Instructor: Tony Nguyen **Email**: ttn@g.clemson.edu
Office: Martin Hall O-6
Office hours: Will update with specific hours by end of first week of classes

Course Description: MATH 1050/1051, Precalculus, is a preparation course for the standard calculus sequence MATH 1060 – 1080. The lecture and lab sections are a combined 5 units, and a single grade of Pass or Fail will be assigned to both lecture and lab. *If your major does not require MATH 1060, please let me know.*

Course Location and Time:
Section 1 meets 9:05 - 9:55am in Martin M-1
Section 2 meets 10:10 - 11am in Martin M-1
Section 3 meets 2:30 - 3:20pm in Martin M-101

This course has an asynchronous online component.
In this course you will interact with the content, your instructors, and your classmates three times a week in scheduled lab meetings. You will also work independently online.

***Completing this course will require approximately
125 hours online, outside of lab meetings.*

Teaching Assistant(s):
Contact information and office hours for TAs will be provided separately.

Learning Outcomes: Upon course completion, the student will demonstrate mastery of

- algebra and geometry- properties of numbers, linear equations, polynomials, rational expressions, radicals, geometric objects in 2 & 3D
- functions and graphs- sets, relations and functions, graphs and transformations, composite and inverse functions
- polynomial and rational functions- quadratic equations, polynomial division, polynomial roots (real and complex), graphing, inequalities involving polynomial and rational functions
- exponential and logarithmic functions- properties of logarithms, solving logarithmic and exponential equations, graphing
- trigonometry- angles in degrees and radians, the unit circle and right triangle trigonometry, trigonometric functions, trigonometric identities and equations
- systems of linear equations- classifying and solving
- sequences and series- finding particular terms and sums
- conic sections- graphing and writing equations

Required Materials:

- Laptop or tablet computer with internet access
- ALEKS 360 access code with integrated textbook: Precalculus, 1st edition, by Miller

Recommended Material(s):
$1\frac{1}{2}$" three-ring loose-leaf binder to keep scratch work, notes, and completed worksheets

Course Structure:
ALEKS (**A**ssessment and **LE**arning in **K**nowledge **S**paces) assesses your incoming knowledge of the course material and then guides you individually through the content you have not yet mastered. You are expected to spend an average of 8 hours per week working independently on ALEKS outside of class meeting times to master topics and meet the goal in each objective.

Each lab meeting will consist of one or more of the following activities:

- Targeted small group mini-lectures on specific topics
- Supervised ALEKS assessment
- Independent ALEKS work time
- Individual help time and goal setting

Not all students will work on the same task at the same time.

Attendance:
Lab attendance is determined by physical presence in the classroom. If you are unable to attend a lab meeting for a documented excused absence (illness, university travel, jury duty, etc.) please inform your lab instructor as soon as possible (ahead of time for anticipated absences).

September 3, Drop Date:
Students who have not completed Objective 3: Alg-Geo Rev 3 by this date may be dropped from the course.

October 29, Withdraw Date:
Students who have not completed Objective 8: Poly-Rat 2 by this date may be withdrawn from the course.

Expectations for Online Work:
You are expected to spend 8 hours per week, on average, working in ALEKS. That time should include:

- Completing review questions on recently mastered topics
- Viewing online resource materials within ALEKS
- Adding new topics to your ALEKS pie in order to complete objectives
- Completing "knowledge checks" as they are automatically triggered in ALEKS. If you are putting in an appropriate amount of time in ALEKS, you should expect to trigger about two "knowledge checks" per week.

Grading:
This course is Pass/Fail and will not affect your GPA.
In order to receive a course grade of "Pass" you must complete the following items:

