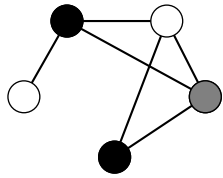


MAT 302: Discrete Mathematical Structures, Augsburg Univ., Spring 2026A

All course policies subject to change with notice.

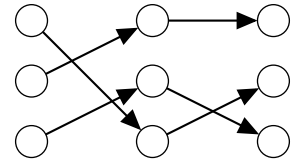


$$1+2+3+4+5+6+\dots$$

$$1, 1, 2, 3, 5, 8, 13, \dots$$

$$\{0, 1, 4, 9, \dots\}$$

$$\begin{array}{ccccccc} & & & & 1 & & \\ & & & & 1 & & 1 \\ & & & 1 & 2 & & 1 \\ & & 1 & 3 & 3 & & 1 \\ 1 & & 4 & 6 & 4 & & 1 \end{array}$$



Where and when does class meet?

Class meets in person **MWF 10:50-11:50 AM in Hagfors 152**. Our first day of class is Wednesday January 21 and our last class is Wednesday May 6 12:00-2:00 PM during finals week. Classes might occasionally switch to Zoom with notice.

How do I communicate with the professor?

My name is Dr. Suzanne Dorée. You are welcome to call me Professor Dorée, Professor Su, or just Professor. The best way to reach me outside of class is to email me: doree@augsborg.edu using your Augsburg email account.

What will we study in this course?

This course explores concepts of discrete mathematics including number theory, combinatorics, graph theory, recursion theory, set theory, and formal logic, with an emphasis on algorithmic thinking, mathematical reasoning, conjecturing, and proof. We will encounter the following breadth of topics, in varying depths.

- *Enumerative combinatorics*: organized listing, counting techniques, the arithmetic triangle, and combinatorial proof.
- *Graph theory*: terminology, adjacency matrices, connectivity, isomorphism, invariants, coloring, complements, and trees.
- *Discrete structures*: strings, sequences, sums, and products.
- *Induction and recursion*: recursively-defined sequences, the Fibonacci sequence, modeling with recurrence relations, and proof by mathematical induction.
- *Number theory*: division of integers, primes, modular arithmetic, congruence mod n , greatest common divisor, the Euclidean algorithm, and alternate base representations including binary and hexadecimal.
- *Formal logic*: logical connectives, quantifiers, negations, logical equivalences and inferences, and basic direct and indirect proof structures including cases, contraposition, and contradiction.
- *Set theory*: subsets, set operations, Cartesian products, relations and equivalence relations with an emphasis on finite and discrete sets.
- *Functions*: function notation and visual representations with an emphasis on finite and discrete functions, one-to-one, onto, composition, inverses, and permutations.
- *Discrete algebra*: factorials, exponentials, log base 2, polynomials, and fractions.

What will we learn in the course?

This course is designed to help you:

- Learn basic concepts of discrete mathematics – enumerative combinatorics, graph theory, discrete structures, induction and recursion, and number theory.
- Be introduced to the foundations of theoretical mathematics and computer science – formal logic, set theory, and functions.
- Develop a discrete perspective and toolkit of techniques to solve problems that typically arise in mathematics, computer science, and data science. These techniques include: recognizing patterns, organizing lists, formulating and testing conjectures, constructing counterexamples, explaining calculations and reasoning, reading definitions, arguing logically, and writing proofs.

- See famous problems and have fun solving mathematical puzzles.
- Work on the following dispositions from the ACM 2020 computer science curriculum recommendations¹
 - **Collaborative:** Team player, willing to work with others.
 - **Inventive:** Exploratory. Look beyond simple solutions.
 - **Meticulous:** Attentive to detail; thoroughness, accurate.

What academic requirements does this course count for?

This course counts as four upper division credit hours. With a grade of C- or higher (or Pass), this course counts as follows.

- Mathematics majors: required for BA and BS.
- Mathematics minor: option
- Computer science majors: required for BS, option for BA.
- Computer science minor: option
- Data science major: option for advanced electives (in pair with MAT 350 Graph Theory).
- Education licensure in middle school (grades 5-8) and secondary (grades 5-12) mathematics: option. Details on the Minnesota Board of Teaching Standards met in full or in part by this course are available on request.

If you have completed MAT 271, MAT 302, or their transfer equivalents you cannot get credit for this course. If you have taken a full-semester discrete mathematics course at Augsburg or another institution, please meet with me right away.

