

**Basic Information****Instructor:**

Professor Sarah Bryant

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Office: 242 Tome Hall

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Office Hours: Mon 10:30-11:30. Wed 3-4, Thurs 9:30-10:30. Please drop by and chat or ask questions during any of these times- no appointment necessary! Other times are available with sufficient notice. Email is the best way to contact me.

**Course:**

Time/Room: MR 3-4:15 pm, in Tome Hall 117

Textbook: *Discrete Mathematics with Applications, 4<sup>th</sup> edition*, by Susanna S. Epp  
~or~ *Discrete Mathematics **Brief Edition**, An Introduction to Mathematical Reasoning*, by Susanna S. EppMaterials: 8.5" x 11" white lined paper with no perforated edges and a stapler **[Required]**Three ring binder – for notes, homework, and handouts. **[Suggested]**Spiral notebook or binder with looseleaf paper for journal **[Required]**

Webpage: Moodle, MA 211

WA: Justine Heritage will assist with writing assignments throughout the semester.

Grades: Homework and Participation: 15% (10% HW, 5% participation)

Quizzes: 5%

Portfolio: 15%

Journal: 5%

Two exams during the semester: 40% (20% each)

Final Exam (cumulative): 20%

**NOTE:** Though each component has a different weight, this is not a “buffet.” A zero in any one component will result in an automatic dropped letter grade (in addition to the 0% in that column of the gradebook).

Exam #1: Thursday, February 23

Exam #2: Thursday, April 5

Final Exam: Friday, May 11, 2pm

**Learning Goals****Overview:** The topics in Discrete Mathematics are a broad collection of related concepts. The word discrete means separate or distinct, and this course will deal with the study of processes that consist of a sequence of individual steps. In contrast, calculus concerns itself with continuously changing processes.**Goals:** This semester will be an introduction to the field of discrete mathematics and mathematical writing.

At the end of the course, you should:

- understand the principles of mathematical logic and fundamental ideas of sets and functions.
- understand and apply proof methods such as direct proofs, indirect proofs, and mathematical induction.
- deepen your ability to write clearly and develop your mastery of specific forms of disciplinary writing. In this course, students should develop the ability to write clear mathematical arguments.
- comprehend and create basic numerical and/or logical arguments.

We will cover the majority of the material in chapters 1 through 7 of the text. Particular subsections will be omitted and additional material may be covered if time permits.

## Notice to Students with Disabilities

In compliance with the Dickinson College policy and equal access laws, I am available to discuss requests made by students with disabilities for academic accommodations. Such requests must be verified in advance this semester by Marni Jones, Coordinator of Disability Services, who will provide a signed copy of an accommodation letter. This must be presented in a scheduled meeting with me prior to any accommodations being offered. Requests for academic accommodations should be made during the first three weeks of the semester (except for unusual circumstances) so that timely and appropriate arrangements can be made.

Students requesting accommodations are required to register with Disability Services, located in Academic Advising, first floor of Biddle House (contact ext. 1080 or [jonesmar@dickinson.edu](mailto:jonesmar@dickinson.edu)) to verify their eligibility for reasonable and appropriate accommodations.

## Classroom Etiquette

You should arrive before the start of class and plan to remain in the classroom until the end of class. Please do not eat during class. Cell phones should always be turned off before entering the classroom. If you text in class you may be asked to leave. You are expected to arrive prepared for the day, with homework and peer-review problems prepared, and to engage in professional and productive discussion with members of your peer-review group. We will work together to create an atmosphere where exchanging ideas and asking questions is the norm and respectful discourse will be common.

## Elaboration on Course Components

**Class participation:** This portion of your grade is based on engagement in class, as well as preparedness for class, peer group work, and attendance - which includes being on time for class. While I don't encourage it, missing class is sometimes unavoidable, and repeated absences will affect this part of your overall grade. Cell phones should be turned off before class begins. If I see you texting in class, you may be asked to leave class, and you will be given an unexcused absence for the day. If you are expecting an emergency call or text during class, let me know, so we can discuss an exception to this policy for that class.

You are permitted **two** absences during the semester before any penalty is placed (notice, there is no such thing as "excused" or "unexcused" absence in this policy). Each additional absence will result in a 5% reduction in your final participation grade (half a letter grade), and **two** tardies will count as an absence. If missing a class is unavoidable, you should notify me in advance, copy the notes from a classmate, and read them before returning to class. I am happy to answer questions once you've read over the notes, but I will not repeat my lecture during office hours. In addition, attending lectures will allow you to remain cognizant of which portions of the material have been emphasized and as such are likely to appear on the various examinations. If for some reason you have an extended illness or situation requiring a lengthy absence, let me know as soon as possible so we can discuss accommodations.

**Quizzes:** There will be a few quizzes (possibly unannounced) throughout the semester, to ensure students are staying current on the required reading and material. One lowest quiz will be dropped in calculation of grades, but no makeup quizzes will be given for any reason.