- ☐ Read the Syllabus (see Canvas for how to earn credit for this)
- ☐ Initial ALEKS Knowledge Check
- ☐ Formulas Overview (see Canvas for this assignment)
- ☐ Objective 1: Alg-Geo Rev 1 (41 topics, 90% mastery)
- ☐ Objective 2: Alg-Geo Rev 2 (45 topics, 90% mastery)
- ☐ Objective 3: Alg-Geo Rev 3 (40 topics, 85% mastery)
- ☐ Objective 4: Alg-Geo Rev 4 (38 topics, 80% mastery)
- ☐ Objective 5: Funct-Graphs 1 (41 topics, 90% mastery)
- ☐ Objective 6: Funct-Graphs 2 (34 topics, 85% mastery)
- ☐ Assigned Comprehensive Knowledge Check (Test 1) after Objective 6
- ☐ Objective 7: Poly-Rat 1 (27 topics, 85% mastery)
- ☐ Objective 8: Poly-Rat 2 (24 topics, 80% mastery)
- ☐ Objective 9: Exp-Log Funct (30 topics, 85% mastery)
- ☐ Objective 10: Trig 1 (33 topics, 90% mastery)
- ☐ Assigned Comprehensive Knowledge Check (Test 2) after Objective 10
- ☐ 5 worksheet credits earned
- ☐ Final exam preparation – this involves bringing the percentages for each objective up to the required amount (see mastery percentages above)
- ☐ Written final exam with a score of 75 or higher

For the most part, all the above items, except for the Formulas Overview, are completed in order. The final exam can only be taken if all items preceding it are completed. Your current progress can be checked on Canvas.

Optional items to complete: (mastery % must be met for bonus points)

- ☐ Objective 11: Trig 2 (31 topics, 35% mastery); +4 bonus points on final exam
- ☐ Objective 12: Addl Topics (31 topics, 80% mastery); +4 bonus points on final exam

Early Course Completion:
Students wishing to finish the course early are encouraged to do so. Once you pass the final exam, you are not required to continue attending lab. The final exam can be taken as soon as you complete all previous items in the checklist.

Initial Knowledge Check

The first thing you will do in ALEKS is take an initial assessment to determine the mathematical knowledge you bring into the course. Your performance will be used to create your "ALEKS pie" but you will not receive a numerical or letter grade. You may use scratch paper and a pencil during the initial assessment, but may not use any external assistance (other websites, calculators, textbooks, or other people).

Assigned Comprehensive Knowledge Checks

After completing Objective 6: Functions and Graphs 2, and again after completing Objective 10: Trigonometry 1, you will take a supervised comprehensive ALEKS assessment during lab. The comprehensive assessments are similar to the initial assessment; they are adaptive and consist of 25 – 35 questions covering all of the course material, whether you have completed that topic in the mastery pie or not. The purpose of these exams is to re-adapt the learning environment to your current knowledge base. If you do not complete the supervised assessment during lab, you will complete it during the next lab session and will be locked out of ALEKS in the interim.

Worksheet Credits

Worksheets provide a way for you to receive feedback on *how* you're working problems as valid steps and support are just as important as the final answer.

You should generate, print, work, and turn in a worksheet about every 1.5 weeks. The worksheet will contain 10 problems drawn from all the topics included in your pie, with more weight given to topics recently mastered. Show all work, clearly labeled, on separate notebook paper. Write your final answer next to each problem on the worksheet itself. Worksheet Days (see schedule) are built into the calendar to remind you to complete worksheets. **On these days, attendance is required for anyone with less than 5 worksheet credits.** If you finish the worksheet before the lab session ends, continue working in ALEKS.

Hand in the completed worksheet and the paper(s) with your work during a lab session. Worksheets not completed or formatted in the correct way will not be accepted and will not receive credit. In order to receive a worksheet credit, (a) each problem must be attempted, (b) at least 8 problems are correct with valid supporting work, and (c) notational errors are few (less than 3).

Only turn in one worksheet per week, and it should be recent (no older than 2 weeks). To complete the worksheet requirement for the course, you must earn a total of 5 credits, which may require turning in more than 5 worksheets.

Written Final Exam

To be eligible for the written final exam you must have completed all previous items in the checklist. The written final exam will consist of 25 questions randomly generated by ALEKS. Although the questions are randomly generated, there is a document within ALEKS and on Canvas titled Final Exam Topics which details all possible topics the exam could pull from. Each question is worth 4 points and is graded for mathematical and notational correctness and for clarity of work/explanations. You must score 75% or better in order to pass the course. You are allowed at most three attempts at the final exam if your first attempt is before the scheduled final exam time and time permitting.

