# Syllabus for Math 151-002 and 152-001
# Calculus Workshop I & II

Math 151 Section 2: W 7:00-7:50 PM Coliseum 1015
CRN: 24313

Math 152 Section 1: T 7:35-8:25 PM Coliseum 2009
CRN: 28687

**Instructor:** Jack R Dalton
**Office:** Coliseum 1009

**Website:** jrdalton.github.io

**Email:** jrdalton@math.sc.edu
**Office Hours:**
In person: T 3:00-4:00, W 5:50-6:50,
Online by Appointment on BB

## COURSE DESCRIPTION AND OBJECTIVES

**Co-requisites:** For Math 151, you must be enrolled in Math 141. For Math 152, you must be enrolled in Math 142.

**Course Description:** Math 151/152 is a pilot program at U of SC to help at-risk students at Calculus I/II. It is for elective credit only. The class will consist of small study group practice in applications of calculus.

**Learning Outcomes:** *Upon successful completion of this course, students will be able to:*

- Communicate analytical ideas and concepts with clarity by asking better questions.
- Narrow in on and express verbally what aspect of a mathematical concept is confusing to them.
- Persist and work through perceived failure.
- Collaborate productively with classmates.
- Develop a personal framework of problem solving techniques.
  - Make sense of problems.
  - Sketch and label diagrams.
  - Restate and clarify questions.
  - Identify important information and variables.
  - Use analytical, numerical, and graphical solution methods.
- Create, interpret, and revise real-world models and solutions to problems.

## COURSE POLICIES AND EXPECTATIONS

**Design:** Each class meets once per week for lecture for 50 minutes. Most classes will be split into two parts: short lecture; and problem solving.

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**Participation:** Participants are expected to attend every class meeting and to get involved in the discussion. We will learn much more if we explore the mathematics together. All participants are expected to show respect to other students, the instructor, and any guests who may be visiting the class during the year (Golden Rule). Any behavior that negatively affects the learning of your classmates WILL NOT BE TOLERATED. I have no problem kicking a student out for being disruptive. Out-of-class participation is also expected, so get to know the other students in class; exchange phone numbers; work together on collaborative assignments; and give each other moral support.

**Presentations:** Each student will work out several problems at the board during the course of the semester.

**Cell Phones and Laptops:** Make sure that your **cell phone is off and away** during our sessions. If you have an emergency, go into the hall to text or make calls. Laptops in class are not needed for this course, and will therefore not be allowed, unless approved by the instructor.

**Attendance:** Attendance is expected and will be taken daily. You are also expected to be punctual. For excused absences, proper documentation is required, and the sooner you tell me, the better. Your attendance will also be highly considered in borderline grade cases.

**Academic Integrity:** I expect you to familiarize yourself with the Honor Code found in the current student handbook. Repercussions for violations of this Honor Code can be severe. Keep in mind that "Any student who violates this Honor Code or who knowingly assists another to violate this Honor Code shall be subject to discipline." Honor Code can be found here:
https://sc.edu/about/offices_and_divisions/student_conduct_and_academic_integrity/index.php

**Students with Disabilities:** Students who would like to request accommodations for disabilities must talk to me as soon as possible. Students must register with the Office of Student Disability Services BEFORE I can make any accommodations.

**Face Coverings:** Face coverings protect you and your classmates in case the wearer is unknowingly infected but does not have symptoms. Faculty, students and staff are required to wear an appropriate face covering in all classrooms and in other designated areas on campus. Face coverings **should cover your nose and mouth** in a community setting. Students with conditions that prohibit them from wearing a face covering must register with the Student Disabilities Resource Center (SDRC); appropriate accommodations will be approved by the SDRC, and I will be notified. Failure or refusal to wear the required face coverings in designated areas may result in your immediate removal from the classroom and corrective action, including referral to the Office of Student Conduct, in accordance with University policies and procedures (UNIV 3.04). No eating in the classroom as food cannot be consumed through a mask.

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**Hand and Surface Hygiene:** Please use hand sanitizer upon entering the classroom and wipe down your desk/table and chair at the beginning of class. All wipes should be disposed of in the trash can and not left on the desk or floor.

## EVALUATION/GRADES

Presentations..... 50%
Attendance/Participation..... 50%

This course is **Pass/Fail** and is based off participation and overall completion of the daily activities.

| P | F |
|---|---|
| 100-60% | 59% and below |

## IMPORTANT DATES:

- 8/30 - Course begins
- 9/6 - Labor Day and Last Day to Add/Drop without a grade of "W"
- 10/7 - Fall break
- 11/8 - Last day for students to withdraw without a grade of "WF".
- 11/24 - Thanksgiving break
- 12/3 - Last day of classes

## PROPOSED CONTENT (SUBJECT TO CHANGE)

| | | |
|---|---|---|
| Exponents (Rational & Integral) | Polynomials | Radicals |
| Factoring Polynomials | Rational Expressions | Absolute Value Equations |
| Graphs in 2 Variables | Systems of Linear Equations | Linear Equations |
| Functions & Relations | Domain and Range | Function Transformations |
| Zeros of Polynomials | Rational Inequalities | Exponential Functions |
| Logarithms and Logarithmic Functions | Angles | Sine and Cosine Functions |
| Other Trig Functions | Inverse Trig Functions | Right Triangle Trig |
| Trig Identities | Law of Sines & Cosines | Polar Coordinates |
| Polar Equations | Polynomial Long Division | Basic Differentiation |
| Basic Integration | Infinite Series | Manipulating Trig Identities |
| Limits and Continuity | Tangent lines | Critical Points |
| Derivative Rules | Implicit Differentiation | Related Rates |
| Optimization | Newton's Method | Arc Length |
| Surfaces of Revolution | Integration by Parts | Trig Integrals |
| Trig Sub | Partial Fractions | Sequences and Series |
| Convergence Tests | Taylor Series | Parametric Equations |