What background knowledge do I need to be ready for this class?

The prerequisite for this course is MAT 145 *Calculus I* with a grade of C- or higher (or Pass). We do not use calculus, but we do make frequent use of skills you learned in calculus including precalculus concepts, the ability to solve multi-step problems, and attention to notation and detail. If you received C+ or lower in the calculus class or if you are worried about taking a math class, please meet with me early in the semester and I will help you plan for success. No prior coding experience is expected, but it is useful.

What texts, materials, or technology do I need for this class?

- Our free textbook, *Active Discrete Mathematics: Patterns, Structures, and Proof* by Professor Dorée, is posted to Moodle.
- You need regular access to the Internet to read email and to access resources on Moodle. If you do not have reliable Internet at home, contact the Info/Tech Desk at Lindell Library for help.
- You also need regular access to a device that scans written work; any cellphone with a camera has this functionality. The on-campus printers also scan, but not as well. Alternatively, you can use a writable electronic surface (such as a tablet).

¹Available at <https://www.acm.org/binaries/content/assets/education/curricula-recommendations/cc2020.pdf>

How can I get help with this class?

There are two recommended ways to get help with this class.

From me: I very much enjoy working with students outside of class and look forward to helping you learn. One way I do this is to hold office hours

MW 2:30-3:30 PM and F 2:30-3:00 PM

I am often, but not always, available during community time **MWF 12:30-1:00 PM**. You can stop by in person during office hours and we can work together on learning course material. You are also welcome to ask me about tips for success in the course or to chat about mathematics or college in general. During my office hours I am either in my office (Hagfors 185) or in the study area across the hall. No appointment is necessary. I know my office hours do not fit everyone's schedule so I am often available at other times – just ask! If I am not available when you need help, you are also welcome to e-mail me. I am pretty good at helping via email.

From classmates: You are encouraged to meet regularly with classmates, which means students currently enrolled in the course. Students often hang out and work on homework in the study area across from my office or in the Computer Science home up on third floor of Hagfors most of the day MWF.

How can I learn best in this class (or what should I do to get an A)?

Being in class to have this opportunity to learn with me and classmates is very important. We will work on learning the new material through mini-lectures and working in pairs on activities. I will introduce new ideas, summarize what we are learning in the activities, discuss important course policies, and remind you of important deadlines. You will not want to miss class! I understand that at times you might occasionally have a serious situation that leads to your missing class. Please try to avoid missing class in less serious situations. We will use all of class time so please arrive on time and stay for the full session.

Building a supportive classroom where you feel welcome is a priority for me and I ask your help making sure all students are welcome and included. I have various course policies to support this work. In particular, during lecture time I do not allow voluntary calling out of answers, asking questions, or unsolicited comments. When you have questions during lecture (which will happen), you can quietly ask your neighbor or write down your questions for during activities or office hours. I will randomly assign seats each day so that you have an opportunity to work with many different classmates. I encourage you to embrace these practices, even if they seem a bit new to you, as I believe they will help you succeed.

You earn points in this class in three categories: activities, homework assignments, and quizzes. The primary way to get activity points is to attend class. At times I offer a chance to earn extra credit engagement points by doing things that I believe can help you learn such as attending office hours or working with a study group. It would be wise to take advantage of these extra credit offers!

The homework assignments are posted on Moodle. These assignments give you a chance to get feedback on how well you are learning the material. While many problems are relatively straightforward, I like to include more challenging problems. Do not be surprised if you get stuck or are not able to complete every problem fully without help. That is okay.

You may write your homework solutions on paper or on a writable electronic surface (such as a tablet). Start by writing the section and your full name on the top of the first page. Organize your solutions are in order by problem number, number each problem and each part of the problem, leave several lines of blank space after each part of each problem and in between problems. You will be grading your own homework using a 3-color method.

For each assigned exercise:

Step 1: The Independent Attempt (Pencil/Black Pen) Using a pencil or black pen, handwrite your work on that exercise, completing as many parts as you can. During this step, you may consult the textbook or your class notes, but no other resources (unless directed by the problem.) You may also work with classmates and me, but no other people. Show your work or explain your reasoning on each part of each problem. Check your answers with the partial answers and hints in the textbook. If you are stuck or cannot figure out how to fix an incorrect answer, write a sentence explaining exactly where you got lost.

