# Communicating In Mathematics (MTH 210) Syllabus

Winter 2020 / 11AM-12:50 PM MW / MAK C-1-114

Welcome!

This class may feel very different to you. Many schools even call this course "Transitions". You'll be writing, reasoning, and proving things. Together, we'll develop your mathematical muscle to do this. Paul Halmos once said the only way to learn mathematics is to do mathematics. You won't become an outstanding mathematician by only watching me do mathematics, just like you won't become an Olympic level weightlifter by only watching other people lift weights. You should expect to be doing mathematics individually and in groups during class and for 10-12 hours/week outside of class. It will sometimes be frustrating. Throughout this know 3 things:

- **My top priority is for you to grow as a mathematician.** I want you to have a deep understanding of the content, be a better oral and written communicator, and have the confidence and tools to attempt mathematical problems that appear difficult. I want you to be successful in courses for which MTH 210 is a prerequisite.
- **I am here for you.** My goal is to challenge you without making you so frustrated that you give up. I have always found time to meet with students individually when the need it. In return, I expect that you will seek assistance when you need it and be prepared for office hours.
- This is the course where I fell in love with mathematics. I hope you will enjoy it as much as I did.
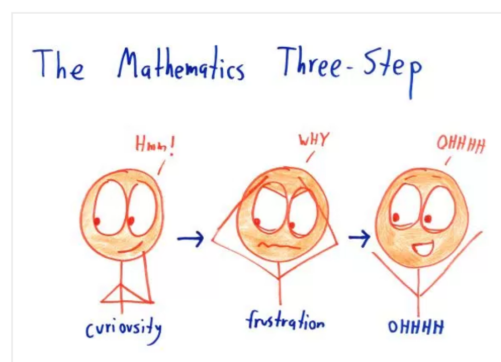
Instructor Information

Dr. Lauren Keough

- **Office Location:** MAK A-2-130
- **Office Hours:** Held in the PCS (MAK A-2-610). To be determined by you in the first week (and by appointment). My **typical weekly schedule** can be found here .
- **Email:** keoulaur@gvsu.edu[1]
- **Office Phone:** 616-331-3632[2]

Quick Links

- Textbook
- Course Calendar
- Course Videos
- Grades
- Quizzes
- Proof Portfolio
- Proof Portfolio Template: TeX version, Overleaf version
- Proof Portfolio Example
- LaTeX Cheat Sheet (Overleaf)
- Writing Guidelines
- Being Successful in MTH 210
- Academic Honesty

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[1] You can email me any time, but I only check email between 8AM and 5PM on weekdays. If you send me an email during my "off" hours, I will respond when I am back online.

[2] Email is the best way to contact me.

Course Description

A study of proof techniques used in mathematics. Intensive practice in reading mathematics, expository writing in mathematics, and constructing and writing mathematical proofs. Mathematical content includes elementary logic, congruence arithmetic, set theory, functions, equivalence relations, and equivalence classes. Prerequisites: MTH 210 and WRT 150.

Text and Blackboard

Mathematical Reasoning: Writing and Proof by Ted Sundstrom. Available as a free PDF at https://scholarworks.gvsu.edu/books/7/ and in print for $21 at https://amzn.to/2Qm7Zp8. Videos that go along with our text are available at https://bit.ly/2F9T0fa. The course Blackboard site, accessible through https://mybb.gvsu.edu/, will be a central repository for all course announcements, materials, and grades. You are expected to check Blackboard and your email daily. In particular you will find what you need to do for each class in the announcements section of Blackboard and you will be submitting proof portfolio problems on Blackboard.

Student Learning Objectives

1. Explain standard methods of mathematical proof (including direct proofs, logical equivalencies, proof by contradiction, mathematical induction, case analysis, and counterexamples).
2. Create mathematical proofs using standard methods of mathematical proof.
3. Solve and generalize mathematical problems.
4. Critique mathematical proofs.
5. Determine appropriate method of proof for a given conjecture or argument.