Final Examination Period:
During finals weeks, students eligible for the written final exam may take it:

- Tuesday, December 10, 3pm - 5:30pm in M-1
- Thursday, December 12, 3pm - 5:30pm in M-101
- Friday, December 13, 8am - 10:30am in M-1

Academic Integrity:
As members of the Clemson University community, we have inherited Thomas Green Clemson's vision of this institution as a "high seminary of learning". Fundamental to this vision is a mutual commitment to truthfulness, honor, and responsibility, without which we cannot earn the trust and respect of others. Furthermore, we recognize that academic dishonesty detracts from the value of a Clemson degree. Therefore, we shall not tolerate lying, cheating, or stealing in any form.

Accessibility Statement:
Students who experience a barrier to full access to this class due to injuries or conditions should let the instructor know, and make an appointment to meet with a staff member in Student Accessibility Services as soon as possible. You can make an appointment by calling 864-656-6848, by emailing studentaccess@lists.clemson.edu, or by visiting Suite 239 in the Academic Success Center building. Appointments are strongly encouraged. Students who receive Academic Access Letters are strongly encouraged to request, obtain and present these to their professors as early in the semester as possible so that accommodations can be made in a timely manner. It is the student's responsibility to follow this process each semester. You can access further information here: `http://www.clemson.edu/campus-life/campus-services/sds/`.

Clemson University Title IX Statement:
Clemson University is committed to a policy of equal opportunity for all persons and does not discriminate on the basis of race, color, religion, sex, sexual orientation, gender, pregnancy, national origin, age, disability, veteran's status, genetic information or protected activity in employment, educational programs and activities, admissions and financial aid. This includes a prohibition against sexual harassment and sexual violence as mandated by Title IX of the Education Amendments of 1972. This policy is located at `http://www.clemson.edu/campus-life/campus-services/access/title-ix/`. Ms. Alesia Smith is the Clemson University Title IX Coordinator, and the Executive Director of Equity Compliance. Her office is located at 110 Holtzendorff Hall, 864.656.3181 (voice) or 864.656.0899 (TDD).

Academic Continuity Plan for this course:
In the event university administration determine that the physical class facilities are unavailable to conduct classes in, classes will be conducted online. If this does occur, check Canvas for more information.

If the Instructor is Late:
If no member of the instructional team is present at the start of class, students are instructed to check both clemson.edu and aleks.com email addresses for further instructions. If no email is sent, students may leave after 15 minutes past the scheduled start of class.

Lab Attendance Policy:
Lab attendance is required for students who are 'behind' or 'on track' (see table below). Attendance is optional for students who are 'ahead of schedule'. Students with more than five absences from required lab sessions are subject to being dropped from the course.

Lab Date	**On track**
8/21	Pretest
8/23	Objectives 2 - 3
8/26	Objective 3
8/28	Worksheet Day
8/30	Objectives 3 - 4
9/2	Objective 4 (students not done with Objective 3 by 9/3 may be dropped)
9/4	Objective 4
9/9	Objectives 4 - 5
9/11	Objective 5
9/13	Objective 5
9/16	Worksheet Day
9/18	Objectives 5 - 6
9/20	Objective 6
9/23	Objective 6
9/25	Objectives 6 - 7
9/27	Objective 7
9/30	Worksheet Day (should have at least 2 worksheet credits at this point)
10/2	Objective 7
10/4	Objective 7
10/7	Objectives 7 - 8
10/9	Objective 8
10/11	Objective 8
10/14	Fall Break- No Class
10/16	Worksheet Day
10/18	Objective 9
10/21	Objective 9
10/23	Objective 9
10/25	Objectives 9
10/28	Worksheet Day (students not done with Objective 8 by 10/29 may be dropped)
10/30	Objective 10
11/1	Objective 10
11/4	Objective 10
11/6	Objective 10
11/8	Objectives 10 - 11
11/11	Objective 11
11/13	Worksheet Day (should have at least 4 worksheet credits at this point)
11/15	Objective 11 - 12
11/18	Objective 12
11/20	Objective 12
11/22	Objective 12
11/25	Start of Final Exam Prep
11/27 - 11/29	Thanksgiving Break- No Class
12/2 - 12/6	Final Exam Prep (worksheets, Tests 1 and 2, formulas overview must be done before 12/4)

Note: Staying 'on track' with the calendar ensures there is ample time for testing and review. Being 'behind' schedule puts you at risk for not completing the course.

This syllabus may change according to class needs.