Step 2: The Accuracy Check (Green Pen) Use any resource you want to check your answers, work, and explanations. I encourage you to use generative AI tools (such as Gemini) to ask for a solution. If AI tools show you a solution using techniques or concepts beyond what we learned in this course, ask it to “Show me how to solve the problem without using ...”.

Using a green pen, handwrite any necessary revision of your work or additional explanation based on this feedback. Do not erase your original work and do not just copy the correct solutions, instead find your specific error, cross it out, and write the correct calculation or explanation. If your original solution was correct and showed detailed work or explanation, put a large checkmark in the left margin in green pen. Make sure that your final solution only uses techniques and concepts introduced in the class. (Ask me if you are ever not sure.) You do not need to cite your sources because I know that any work done in green was assisted by outside sources and, therefore, does not represent your original work.

When you are done with all of the assigned exercises:

Step 3: The Final Reflection (Red Pen) Analyze your work to look for patterns. Are there steps you tend to forget? Places you tend to work too fast or not write enough? You may use resources or other people to help you do this step. Using a red pen, copy and complete these two statements at the very end of your work: “I understand/can _____” and “I need to learn/practice _____”.

Finally, on the top of the first page, assign a grade to your work – complete, partial, minimal, or incomplete. Consult How is my work graded? for details.

When you are ready to submit the assignment, scan (not photo) the pages into a single PDF, edit the image as needed to be readable, and upload to Moodle. If you are annotating the PDF, export to PDF (to capture your work), proofread your document, and upload to Moodle. Moodle accepts one PDF file per homework. I do not normally accept homework via email.

Homework assignments are typically due MWF 11:59 PM, although they are accepted until the start of the corresponding quiz subject to late penalties. Make it a goal to not have any zeroes on any homework.

There are three practices that will save you time and increase how well you learn the material.

- Start the homework right away after class, at least to fill in whatever you can from what we did in class.
- If you are struggling with a problem, read the textbook. There is often explanation and examples that can help.
- Try to finish as much as you can of the assignment before our next class session, even though it is not due until later that day. That way you can meet with classmates to compare work and come see me during office hours (or email me) to get your questions answered well before the last minute.

There are no exams and no final exam in this course. Instead, we have quizzes every few class sessions. Each quiz is part on Moodle and part in-class. On the Moodle part, try it on your own first with no resources or help to see how well you know the material and what is left to study. You are then welcome to use resources to retake the Moodle part until you get 100%. You may discuss the concepts with classmates but do not let a classmate or other resource answer questions for you. The in-class part is closed book and individual – time to show me what you have learned. No reference material, computational technology, or collaboration is allowed on the quizzes, unless you have special needs that we have made prior arrangements to accommodate through our CLASS program.

To study for the quizzes, review your class notes, the textbook, your completed assignments – paying special attention to your reflections in red ink. If you needed a lot of help to do the homework, you are likely to struggle on the quizzes, so be sure to actually learn the material.

How is my work graded?

If you are in class from start to finish and paying attention, you get five engagement points for the day. If you arrive a minute or two late, step out during class, or leave class a minute or two early you usually get four points. If you miss more than a couple of minutes of class, you get two points. If you miss class entirely, you get zero points. If you have an emergency or absolutely unavoidable situation that causes you to miss more than a few classes during the term, be sure to ask me if there is any way to make up some of the missed points.

Each homework assignment is graded using the following rubric.

Complete: Independent attempt of all parts of each assigned exercise (pencil/black), accuracy check of all parts of each assigned exercise (green), and final reflection (red).

Partial: Independent attempt of most of the assigned exercises but some exercises or parts skipped, (pencil/black), accuracy check of all parts of each attempted exercise (green), and final reflection (red).

Minimal: Independent attempt of at least half of the assigned exercises (pencil/black) and accuracy check of all parts of each attempted exercise (green).

Incomplete: Independent attempt at least half of the assigned exercises (pencil/black) but missing accuracy check of some/all exercises.

It can take a few tries to understand how to assess your work, so be patient as you learn this new skill. If I think your grade is incorrect, I will let you know. I reserve the right to regrade any homework set and/or to ask you to meet with me to go over how to grade the homework. You are welcome to meet with me to discuss the grading as well.

Each homework assignment worth up to 10 points as follows.