Supplemental Writing Skills

This course is designated SWS. **Completion of WRT 150 with a grade of C or better (not C-) is a prerequisite.** SWS credit will not be given to a student who completes this course before completing the prerequisite. SWS courses adhere to certain guidelines. Students turn in a total of at least 3000 words of writing. Part of that total may be essay exams, but a substantial amount of it is made up of essays, reports, or research papers. The instructor works with the students on revising drafts of papers, rather than simply grading the finished piece of writing. At least four hours of class time will be devoted to writing instruction. At least one third of the final grade in the course is based on the writing assignments. **Students must complete the course with a grade of "C" or better in order to receive SWS credit.**

Mathematical writing will be discussed nearly every day in class, and especially when we learn a new type of proof. The proof portfolio will make up the majority of the required writing for the course, though you will also demonstrate your writing skills on synthesis activities, quizzes, and exams. The writing objectives of this course include
- Write proofs using each of the proof methods (direct proofs, logical equivalencies, proof by contradiction, proof by cases, and mathematical induction)
- Adhere to the 15 specific writing guidelines outlined in our text
- Evaluate your own writing
- Learn to LaTeX, the mathematical typesetting software used by mathematicians

Graded Work and Course Grades

Assignment	What it is	How it's Graded
Preview Activities	You will be asked to complete a preview activity by 9 AM before each class. This will typically include watching a screen cast or reading and then answering questions. There will be at least 15 of these (approximately 1/week).	Satisfactory (S), Unsatisfactory (U)
Synthesis Activities	After each class you will be asked to complete some activities to synthesize work done in class. There will be at least 24 of these (approximately 2/week).	Satisfactory (S), Unsatisfactory (U)
Class Presentations	Present to the class an in class or synthesis activity.	Satisfactory (S), Unsatisfactory (U)
Skill Quizzes	Weekly quizzes over definitions, theorems, and applications of these. You will have 3 opportunities to earn "S" on each skill. There are 15 skills.	Satisfactory (S) Not Yet (NY)
Exams	There will be two midterms and a final exam. There will be opportunities for revision on the midterms but not on the final exam.	Excellent (E), Satisfactory (S), Progressing Plus (P+), Progressing (P)
Proof Portfolio	Challenging proof based problems over big ideas. You will be able to submit "unlimited" drafts subject to a limit of 3 submissions per week and initial and final deadlines. There will be 10 problems.	Each draft will earn an Excellent (E), Satisfactory (S), Progressing (P), or Incomplete (I)

Determining your final course grade involves two steps.

Step 1: First, compute your *base grade* which is A, B, C, D, or F without any plus/minus additions.

To earn:	Do all of the following:
A	- Earn an S on at least 13 Preview Activities. - Earn an S on at least 22 Synthesis Activities. - Earn an S on at least 3 Class Presentations. - Earn an S on at least 14 Skills. - Earn an S or E on <u>both</u> exams including at least one E.. - Complete the Proof Portfolio at "A" level.
B	- Earn an S on at least 10 Preview Activities. - Earn an S on at least 18 Synthesis Activities. - Earn an S on at least 2 Class Presentations. - Earn an S on at least 12 Skills. - Earn an S or E on <u>both</u> exams. - Complete the Proof Portfolio at "B" level.
C	- Earn an S on at least 8 Preview Activities. - Earn an S on at least 14 Synthesis Activities. - Earn an S on at least 1 Class Presentation. - Earn an S on at least 10 Skills. - Earn an S or E on at least one exam and an E, S, or P+ on the other. - Complete the Proof Portfolio at "C" level.
D	- Earn an S on at least 6 Preview Activities. - Earn an S on at least 10 Synthesis Activities. - Earn an S on at least 8 skills. - Earn an E, S, or P+ on both exams.
F	Given if not all the requirements for a "D" are met

Step 2: Add a (+) to your grade if you score 85% or higher on the final exam <u>or</u> you complete the proof portfolio at the next highest level. Add a (-) to your grade if you score 50% or less on the final exam.

