MATH 152 Section F1
Calculus II for the Mathematical and Physical Sciences
Monday-Thursday in Scott Hall 204 from 10:10 to 12:10

Brooke Logan
Email: bl481@math.rutgers.edu
Website: math.rutgers.edu/~bl481
Office: Hill Center, Busch Campus, 606
Office Hours: Mondays (Scott Hall 204) 1-3pm
             Wednesdays (Hill Center 606) 1-3pm
             Upon Request

Course Outline
The second semester, Math 152, continues the study of the integral calculus, with applications, and
covers the theory of infinite series and power series, touching on a few other topics as well.

Monday and Wednesdays will be full lecture with a 10 minute break in the middle. On Tuesday
and Thursdays the portion of class will be lecture while the second will be workshops. Quizzes will
be sporadic throughout the summer session. I reserve the right to change this depending on how
quickly we get through the material.

Course Fulfillment
This course fulfills both the Quantitative Information (QQ) and Mathematical or Formal Reasoning
(QR) learning goals of the SAS Core Curriculum:
QQ: Formulate, evaluate, and communicate conclusions and inferences from quantitative
information.
QR: Apply effective and efficient mathematical or other formal processes to reason and to solve
problems.

Textbook
Calculus, Early Transcendentals, Third edition plus WebAssign by Rogawski & Adams
ISBN: 978-1319048532 or 978-1319049119
Course Policies:

• Attendance and Absences
  – Student Absence Policy: [sims.rutgers.edu/ssra/](sims.rutgers.edu/ssra/)
  – If you miss a quiz, then you will receive a zero for that quiz.
  – One workshop problem will be assigned to be turned in each week. They will be assigned on Thursdays and will be due during class the following Thursday within the first 10 minutes of class. Late workshops will not be accepted as is Rutgers’ Policy.
  – You are allowed 1 missed workshop and one missed quiz during this course.
  – If you are running late to class, you should email me a photo of the workshop so that I know you are on your way and it is completed. Failure to do so will result in a zero for the assignment. Failure to show up after sending the photo will also result in a zero.
  – If you miss a midterm exam due to a DOCUMENTED illness only, then it is your responsibility to contact me within 2 days of the exam so that I can schedule and create a makeup exam.

• General
  – Please read the Academic Integrity Policy and adhere to it: [academicintegrity.rutgers.edu/academic-integrity-policy](academicintegrity.rutgers.edu/academic-integrity-policy)
  – Full disability policies and procedures are indicated at ods.rutgers.edu. Students with disabilities requesting accommodations must present a Letter of Accommodations to the instructor as early in the term as possible (see [ods.rutgers.edu/my-accommodations/letter-of-accommodations](ods.rutgers.edu/my-accommodations/letter-of-accommodations)).
  – Quizzes will be given periodically during the summer. Please, do not ask when.
  – Cell phones, laptops, and tablets are not allowed out during workshops. You are only allowed physical notes and a physical textbook during the workshop portion of the class. During the lecture portion of class you may not have cell phones and if you wish to use a laptop or tablet to take notes, you must talk to me about it beforehand.
  – It is important to work in groups. Some weeks these groups will be assigned by me and other weeks I will allow you to choose your own groups. Working by yourself is not an option.
  – Come to my office hours.
  – You MUST email me through your Rutgers email and you should be checking it often.
  – Peer tutoring: [webapps.rutgers.edu/student-r1c/Tutor/Main/Student/StudentSearch](webapps.rutgers.edu/student-r1c/Tutor/Main/Student/StudentSearch)

• Grade Breakdown
  – Your entire grade will be out of 550 points. Quizzes and WebAssign make up 40 points each and Workshops make up 70 points, the two midterms are 100 each and the final is out of 200. Though exams are obviously important, nothing helps more in learning math than practicing so I hope that you take the workshops and WebAssign homework seriously.
  – Note that just doing WebAssign is NOT sufficient preparation for exams.
Workshop Guidelines

Each Thursday I will announce which of the workshop problems needs to be handed in. Though you will be working in groups in class, your write-up should be written by you, and you alone.

Your workshops will be out of 20 points. Workshop problems are more detailed and require greater thought and reasoning than those that you will encounter on your homework. Besides having correct work, you will be expected to explain your reasoning behind your solutions. These solutions should be written in complete sentences with correct grammar. You should take pride in your work and therefore it should be written (or typed) neatly and stapled. Please also note that a two column proof will not be accepted nor will any workshops that do not contain the following academic pledge along with your signature.

"On my honor, I have neither received nor given any unauthorized assistance on this assignment. This is my own work, I understand each line and am prepared to explain it to the instructor if asked."

Below is a brief overview of why some points may be deducted from your workshop for non-math related reasons. I reserve the right to update/modify this list.

- Workshop is hard to read -5
- Work is crossed out -3
- Incorrect Grammar -3
- Not stapled -1
- Ruffled Edges -1
- Missing Explanations -5
- Lacking Complete Sentences -5
- Handing in work with no explanations at all -20

I also recommend reading the “Calculus at Rutgers” section of your textbooks. This includes an example write-up that should assist you when creating your own. If your copy of the textbook does not have these inserts, then it is your responsibility to stop by my office hours to look at it. Or go to the following website [http://sites.math.rutgers.edu/~greenfie/webstuff/lm.pdf](http://sites.math.rutgers.edu/~greenfie/webstuff/lm.pdf).