- 10 points = complete and on time.
- 8 points = partial and on time.
- 7 points = minimal and on time OR complete but late.
- 5 points = incomplete and on time OR partial but late.
- 4 points = minimal but late
- 2 points = incomplete but late

Each homework assignment includes extra credit exercises. Extra credit is completely independent work. No resources are allowed on extra credit except you may consult our textbook and your course notes. To earn points, meet with me during office hours (or by appointment) to discuss the work. The meeting must normally take place before the quiz on the topic. You may earn up to five points extra credit per textbook section, so normally one exercise per section.

Each quiz is worth 20 points. Often the Moodle part is worth five points calculated on the following scale:

min % on Moodle part	100%	90%	80%	70%	60%	50%
quiz points	6 (yes!)	5	4	3	2	1

and the in-class part is worth 15 points. Some times we take two quizzes on the same day, denoted “double quizzes” on the course calendar. Each is graded separately.

How is my course grade calculated?

First, I calculate the percentage of points you earned in each category and compute the weighted average with

- 25% Activities
- 25% Homework Assignments
- 50% Quizzes

Next, I convert your percentage grade to a letter grade using the following specifications.

- A requires at least 94% overall and at least 84% on each category.
- A- requires at least 92% overall and at least 82% on each category.
- B+ requires at least 89% overall and at least 79% on each category.
- B requires at least 84% overall and at least 74% on each category.
- B- requires at least 82% overall and at least 72% on each category.
- C+ requires at least 79% overall and at least 69% on each category.
- C requires at least 74% overall and at least 64% on each category.
- C- or P requires at least 72% overall and at least 62% on each category. This grade is the minimum required to count the course towards the mathematics major or minor, computer science major or minor, data science major, for Education programs, or as a prerequisite for any CSC, DST, or MAT course.

- D or LP requires at least 62% overall and at least 52% on each category. This grade is the minimum required to receive credit towards graduation for the course.
- Any other situation is graded F or N.

You are welcome to take this course P/LP/N but you should check with your faculty mentor (or your degree audit) first because there is a limit to the number of P/LP/N courses overall, towards a major, and towards a minor. Some students like this option because the grades of P, LP, and N do not count into your Grade Point Average (GPA).

I reserve the right to lower your course grade if your attendance, punctuality, participation, preparation, or behavior falls well below the expectations listed in the next section. If during the term you are not progressing towards a passing grade or if your attendance, participation, preparation, or behavior is falling well below expectations, I will usually email you or send an Academic Progress Report.

I reserve the right to lower your course grade if you violate the Academic Honesty Policy in this course. If that happens, I will notify you in writing. If you are ever in a situation where you are not sure if something is allowed, please ask!

One last note about grades: while a grade of C- or higher (or Pass) in this course satisfies prerequisites, any grade below a B usually means you will have significant challenges in subsequent classes. So, if you are planning to continue taking coursework in mathematics, computer science, or data science, you should work towards a B or higher in this course to be adequately prepared to go on.

What is expected of me?

I expect you to:

- Read your Augsburg emails regularly, including reading emails I send directly or via Moodle, and access our Moodle site as needed.
- Attend and participate in every class. Be on time and prepared for every class. Arrange to stay for the entire class period. If you must come late or leave early on special occasion, please let me know in advance. Avoid scheduling appointments that overlap class time. If you have an occasional excused absence, send me an email as soon as possible so that I know you are okay. You do not need to tell me why you are late or absent, just check in.
- Pay attention during class. The only thing you should be reading, viewing, writing, or discussing during class is the current material. Use of technology is important for learning in this class, but it can also be a huge distraction. To help you focus, you may not be using your cell phone, laptop, tablet, or other technology during class unless directed by me to do so. At such times, I will let you know that you may use technology for a task. You are only allowed to use your device to work on the assigned task. (For example, no watching videos or completing other assignments.) One exception is that you are allowed to use a tablet or laptop laid flat on the table during class at any time for the purpose of taking course notes, but not for anything other than taking course notes. Another exception is that you are allowed to use a cell phone to photograph my notes or your own work at the whiteboards. If you do not comply with this policy, I reserve the right to ask you to leave class. Exceptions to this policy require advanced approval by the instructor, for example, for a disability-related accommodation or in case of a family emergency.
- Do all of the assigned work. Plan on spending 6-9 hours a week outside of class time working on the course. Try scheduling at least two hours of work time (perhaps one hour each) between every pair of classes. Your study time should include reviewing class notes and activities, reading the textbook, working on homework, taking the Moodle part of quizzes, and studying for the in-class part of quizzes.
- Submit work when due. All work should be uploaded to Moodle by the indicated date and time. You may submit work for as long as the Moodle link allows. Even if you miss class, work is still due then. I reserve the right to limit how many and which assignments are eligible for late submission.
- Get help when you need it. I know it is hard to ask for help sometimes, but I really enjoy helping students to learn so please reach out to me for help as you need it. You would be wise to arrange to meet with a classmate outside of class to compare work as well. Do not wait until the last minute to get help or meet with classmates. If you did not do well in previous college mathematics courses, or it has been a few years since you took those courses, you should make every effort to arrange your schedule to be able to attend office hours.
- Take quizzes when scheduled. If you have a potential unavoidable conflict with a date, discuss the options with me well in advance to ask if you may take a make-up. If you miss a quiz without having made prior arrangements, get in touch with me as soon as possible to ask if you may take a make-up quiz. While I often allow a make-up quiz,