Preview Activities

Before at least 15 classes you will be asked to do a preview activity. This will typically include watching a screen cast or reading and then answering questions. You will earn an S by completing all questions to your best ability, but these are not graded for correctness. **These are due by 9AM** on the day of class so that I can respond to your answers in class. ***Academic honesty:*** You may use any resources you'd like and collaborate with anyone you wish on these assignments. Submitting anything you do not understand or copying from any resource will be considered academic dishonesty. Please see me if you need help.

Synthesis Activities

After each class you will be asked to complete some activities to synthesize work done in class. Typically this will be 2-3 problems from your textbook. These activities will usually be presented. In this case, you may make corrections to your work *using the green pen that is provided*. You will earn an 'S' by answering each question before class. Though you do not necessarily need to be correct to earn an 'S', you will need to show substantial effort. ***Academic honesty:*** Collaboration is allowed and encouraged. See the collaboration section of the [Academic Honesty document](#) to be clear about what this looks like. Submitting anything you do not understand or copying from any resource (such as an online resource or a classmate) will be considered academic dishonesty. In the event that you are asked to type these, sharing of any electronic files is not allowed. Please see me if you need help.

Class Presentations

Being able to communicate mathematical ideas (even not yet fully formed ones) verbally is an important skill. There will be many opportunities to present synthesis and in class activities. I will not force you to present at any specific time (though I may ask you to present if your work will be particularly productive for discussion). You earn an 'S' on a presentation by presenting your work and answering questions the class may have. ***Academic honesty:*** The work you are presenting should be your own understanding. Please see me if you need help.

Exams

Exams will be organized into sections based on course material. Each section will earn an Excellent (E), Satisfactory (S), Progressing (P), or Insufficient (I). An overall grade will be assigned based on the grades on each section. More details will be provided closer to the exam. Revisions will be done by rewriting your answers and a discussion with Dr. Keough. ***Academic honesty:*** Preparation for these together is acceptable and encouraged**.** Exams are closed book, closed notes, and closed classmates - any use of resources on the exam is considered academic dishonesty.

Quizzes

Goals:

There are a number of basic skills that you should demonstrate mastery of in an introduction to proofs course. These skill mastery quizzes are intended to emphasize a few things. One is that learning is a process. You will not be penalized for not mastering a skill the first time, but you are expected to eventually get there. Another is that mastery of the basic skills and knowing definitions is an important part of doing mathematics. For example, you shouldn't expect to be able to complete a complex proof about the notion of divides if you don't know the definition of divides. These quizzes also provide individual assessment so you know whether or not you are keeping up with course material. *Academic honesty:* Preparing for these together is allowed and encouraged, but no collaboration or resources are allowed during quizzes.

Structure:

We will have a quiz each Monday at the end of class assessing these skills. While each skill will be graded as only either ``S" for ``Satisfactory" or ``NY" for ``does Not Yet meet the standard" you will have multiple chances to demonstrate each skill. Once you demonstrate that you have mastered a skill you do not need to do so again. Mastery of a skill we'll be denoted as an S on Blackboard while skills needing to still be mastered will be denoted NY. You will be notified which skills will be on a quiz, but it is your responsibility to know which skills you have yet to master. The quizzes are closed book and notes. Each skill will be on three quizzes. Your grade for this component will be the percentage of the 15 skills listed below that you have mastered.

Skills:

Logic

L1: Given a conditional statement, identify the hypothesis and conclusion, determine its truth value, and apply it.

L2: State precisely the definition of an even and odd integer and outline the proof of a statement using these terms.

L3: Construct truth tables for statements that use the logical operators and, or, not, and implies.

L4: Write sets using set builder notation and interpret sets written in this notation.

L5: Negate a statement with and, or, not, implies, exists, and/or for all.

Proofs

P1: Given a theorem, correctly state what will be assumed in a direct proof, proof by contradiction, and proof by contrapositive.

P2: Identify situations in which it is appropriate to use induction and state the procedure for proving a statement by induction.

P3: Clearly and correctly disprove a statement using a counterexample.

