – even if you understand what they are doing – is not the same as doing it yourself; ➔ BOTTOM LINE: WATCHING ≠ DOING**
  - **The Math Tutoring Center**, Johnson Center, Room 344; also: Math Dept "Help With Math"
  - **The Volgenau School of Engineering Peer Mentor program**

- **There are TONS of resources available on the web.** However, make sure you use a reliable source. Your Uncle Billy's class notes from 1990 or a random YouTube video may not be correct/or and useful. One reliable source is:
  - **The Kahn Academy Tutorials:** www.khanacademy.org/math/precalculus. I can't attest to the validity or utility of all of Kahn Academy tutorials, but the ones I have viewed have all been excellent.

Class Web Page (Blackboard), Communication, Math 105 Web Page:

- **BLACKBOARD:** All class materials that I create, announcements, scores/grades, etc. will be posted on **Blackboard**. This and GMU email are the official communications tools for the course.
- **COMMUNICATION: The primary way to contact me is via GMU email (gpresto3@gmu.edu)**.
  - To comply with GMU policy and protect your privacy, I will only send email from my GMU email account to your GMU email address. **Please only send email to me from your GMU email so I can use the "reply" function in responding to you**. I will try to reply to emails ASAP – certainly within 24 hours unless there are extenuating circumstances.
  - As an alternate means of contact, you can call me via cell phone during office hours at 703-405-0344 or send texts at any time. Texts are OK for simple administrative messages but I prefer actually talking or email for communication of any substance about the course material. You are also free to send me an image of a problem to help you with it. Please make sure that the work is legible and that the image quality is sufficient for me to read it.
- **Math 105 Web page (all sections):** Learning Assistants: http://math.gmu.edu/math105.php

University Policies and Resources: *(selected links, far from an exhaustive list)*

- **University Policies:** Please familiarize yourself with university policies. The University Catalog, catalog.gmu.edu, is the central resource for university policies affecting student, faculty, and staff conduct in university academic affairs. All members of the university community are responsible for knowing and following established policies and procedures. (In particular see the catalog section on Academic Policies as needed.)
- **Mathematical Sciences Department:** Exploratory Hall Room 4400 math.gmu.edu (703) 993-1460
- **Office of Disability Services (ODS):** Student Union Building I, Room 211 ds.gmu.edu (703) 993-2474
  - If you are a student with a disability and need academic accommodations, please contact the ODS. Please do so ASAP – do not wait until the last minute. I will be flexible within reasonable limits and discussions with me will be confidential.
- **Counseling And Psychological Services** (CAPS): caps.gmu.edu (703) 993-2380
- **Office of Military Services:** military.gmu.edu (703) 993-1316

Finally, my commitment to you:

- So far it's all been me (and the university) imposing rules on you. However, rules apply to everyone, myself included, and you have a right to expect certain things from me as well. In addition to abiding by university policy myself, displaying common courtesy and standards of conduct, I have responsibilities to each student and to the 90-student class as a whole that I need to balance. **My commitment to the class is that I will:**
  - Do my best to follow my own advice/rules and lead by example – i.e. I will try to "practice what I preach". If you catch me not doing that, feel free to call me out on it ☺. I won't get mad, on the contrary I'll respect you for it if it is done politely and constructively (YES: constructive criticism, feedback, suggestions; NO: whining, playing the "blame game")
  - Be as honest, open, and transparent as possible in how I conduct the class, consistent with maintaining proper student privacy/confidentiality and the academic integrity of the course.
  - Treat every student with respect and as an individual having individual talents and needs, within the constraints of doing what is best for the class as a whole. Everyone learns a little differently and some students need more help than others.

- **Bottom Line: To be successful in this course you will need to do more than just the bare minimum ➔ Therefore I am ready, willing, and able to do more than the bare minimum required of me:** e.g. have extra office hours and review sessions, provide supplemental material, whatever I can appropriately do to help students realize their potential – but in the end I can't do the work for you, **you learn by doing and "only *you* can do the doing"**

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**** Class Lecture/Exam/Homework Schedule (Subject to Change) ****

Unless there are class cancellations we will stick to this schedule. Exams will cover scheduled sections regardless of how much of any particular chapter section we cover during each lecture.