understand that a missed quiz may result in zero points. I reserve the right to limit the number of make-up quizzes and to designate the time period during which make-up quizzes are offered. I also reserve the right to require follow-up conversation with me during office hours to check on your understanding of the material for any quiz.

- Work with others in the class when asked to do so. Work alone when asked to do so. Follow all academic honesty rules. To be clear, you are encouraged to share ideas, check answers, and compare solutions or explanations with classmates, but any work you submit must be "your own work" as defined by the Augsburg College Academic Honesty Policy. In particular, the independent attempt (in black ink or pencil) of homework assignments must be your own work. For a copy of Augsburg University Academic's Honesty Policy, see <https://tinyurl.com/AcademicHonestyAugsburg> The consequence of a violation of this policy is anywhere from a 0% on the work to an automatic F in the course. I am also required to notify the Dean of the School of Natural Sciences who may impose further consequences. Please protect your reputation and uphold your integrity by committing to being academically honest throughout this course.
- Check your grades on Moodle gradebook (within our course page) regularly and email me if you have any questions about your grades. Be sure to check for missing assignments by looking at the full list of grades, not just the course percentage.
- Keep me up-to-date on how the class is going for you. Be sure to come in and talk with me if I email you or send you a progress report so that we can get you back on track.
- Let me know of any special needs or concerns you have. If you need accommodations because of a disability, please contact the CLASS Office – see below.
- Creating a classroom environment that welcomes and values all students is very important to me. I ask your assistance in helping support one another by following classroom rules. If you feel unwelcome or unvalued at any time, or have any suggestions for improvement, please let me know so I can try to help. Please do not be shy about telling me what is or is not working for you.
- Stay home if you are sick with a contagious virus or are not sure why you are feeling sick. But please drop me an email to let me know.
- As with all Augsburg classes, you should understand and comply with all University policies described in the University catalog and the Student Guide: <http://inside.augsburg.edu/studentaffairs/studentguide/>.
- Complete any in-class and online course evaluation forms.

Where can I get help or accommodations?

Your success in this class is important to me. Here are some university resources that can help.

- **Disability Accommodations and Accessibility:** If you need disability-related accommodations to have equitable access in this course, please contact the CLASS Office (Disability Resources) at class@augsborg.edu or schedule a meeting with CLASS at www.augsburg.edu/class. Phone: (612) 330-1053. Location: Lindell Library, 216. If accommodations are required, the CLASS Office will notify me privately about your needs. Please note that you will not be required to disclose your disability to me, only your accommodations needs. The sooner you let me know your needs, the sooner I can assist you in achieving your learning goals in this course.
- **Health and Wellness:** As part of the University's support systems, you have access to campus resources to maintain your safety, health, and well-being. We understand that as a student you may experience a range of issues that can cause barriers to learning. These stressful moments can impact academic performance or reduce your ability to engage. If you or someone you know are suffering from any challenges, you should reach out for support. For concerns about physical or mental wellbeing, the Center for Wellness and Counseling is located on the first floor of Anderson Residence Hall, 612-330-1707 or <https://www.augsburg.edu/cwc/>.
- **Augsburg's Student Support Services** maintains a Student Support Guide that lists community resources for crisis support, academic support, personal concerns, health concerns, basic living needs, immigration and legal support.
- **Title IX and Sex Discrimination:** Augsburg University is committed to creating a safe learning environment for all students, including one that is free of sex discrimination. If you or someone you know has experienced sex discrimination, including sexual assault, dating violence, domestic violence, and stalking, you may contact Mike Grewe, Dean of Students and our Title IX Coordinator, at titleix@augsborg.edu or 612-330-1499 to report an incident, seek support, and/or take action. Please be aware that faculty members are required to disclose information about suspected or alleged sex discrimination or other potential violations of the Augsburg University Sex Discrimination Policy to the Title IX Coordinator. If the Title IX Coordinator receives information about an incident, they will reach out to offer information about resources, rights, and procedural options as a member of the campus community. If you or another student you know wishes to speak to a confidential resource who does not have this reporting responsibility, you may contact the Center for Wellness and Counseling at cwc@augsborg.edu or 612-330-1707; Campus Ministry at 612-330-1732; or the Aurora Center at aurora@umn.edu or 612-626-9111 (24/7).
- **Supporting Pregnant and Parenting Students:** Augsburg students who are pregnant or are experiencing related conditions (including childbirth, termination of pregnancy, or lactation; related medical conditions; or recovery therefrom) may request reasonable modifications. Students may contact the Title IX Coordinator at titleix@augsborg.edu or 612-330-1034 to learn about specific actions the University can take to prevent discrimination and ensure access to Augsburg's educational programs and activities. Augsburg University also has a designated student parent navigator for parenting students needing assistance in meeting their family's basic needs, Noah Greenfield, Program Coordinator in the Dean of Students Office, at deanofstudents@augsborg.edu or 612-330-1160.