P4: Evaluate if a given proof is valid and adheres to our writing guidelines.

Sets, Functions, and Equivalence Relations

S1: Use the symbols related to sets (like $\in$, $\notin$, $\subseteq$, $\subset$, $=$, $\not\subseteq$) correctly.

S2: Given two sets and a universal set identify the union, intersection, complement, and set difference and find the power set of a given set.

S3: Correctly use function terminology such as domain, codomain, range, dependent variable, independent variable, image, and preimage.

S4: State the definition of injection, surjection, and bijection.

S5: Prove or disprove that a given relation is reflexive, symmetric, and/or transitive.

S6; State the definition of ``$a$ divides $b$'' and ``a is congruent to b modulo n'', and correctly apply these definitions in examples.

Proof Portfolio

Your proof portfolio will be a demonstration of your growth in this class and of your mastery of the material. The final proof portfolio will consist of 10 polished proofs. Together we will work from your first draft to a ``perfect" proof.

Portfolio Goals

- ***Written communication.*** Perhaps one of the most important goals of the proof portfolio is to work on your ability to write well. I don't know anyone who was born a good mathematical writer. Writing mathematics is decidedly different than writing an essay (just as, you may have noticed, reading a math text is different than reading a novel) and it will take some time to get good at it. The proof portfolio gives you many opportunities to learn from mistakes.
- ***Learning LaTeX.*** Mathematical typesetting in \LaTeX is an important goal in this course. In future courses you'll be able to do your homework faster and better, and it will look more professional. You'll be glad you learned it, trust me!
- ***Time to think individually and to get individual feedback.*** Since collaboration on some of the other assignments is allowed and encouraged, this is an opportunity to rely on yourself and see how much *you* know as an individual. In addition, it's an opportunity for me to get to know you as a mathematician and a writer.
- ***The opportunity to act on feedback.*** You will get lots of feedback on assignments in this course, but there is often no chance to revise and resubmit. This is a chance for you and me to make sure you understand my feedback and correct mistakes.
- ***Seeing a proof through to perfection.*** I hope this will be intensely satisfying.
- ***Celebrating your progress.*** It's important to do this else the constant presentation of new challenges would have us all feeling like failures all the time.
- ***A resource later.*** You will have 10 typed proofs and at least one example of every proof technique we've learned in the course. This could be of use in the event that you ever forget, say, how induction works.

Logistics

Each statement will be written in the form of a conjecture (a mathematical claim) among which you will have some choice. Each conjecture asks you to prove or disprove the conjecture, possibly along with some additional directions. If the proposition is true, your job is to write a complete proof for the proposition. If it is false, you should provide a counterexample *plus* make reasonable modifications to the stated conjecture so that a new proposition is true. Then, write a complete proof of your new proposition. You may want to run your new proposition by me before trying to write a proof - this is allowed and encouraged! See here for a sample problem.

Academic Honesty: The portfolio is an **independent project** in which **no outside resources or collaboration is allowed**. You may not use the math center, ask other professors, or discuss the problems with anyone besides me. You should not discuss even which problem you chose. Violation of this policy is grounds for failing the course. The point is that you need to be confident and competent in writing proofs for your future courses.

Throughout this process remember that I am here to support you.

Submission of Drafts:

An important part of this process is the submission of drafts which allow you to get formative feedback without the pressure of getting a final grade. Important rules are

- You are allowed to submit up to 2 drafts per problem (not counting the final draft).
- You are allowed to submit up to 3 drafts per week. Let's agree each week starts on Monday at 6AM. You may use a token to extend a week to still submit up to 3.
- I will return drafts to you within 3 business days.
- You submit a typeset draft as a PDF to Blackboard under the appropriate proof number.
- Your drafts must be typed in LaTeX. A template for this will be provided. You may use a local version installed on your computer or an online typesetting platform like Overleaf.

