**Syllabus - Math 521, Advanced Calculus I**

**When:** TuTh 9:30-10:45am

**Where:** Zoom meeting in: https://unc.zoom.us/j/95517891405? **passcode:** 489990

**Instructor:** Andrey Smirnov

**Office Hours:** Tuesday-Thursday 6:00pm- 7:00pm;  
**Zoom:** https://unc.zoom.us/j/93246599036?, **passcode** 125445

**E-mail:** We will use Piazza for class discussion. Rather than emailing the instructor, please

post your questions on Piazza. You will find the course at (TBA later).

For individual grading concerns or other matters of sensitivity, you may reach the instructor at   
[asmirnov@email.unc.edu](mailto:asmirnov@email.unc.edu). Allow 48 for the answer. If you did not received the answer in 48 hour, email again.

**Textbook:** Understanding Analysis, S. Abbott, 2nd ed. (Springer)

Course Catalog Description: MATH 521. Advanced Calculus I.   
  
3 Credits.

A grade of A- or better in STOR 215 may substitute for MATH 381. The real numbers,

continuity and differentiability of functions of one variable, infinite series, integration.

Honors version available.

**Requisites:** Prerequisites, Math 233 and 381.

**Gradescope:** The homework and exams will be submitted and graded via Gradescope.

You can enroll yourself at gradescope.com using **Entry Code:** ZRWZ7N

Please use your UNC email address.

**Grading:** The breakdown for the final grade is as follows:

**• Homework:** 20% total. There will be an assignment corresponding to nearly every

lecture, which will be collected one week later.

**• Exams:** 15% each. (45% total) The three in-class 60 minute mid-term exams will be on:

**Exam 1**: 2.11; **Exam 2**: 3.09; **Exam 3**: 4.06

**• Final Exam:** 35%. The final exam is on TBA.   
The final is comprehensive and will cover all of the material presented during the semester.

Office hours, the dates for the midterm exams, etc. are subject to change if the instructor

determines during the course of the semester that alternatives would better meet the needs of the

class.

Late homework assignments will not be accepted in any circumstance, and no makeup

assignments will be given. If assignments are missed due to an extended, documented, excused

absence, then the final homework grade will be computed based only on your other assignments.

All exams will be closed book and calculators will not be permitted, nor will they be required.

You do not need to algebraically or arithmetically simplify your answers.

Makeup midterm exams will not be given. In the event of an excused absence with appropriate

documentation, the final course grade will be computed based on your other midterm exams and

your final exam. Except for the case of emergencies, the instructor must be contacted prior to

the exam via e-mail. In the case of emergencies, you should contact the instructor as soon as it is possible. Absences for the final exam will be handled in accordance with university policy: <http://catalog.unc.edu/policiesprocedures/> attendance-grading-examination/

**Grading concerns:** Any problem will gladly be regraded if there is a concern. Such concerns

must be brought to the instructor's attention within a week of its return to the class.

Cheating or academic dishonesty on any graded course material (exam, quiz, assignment,

project, etc.) will be prosecuted to the fullest extent in accordance with university policy.

Students are expected to uphold the university's honor code. See http://honor.unc.edu/.

Acceptable collaboration on homework is limited to discussion amongst peers after which each

individual must complete his or her assignment on his or her own. I.e., when you are writing up

your solutions, you should not be looking at any notes developed in discussion of the problems

with another student. Suspiciously similar assignments will be considered in violation of the

honor code and treated accordingly. External resources that are used should be cited

appropriately.

The homework assignments will NOT be sufficient to learn this material well. The assignments

are what can reasonably be collected and graded. You should be doing many more problems.

The text contains many additional exercises and was chosen in part due to these exercises. If you

need further additional exercises, please consult the instructor. Overall, students are expected to

take into account that this is an advanced course. It will require much work and the energy/desire

to think things over independently so as to fully understand the course material. You should

expect to spend a lot of time on the homework and on figuring out how to solve types of

exercises that have not been discussed in class. Students are particularly encouraged to come to

office hours for assistance.

You are responsible for the material in the course readings in addition to any material and

announcements made during lecture, regardless of whether or not you were in attendance.

At the end of the semester, you will, as usual, be given the opportunity to fill out course

evaluations. Suggestions withheld until this point, however, cannot be implemented to improve

the current course. Instead of waiting, you should feel free to give the instructor feedback

throughout the semester! Constructive suggestions are welcome at all times!

**Tentative Schedule:**

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| **Week 1: 1.9, 1.21** | Sections 1.1, 1.2, 1.3, 8.6 |  |
| **Week 2: 1.26, 1.28** | Sections 1.4, 1.5 |  |
| **Week 3: 2.02, 2.04** | Sections 1.6, 2.1, 2.2, 2.3 |  |
| **Week 4: 2.09, 2.11** | Section 2.3, | **2.11: Exam 1** |
| **Week 5: 2.16, 2.18** | Section 2.4, 2.5 | 2.16: No classes, wellness day |
| **Week 6: 2.23, 2.25** | Sections 2.5, 2.6, 3.1, 3.2 |  |
| **Week 7: 3.02, 3.04** | Sections 3.2, 3.3 |  |
| **Week 8: 3.09, 3.11** | Sections 2.5, 2.6, 2.4, Exam 2 | **3.09: Exam 2**  3.11: No classes  Wellness day |
| **Week 9: 3.16, 3.18** | Section 2.7 |  |
| **Week 10: 3.23, 3.25** | Sections 4.1, 4.2, 4.3, 4.4, 4.5 |  |
| **Week 11: 3.30, 4.01** | Sections 5.1, 5.2, 5.3 |  |
| **Week 12: 4.06, 4.08** | Sections 5.3, 6.6, 7.1, 7.2, | **4.06: Exam 3** |
| **Week 13: 4.13, 4.15** | Sections 7.3, 7.4, 7.5 |  |
| **Week 14: 4.20, 4.22** | Sections 7.5, 6.1, 6.2, 6.3, 6.4 |  |
| **Week 15: 4.27, 4.29** | Section 6.5, 6.6 |  |
| **Week 16: 5.04, 5.06** | Extra time for delays |  |

**The final exam takes place on Tuesday May 11 at 8 am.   
For the final exam please use the same link as for regular classes.**