Chegg:
Your Professors and TA’s are not ignorant of Chegg (and other similar solution providing sites). I, and others, frequently monitor the site and will report any problems posted that violate Rutgers’ policies. Please, also note that many times, the solutions on Chegg are incorrect, which also makes it easier for us to spot and report potential violations of Academic Integrity.
Schedule

1. Monday June 25th
   Section 5.7: Substitution Method
   Section 6.1: Area Between Two Curves
   Suggested Textbook Problems: 4, 9, 12, 17, 18, 21, 23, 25

2. Tuesday June 26th
   Assessment

3. Wednesday June 27th
   Section 6.2: Setting up Integrals: Volume, Density, Average Value
   Suggested Textbook Problems: 4, 5, 6, 7, 9, 10, 11, 15, 25, 26, 40, 42, 44, 46, 48

4. Thursday June 28th
   Section 6.3: Volumes of Revolution
   Suggested Textbook Problems: 7, 10, 12, 17, 19, 22, 30, 31, 32

5. Monday July 2nd
   Section 6.4: The Method of Cylindrical Shells
   Suggested Textbook Problems: 8, 10, 17, 20, 25, 29, 33, 37, 38

6. Tuesday July 3rd
   Section 7.1: Integration by Parts
   Suggested Textbook Problems: 6, 10, 14, 22, 23, 26, 37, 50, 55, 56, 58, 60, 63, 76

7. Wednesday July 4th
   No Class. Enjoy the Holiday!

8. Thursday July 5th
   Section 7.2: Trigonometric Integrals
   Suggested Textbook Problems: 1, 2, 13, 16, 18, 20, 34, 37, 40, 49, 55, 62, 67, 71, 72, 75

9. Monday July 9th
   Section 7.3: Trigonometric Substitution
   Suggested Textbook Problems: 5, 6, 9, 10, 15, 16, 17, 22, 26, 29, 34, 35, 40, 43

10. Tuesday July 10th
    Section 7.4: Integrals Involving Hyperbolic and Inverse Hyperbolic Functions
    Suggested Textbook Problems: 11, 12, 24, 25, 31, 32, 35

11. Wednesday July 11th
    Section 7.5: The Method of Partial Fractions
    Suggested Textbook Problems: 4, 8, 12, 14, 17, 20, 33, 34, 41
12. Thursday July 12th
    Section 7.6: Strategies for Integration
    Suggested Textbook Problems: 12, 13, 19, 20, 23, 28, 29, 32, 35, 38, 40, 43, 48, 54, 57
13. Monday July 16th
    Section 7.7: Improper Integrals
14. Tuesday July 17th
    Section 7.9: Numerical Integration
    Suggested Textbook Problems: 5, 10, 16, 18, 39, 40, 41, 42, 44, 47, 53
15. Wednesday July 18th
    **Exam 1**
16. Thursday July 19th
    Section 8.1: Arc Length and Surface Area
    Suggested Textbook Problems: 3, 4, 7, 9, 10, 17, 27, 29, 36, 38, 40, 42
17. Monday July 23rd
    Section 10.1: Sequences
    Suggested Textbook Problems: 14, 18, 23, 26, 27, 30, 43, 44, 52, 53
18. Tuesday July 24th
    Section 10.2: Summing an Infinite Series
    Suggested Textbook Problems: 4, 6, 8, 11, 12, 14, 17, 20, 21, 24, 26, 27, 30, 31, 38, 40
19. Wednesday July 25th
    Section 10.3: Convergence of Series with Positive Terms
    Suggested Textbook Problems: 4, 5, 9, 10, 11, 17, 18, 20, 24, 25, 27, 37, 39, 42, 43, 52, 53, 55, 60, 62, 69
20. Thursday July 26th
    Section 10.4: Absolute and Conditional Convergence
    Suggested Textbook Problems: 3, 8, 10, 13, 21, 22, 23, 24, 28
21. Monday July 30th
    Section 10.5: The Ratio and Root Test and Strategies for Choosing Test
    Suggested Textbook Problems: 4, 7, 11, 14, 15, 22, 24, 25, 27, 38, 39, 47, 52, 59
22. Tuesday July 31st
    Section 10.6: Power Series
    Suggested Textbook Problems: 9, 10, 14, 16, 19, 25, 26, 30, 31, 38, 39, 45
23. Wednesday August 1st
   Complex Numbers (additional resources will be provided)

24. Thursday August 2nd
   **Exam 2**

25. Monday August 6th
   Section 8.4 Taylor Polynomials
   Suggested Textbook Problems: 4, 8, 15, 17, 21, 22, 31, 32, 37, 45, 46

26. Tuesday August 7th
   Section 10.7 Taylor Series
   Suggested Textbook Problems: 4, 12, 18, 20, 21, 30, 31, 32, 39, 41, 42, 48, 53, 54

27. Wednesday August 8th
   Section 11.1: Parametric Equations
   Suggested Textbook Problems: 8, 10, 12, 14, 18, 20, 21, 22

28. Thursday August 9th
   Section 11.2: Arc Length and Speed
   Suggested Textbook Problems: 6, 7, 8, 9, 11, 12, 21, 22

29. Monday August 13th
   Section 11.3 Polar Coordinates
   Suggested Textbook Problems: 3, 5, 6, 9, 12, 14, 16, 20, 27, 28

30. Tuesday August 14th
   Section 11.4 Area and Arc Length in Polar Coordinates
   Suggested Textbook Problems: 7, 8, 9, 10, 13, 16, 25, 27, 30

31. Wednesday August 15th
   **Final Exam**

This syllabus is subject to change.