Deadlines:

Group of Problems	Initial Deadline: All drafts submitted after this date are final	Final Deadline: All final drafts are due by this date.
Problems 2-4	Monday 2/17, 11:59PM	Friday 2/21, 11:59PM
Problems 5-8	Monday 3/23, 11:59PM	Friday 3/27, 11:59PM
Problems 1, 9-10	Monday 4/13, 11:59PM	Friday 4/17, 11:59PM

Most weeks during the semester you should submit a draft of a new problem and a revised draft.

Using me:

As stated before you are not allowed to use outside resources or collaborate. You should however use me for help. To aid in this I ask that you work on this semester-long project early and often. Before you visit office hours I expect that you have tried the problem (you should at least know the definitions of terms in the problem and have made an attempt at one type of proof).   You can ask me a question at any time (before submitting the first draft of a proof or after you've submitted a draft). I ask that you be respectful of my time. I will at no point walk you through a proof, but I will provide hints!

"I think you should be more explicit here in step two."
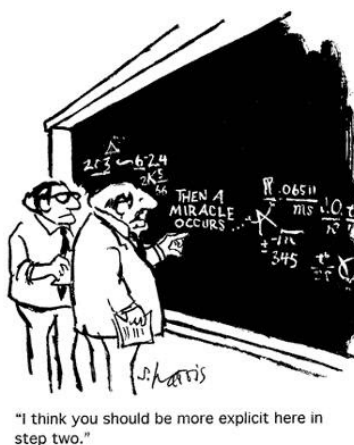
Assessment and Evaluation:

The problems are intending to be challenging. They will emphasize critical analysis and writing skills. Portfolio problems are evaluated on the basis of completeness, correctness, and adherence to our writing guidelines. All drafts will be graded according to the following rubric.

Grade	Description
Excellent (E)	The work is complete, precisely written, demonstrates correct reasoning and full support for all claims and computations, is free from mathematical and communication errors, and indicates a high level of understanding of the mathematical concepts involved. The work meets all writing guidelines.
Satisfactory (S)	The work is complete, demonstrates correct reasoning and support for its claims and computations. There may be a few isolated errors in mathematics, writing, reasoning,
Progressing (P)	Partial understanding of the concepts is evident, but there are significant issues with completeness, correctness, precision of language or notation, or logic that can be improved with revision.
Incomplete (I)	The work has significant gaps, omissions, or errors; or, there are widespread significant issues completeness, correctness, precision of language or notation, or logic that require more than just a simple revision.

Level	Requirements
"A" Level	Complete a total of 10 problems with Satisfactory or Excellent grades, including at least 6 excellent grades. Submit a draft of at least 8 problems before the initial deadline and complete the midsemester reflection.
"B" Level	Complete a total of 8 problems with Satisfactory or Excellent grades, including at least 3 Excellent grades. Submit a draft of at least 6 problems before the initial deadline and complete the midsemester reflection.
"C" Level	Complete a total of 6 problems with Satisfactory or Excellent grades. Submit a draft of at least 4 problems before the initial deadline and complete the midsemester reflection.

Course Schedule

This schedule is tentative. It will be updated as we move through the course. If you miss a class you should contact one of your classmates for what you missed and check Blackboard for what will be due the following class.