Course Schedule

WK	TUE	THU
1	27 AUG	29 AUG
	Intro, 1.1, 1.2	1.2, 1.3
2	4 SEP	6 SEP
	1.4, 1.5	1.5, 1.6
3	11 SEP	13 SEP
	2.1, 2.2	2.2, 2.3
4	18 SEP	20 SEP
	REVIEW	EXAM 1
5	25 SEP	27 SEP
	2.4, 2.5	2.5, 2.6
6	2 OCT	4 OCT
	2.7, 3.1	3.1, 3.2
7	9 OCT	11 OCT
	NO CLASS	3.3, 3.4
8	16 OCT	18 OCT
	3.4, 3.5	REVIEW
9	23 OCT	25 OCT
	EXAM 2	4.1, 4.2
10	30 OCT	1 NOV
	4.2, 4.3	4.4, 4.5
11	6 NOV	8 NOV
	4.5, 5.1	5.2, 5.3
12	13NOV	15 NOV
	5.3, 5.4	5.5, 6.1
13	20 NOV	22 NOV
	6.1, 6.2	NO CLASS
14	27 NOV	29 NOV
	Review	EXAM 3
15	4 DEC	6 DEC
	6.3, 6.4	6.4
COMPREHENSIVE FINAL EXAM Thu 13 Dec 4:30 – 7:15 PM Robinson B104		

OTHER KEY DATES:

- Last day to add/drop: 4 SEP
- Final Drop w/o Penalty: 9 SEP
- Web Withdrawal: 10 – 30 SEP
- Mid-term Progress Report: 24 SEP – 19 OCT
- Selective Withdrawal: 1 – 28 OCT

Homework Exercises (x – y = ODD ONLY)

Ch	Chapter / Section Title	Exercises
	1: Functions (Exam 1)	
1.1	Introduction to Functions	1-9, 15 – 19, 23 – 29, 35 – 41, 47 – 55, 63, 65,
1.2	Graphs	1, 3, 11, 13, 21 – 33, 39 – 47, 53, 55
1.3	Linear Functions	1, 3, 9, 11, 15, 21 – 37, 41, 45, 49, 55, 59
1.4	Combinations of Functions	5, 7, 11, 15, 19 – 35, 39, 45 – 49, 55, 59
1.5	Transformations of Functions	13 – 29, 33 – 43, 47 – 63, 67
1.6	Families of Functions	3 – 7, 13, 15, 21 – 41, 47
	2: Polynomials and Rational Functions (Exam 1)	
2.1	Quadratic Functions	TBD
2.2	Polynomial Functions	TBD
2.3	Real Roots and Factors of Polynomial Functions	TBD
	2: Polynomials and Rational Functions Cont'd. (Exam 2)	
2.4	Complex Numbers	TBD
2.5	Complex Roots of Polynomial Functions	TBD
2.6	Rational Functions	TBD
2.7	Inequalities	TBD
	3: Exponentials and Logarithms (Exam 2)	
3.1	Exponential Functions	TBD
3.2	Inverse Functions	TBD
3.3	Logarithmic Functions	TBD
3.4	Logarithmic Identities	TBD
3.5	Solving Exponential and Logarithmic Equations	TBD
	4: Unit Circle Trigonometry (Exam 3)	
4.1	Angles and Their Measures	TBD
4.2	Unit Circle Def. of Sine, Cosine, & Tangent	TBD
4.3	Sine, Cosine, and Tangent Functions	TBD
4.4	Secant, Cosecant, and Cotangent Functions	TBD
4.5	Inverse Trigonometric Functions	TBD
	5: Triangle Trigonometry (Exam 3)	
5.1	Right Triangle Trigonometry	TBD
5.2	Right Triangles and the Unit Circle	TBD
5.3	Law of Sines	TBD
5.4	Law of Cosines	TBD
5.5	Applications of Triangles	TBD
	6: Trigonometric Identities (On Final Exam)	
6.1	Fundamental Identities	TBD
6.2	Sum, Difference, and Double-Angle Identities	TBD
6.3	Power-Reducing, Half-Angle, ~~and Product-Sum Identities~~	TBD
6.4	Solving Trigonometric Equations	TBD

QUIZZES ARE DUE BY 11:59 PM THE NIGHT BEFORE EACH EXAM.

See page 3 for details