Schedule – subject to change with notice

Monday	Wednesday	Friday
MAT 302 Discrete Math Structures Spring 2026, Dorée Subject to change with notice.	January 21 1 Prologue: Handshakes	January 23 2 Listing and Counting 2.1 Organized Listing
January 26 2.2 Counting with Steps and Cases	January 28 2.3 Counting Subsets	January 30 2.4 Counting Bit Strings Quiz 1, 2.1, 2.2
February 2 3 Graph Theory 3.1 Modeling with Graphs	February 4 3.2 Standard Graphs and Representing Graphs	February 6 3.3 Coloring Graphs Quiz 2.3, 2.4
February 9 3.3 Subgraphs and Isomorphic Graphs	February 11 3.4 Classifying Graphs	February 13 4 Number Theory 4.1 Integer Division Quiz 3.1, 3.2
February 16 4.2 The Division Algorithm	February 18 4.3 Excursion: Modular Arithmetic	February 20 4.4 Primes Quiz 3.3, 3.4
February 23 4.5 Greatest Common Divisor	February 25 5 Logic and Proof 5.1 Logical Connectives	February 27 5.2 Quantifiers Quiz 4.1, 4.2, 4.3
March 2 5.3 Conditional Statements	March 4 5.4 Converse and Contrapositive	March 6 6 Functions 6.1 Functions and Their Representations Quiz 4.4, 4.5
March 9 6.2 Functions with Rules Described in Words	March 11 6.3 One-to-one and Onto	March 13 6.4 Excursion: Permutations, Inverse Functions, and Uniqueness Double Quiz 5.1, 5.2, 5.3, 5.4
March 16-20 No classes: Spring break		
March 23 6.5 Explicitly-defined Sequences	March 25 7 Sets and Relations 7.1 Sets + Quiz 6.1, 6.2	March 27 7.2 Subsets and Sets of Sets
March 30 7.3 Excursion: Partitions	April 1 7.4 Cartesian Products and Relations Quiz 6.3, 6.4, 6.5	April 3 No classes: Good Friday
April 6 7.5 Equivalence Relations	April 8 8 Recursion and Induction 8.1 Recursively-defined Sequences	April 10 8.2 Mathematical Induction Quiz 7.1, 7.2, 7.3
April 13 8.3 Excursion: Matrices and Finite Groups	April 15 8.4 Excursion: The Fibonacci Sequence & Higher Order Recursions	April 17 8.5 Excursion: Recursively-defined Structures + Quiz 7.4, 7.5
April 20 9 Sums and Products 9.1 Modeling with Sums	April 22 9.2 Binary and Hex Representation	April 24 9.3 Conjectures of Explicit Formulas for Sums and Products Double Quiz 8.1, 8.2, 8.3, 8.4, 8.5
April 27 9.4 The Arithmetic Triangle	April 29 9.5 Proofs of Explicit Formulas for Sums and Products	May 1 <small>Last day of class</small> 10 Epilogue: Hotel Infinity
May 4 No classes: finals week	May 6 Double Quiz 9.1, 9.2, 9.3, 9.4, 9.5	Subject to change with notice Effective Jan 21