Week	Monday	Wednesday
January 6 (1)	Section 1.1	Section 1.2 & 2.1 PA1 due, SA1 due 100% refund deadline is 1/10
January 13 (2)	Section 2.2, LaTeX SA2 due, Quiz 1 New Skills L1, L2, PA2 due	Section 2.3 SA3 due, PA3 due
January 20 (3)	No class (MLK day)	Section 2.4 SA6 due, PA4 due
January 27 (4)	Section 3.1 SA7 due, Quiz 2 New Skills L3, L4, PA5 due	Section 3.2 SA8 due, PA6due
February 3 (5)	Section 3.3 SA9 due, Quiz 3 New Skill L5	Section 3.4 SA10 due, PA7 due
February 10 (6)	Section 3.5 SA11 due, Quiz 4 New Skill P1, PA8 due	**Exam 1**
February 17 (7)	Section 4.1 SA12 due *Initial deadline for PP2-4 Mon 2/17 11:59PM*	Section 4.1 SA13 due, PA9 due *Final deadline for PP2-4 Fri 2/21 11:59PM*
February 24 (8)	Section 4.2 & 4.3 SA14 due, Quiz 5 New Skills P2, P3	Section 5.1 & 5.2, PA10 due SA15 due
March 2	No class (Spring Break)	No class (Spring Break). Drop with a W deadline is 3/6.
March 9 (9)	Section 5.3 & 5.4 SA16 due, Quiz 6 New Skill P4, PA11 due	Section 6.1 & 6.2 SA17 due, PA12 due
March 16 (10)	Section 6.3 SA18 due, Quiz 7 New Skills S1, S2	Section 6.3 & 6.4 SA19 due, PA13 due
March 23 (11)	Catch up/review SA20 due, Quiz 8 New Skill S3 *Initial deadline for PP5-8 Mon 3/23, 11:59PM*	**Exam 2** *Final deadline for PP5-8 Fri 3/27, 11:59PM*
March 30 (12)	Section 6.5 SA21 due, Quiz 9 New Skill S4, PA12 due	Section 7.1 SA 22 due, PA14 due
April 6 (13)	Section 7.2 SA23 due, Quiz 10 New Skills S5, S6	Section 7.3/7.4 SA24 due, PA15 due
April 13 (14)	Catch up/review Quiz 11 (No New Skills) *Initial deadline PP1,9-10 Mon 4/13 11:59PM*	Catch up/review Quiz 12 (No New Skills) *Final deadline PP1, 9, 10 Friday 4/17 11:59PM*
April 20 (Finals)		Final exam Wednesday, April 22 (10-11:50AM) in our usual classroom.

Other Course Policies

Attendance: Being in class is important for your success and your classmates and I are interested on your insights and questions. Attendance will be taken each day, though it will not count as any percentage of your course grade. If you miss a class with a skill quiz, you will not be able to make it up. If you would like credit for the class preparation assignment on a day you miss class, it must be emailed before class begins. Exam makeups are given by instructor discretion. To makeup an exam there must be a significant event that made it impossible to be in class.

Late work: Late preview activities are not accepted under any circumstances. Late synthesis activities are not accepted without the use of a token. Initial deadlines for proof portfolio may not be extended, but final deadlines may be extended by 48 hours using a token.

Tokens: You have 4 tokens which may be used to:

- **Extend the deadline for a synthesis activity by 48 hours.** *Submit the synthesis 48 hours later by slipping under my office door (MAK A-2-130), giving to the math department office (MAK A-2-161 - only during business hours), or emailing me pictures. You should write "token" at the top of your assignment.*
- **Get an extra attempt on a skill (at most one attempt per skill).** *To get an extra attempt on a skill you should email me that you would like to use a token and what skill. You may take the extra attempt during office hours (or by appointment). You need to give 48 hours notice for when you want to take a skill.*
- **Extend a final deadline for proof portfolio problems by 48 hours.** Initial deadlines may not be extended. *Use a token to extend this deadline by sending me an email in advance of the deadline.*
- **Submit an extra draft of a proof portfolio problem in a week.** *You should indicate in the comments section when you submit on Blackboard that you are using a token.*

You may earn extra tokens by attending events hosted by the math department and providing evidence that you did so. If you are in a situation that requires some grace you should let me know as soon as possible. The sooner you inform me the more I can help.

This course is subject to the GVSU policies listed at: http://www.gvsu.edu/coursepolicies. Please note that I cannot provide accommodations based upon disability until I have received a copy of the DSR issued memo (https://www.gvsu.edu/dsr/). All discussions will remain confidential. Also, if you have observed or experienced a bias incident please report it at https://gvsu.edu/bias, by phone to the Dean of Students (616.331.3585) or in person at the Dean of Students Office (202 STU) or Inclusion and Equity Office (4035 JHZ).

