

# Mathematics 220: Mathematical Proof

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September-December 2018

## Sections and Instructors

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Section	Time	Instructor	Location
101	MWF 12-1pm	<a href="#">Jamie Juul</a>	<a href="#">GEOG 212</a>
102	MWF 12-1pm	<a href="#">Andrew Rechnitzer</a>	<a href="#">LSK 200</a>
103	MWF 10-11am	<a href="#">Andrew Rechnitzer</a>	<a href="#">LSK 460</a>
104	MWF 3-4pm	<a href="#">Seckin Demirbas</a>	<a href="#">LSK 460</a>
105	MWF 2-3pm	<a href="#">Andrew Rechnitzer</a>	<a href="#">LSK 460</a>
106	MWF 2-3pm	<a href="#">Jongchon Kim</a>	<a href="#">BUCH B315</a>

## Assessment

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### Breakdown of marks

- 15% Homework (one each week)
- 25% Midterm (on Wednesday October 17th)
- 60% Final

### Homework

- There will be one homework assignment each week.
- Each assignment is due at the beginning of class on the indicated date.
- Late homework will not be accepted
- Each assignment will consist of a small number of questions both from the textbook and not from the textbook.

## **Presentation**

- One of the main goals of mathematics 220 is to teach how to present and communicate mathematics precisely and correctly.
- Accordingly handwritten or messy homework will not be accepted.
- **Homework must be typeset, printed and stapled.**
- We recommend that you use latex to prepare your homework.

## **Midterm**

### **Place and time**

- The midterm will be held in your usual class at your usual class time.
- It will last 45 minutes.
- It will be held on Wednesday October 17th.
- If you cannot attend due to varsity sport please inform your instructor as soon as possible.

### **Topics**

- The midterm will cover
  - Sets
  - Logic
  - Direct and contrapositive proof
  - Induction

## **Final exam**

### **Date, time and location**

- The final will be held during the exam period - December 4 until December 19.
- The date, time and location will be announced close to the middle of the term.
- You should not plan any travel until you know the dates of your exams.

## Topics

- It will cover all topics covered in class.

## Textbook

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### [Book of Proof \(2nd edition\), by Richard Hammack.](#)

You can **download the text for free** from the author's webpage

<http://www.people.vcu.edu/~rhammack/BookOfProof/>

## Syllabus

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We follow the [textbook](#), though we will use a slightly different order of topics.

- **Basic notation and sets** - Chapter 1
- **Logic** - Chapter 2
- **Direct and contrapositive proof** - Chapters 4, 5 and 7. This topic will be taught concurrently with the previous one.
- **Induction** - Chapter 10
- **More on sets** - Chapters 1 and 8
- **Relations** - Chapter 11
- **Functions** - Chapter 12
- **Proof by contradiction** - Chapter 6
- **Cardinality** - Chapter 13
- **Extras** - We might do another topic if there is time.

## Missed Assessment

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## **Missed homework or midterm**

- If a student misses a homework assignment or the midterm, that student shall provide a documented excuse otherwise a mark of zero will be entered for that piece of assessment.
- Examples of valid excuses are
  - an illness which has been documented by a physician and/or Student Health Services, or
  - an absence to play a varsity sport (your coach will provide you with a letter).
- A physician's note must specifically state that the student was medically unfit to write the missed assessment on the date of the exam. Absence of this exact information will result in a mark of 0.
- Your instructor should be notified within 48 hours of such an absence and appropriate documentation should be produced within 7 days. Failure to comply with these time limits will result in a mark of zero.
- There will be no make-up midterms or homework; the weight of the missed assessment will be transferred to the final examination.

## **Missed final exam**

- You will need to present your situation to your faculty's Advising Office to be considered for a deferred exam.
- See the Calendar for detailed regulations.
- Your performance in a course up to the exam is taken into consideration in granting a deferred exam status (for instance, failing badly normally means you will not be granted a deferred exam).