**Exams:** There will be two exams during the semester and a final exam during finals week.

I expect all students to take exams at the scheduled times. If there is an unavoidable conflict, please contact me in advance so alternate plans can be made. Except in exceptional circumstances, an unexcused missed exam will count as a 0 in the grade book. Family or holiday travel plans will not be accommodated for exams.

**Homework:** Written homework will be assigned regularly and selected problems will be graded.

**Homework Details:** Assignments are due at the **beginning** of class on the indicated day. Your lowest homework score will be dropped; however, no late homework will be accepted since select solutions may be made available after the deadline. If you are sick or must otherwise miss a class, I will accept work brought in by a classmate, brought to my office, or scanned and emailed to me before the due date. Finally, all homework assignments must be typed *or* neatly handwritten in pencil on standard 8.5" x 11" white lined paper with no perforated edges and all the sheets must be stapled. I reserve the right to return assignments not conforming to these standards ungraded.

**Comment About Collaboration:** The purpose of the homework is for you to engage in learning the methods, techniques, and problem-solving skills in the course. It is acceptable to discuss the course material and work on problems with other students. However, each student must write up his or her own solutions. You may not consult on-line answer keys, discussion boards, or solution sets from previous semesters to help you with your homework. Though collaboration is allowed, you should never copy work. To work outside these bounds may result in being brought before an academic violation board. Please also refer to the college's *Code of Conduct* for more information on cheating and plagiarism.

**Grading:** Homework will be graded on both completion and correctness. For a given assignment, some problems will be chosen for grading on correctness. These will each receive a  $\checkmark+$ ,  $\checkmark$ , or  $\checkmark-$  worth 5, 4, and 3 points, respectively. The total homework score will be a combination of scores from graded problems plus one point each for ungraded problems, based on completion.

**Portfolio:** A typed portfolio will be collected at the end of the semester.

**Portfolio Details:** Each portfolio will consist of: (i) 15 problems (at least 10 must be **proof** problems) chosen from throughout the semester from among the recommended but uncollected and ungraded problems **and** (ii) a typed one to two page cover letter. More details about the content of the portfolio will be distributed in class.

The final portfolio will be collected at the end of the semester with rough drafts due during the semester. You will be working in groups, performing peer-review of each other's portfolio problems, at the start of most class days.

**Purpose:** Throughout the semester you will be getting feedback on your work. On your homework, you will not just receive a grade but comments and suggestions, too. In peer review groups, you will be giving feedback to each other on your proof-writing. In your journal you will be reflecting on this feedback. The purpose of the portfolio is to draw on all of these components to provide a capstone piece which serves as evidence of your thoughtful reflections and showcases what you have learned in this course. The portfolio will include a cover letter that stands as a reflection piece on why you chose the problems you included and how they demonstrate your strengths and your improvement in the course.

**Comment About Collaboration:** *Every day* you must bring 1-3 problems to present for peer review. You will be given feedback on these problems during peer-review and may then edit your work to include in the portfolio. Other than this collaboration, no further collaboration is allowed on this assignment. In this way, these problems are different from homework problems. You may speak with me about the problems, but you should not be working in pairs or in groups. Also, you must type the problems using LaTeX, and you may not ask someone else to do the typesetting for you.

**Journal:** You need a spiral bound notebook or thin three-ring binder or folder for your journal.

**Journal Details:** You must write one entry a week, summarizing a learning moment from the week. In addition, you will respond to particular prompts, provided by me. We may also include free-writing assignments or interesting math problems for you to explore (without being graded). You should bring your journal to class every day.

You may also use this journal as same to do a thoughtful recording of your experience in Math 211 (synopsis of class, questions you have, notes about how you worked on certain problems, or any other form of metacognition).

The journal will be collected three times throughout the semester (before Exam 1, before Exam 2, before the Final Exam). The assessment will be based on three aspects:

- 1) Completion;
- 2) One entry should be chosen as exemplary of best writing;
- 3) One assigned prompt will be chosen by the professor and all journal entries for that prompt will be evaluated.

**Purpose:** The purpose of the journals is to allow you to explore mathematical writing and to help you reflect on your work and the feedback I provide on your work. This reflection will help you clarify your own learning goals. Studies have shown that we transfer learning to new assignments only through meaningful reflection. So, even though I will not collect revisions from homework or exams, this journal will guide you towards improvement in your work.

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The following scale represents the minimum grade you are entitled to based on a particular final course average.

93–100 is an A	83–86 is a B	73–76 is a C	63–66 is a D
90–92 is an A–	80–82 is a B–	70–72 is a C–	60–62 is a D–
87–89 is a B+	77–79 is a C+	67–69 is a D+	below 60 is an F

Note: This scale may be altered based on the performance of the class as a whole; however, any such alteration would produce a slightly lower requirement for a particular grade.

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**Disclaimer:** I reserve the right to change the syllabus during the semester. Any changes will be announced in class and a new syllabus posted on our course site.