Academic Honesty

Academic honesty is crucial to the academic system. Incidences of academic honesty will not be tolerated and may result in failure of the course. Familiarize yourself with Section 4 of the student code and additional policies for each assessment in their respective sections. Not knowing the policy is not an excuse. You must read and regularly refer to the academic honesty document.

Any changes to the syllabus will be communicated in class and on Blackboard.

Being Successful in MTH 210

How I expect you'll spend your time: *You should be prepared to spend 8 hours/week outside of class.*
- Preview Activities: About 1 - 1.5 hours per week.
- Synthesis Activities: 2-3 hours/week
- Proof Portfolio: 2 hours/week
- Quiz Studying: .5 hours/week
- Reviewing Notes/Self-Quizzing: 2 hours/week *Note:* Reviewing your class notes and self-quizzing will save you time on all other assessments!

Note in a typical week you'll have:
- Monday: Preview Activity due, Synthesis Activity due, Quiz
- Wednesday: Preview Activity due, Synthesis Activity due
- Submit at least 2 proof portfolio drafts

It's worth blocking out time on your calendar to do each of these things.

Organization: I expect that you will have a binder. All handouts will be whole punched.

Attendance: Come to class! (While attendance does not count for your course grade, it's highly correlated to success, and I will take attendance.)

Advice from past students: Go [here](#) to see the anonymous advice from my students last semester.

What to do when you're stuck: When you are stuck, please use the resources available to you. Checkout the "what to do when you're stuck" tab on Blackboard (BB). Your best resources for this class are office hours and your classmates.

Email and BB: Check both daily! What is due each class will be posted in the announcements will be posted to Blackboard. Class worksheets and solutions will also be posted.

Class time: We will use our valuable class time to work on hard problems in groups. I am making every effort to push your limits while not overly frustrating you. You need to be prepared for class by doing preview activities. Commit to paying attention in class and asking questions when you have them will be very important.

What to do if you miss class: I appreciate it if you let me know you are going to miss class by emailing (keoulaur@gvsu.edu). You should make sure you have a classmate's email address or phone number so you can find out what you missed. You can still earn credit for the preview activity (by completing it by 9AM) and the synthesis activity (by emailing it to keoulaur@gvsu.edu before class). If you miss a quiz you may not make it up.

Academic Honesty: This is worth mentioning again. The point is to grow as a student and gain a deep understanding of proof techniques that will be essential to your future courses. This can only happen if we are each academically honest at all times. See the [academic honesty document](#) for a detailed outline of the expectations.

MTH 210 Grade Sheet

See course grades for how to compute your letter grade.

Preview Activities: *Mark one box for each preview activity you earn an S on.*

D: ❏ ❏ ❏ ❏ ❏ ❏   C: ❏ ❏   B: ❏ ❏ A: ❏ ❏ ❏

<div align="right">

D C B A
</div>

Synthesis Activities: *Mark one box for each synthesis activity you earn an S on.*

D: ❏ ❏ ❏ ❏ ❏ ❏ ❏ ❏ ❏   C: ❏ ❏ ❏ ❏   B: ❏ ❏ ❏ ❏ A: ❏ ❏ ❏ ❏

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D C B A
</div>

Quizzes: *Mark one box for each skill you earn an S on.*

D: ❏ ❏ ❏ ❏ ❏ ❏ ❏   C: ❏ ❏   B: ❏ ❏ A: ❏ ❏

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D C B A
</div>

Class Presentations: *Mark one box for each presentation you earn an S on.*

 C: ❏   B: ❏   A: ❏

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D C B A
</div>

Proof Portfolio:

Check a box for each problem for which you turned in a draft before the initial deadline:

 C: ❏ ❏ ❏ ❏   B: ❏ ❏ A: ❏ ❏

Check a box for each problem you earn an S or an E on:

❏ ❏ ❏ ❏ ❏ ❏ ❏ ❏ ❏

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See proof portfolio for grading: D C B A
</div>

Exams:
Record your overall score on each exam.

Exam 1: _____   Exam 2: _____

<div align="right">

D C B A
</div>