

MA 38500 Introduction to Logic

Spring Semester 2023

updated January 18th 2023

As a Boilermaker pursuing academic excellence, I pledge to be honest and true in all that I do.
Accountable together – we are Purdue.

Course Information

Course Number	MA 38500
Course Title	Introduction to Logic
Course Section	001
CRN	17536
Course Credit	3 credit hours
Prerequisites	Any of Undergraduate level MA 17200, MA 17400, MA 18200, MA 26100, MA 26300, MA 27100, MA 27101 with a Minimum Grade of C-
Lecture Times	Monday, Wednesday, Friday 12:30pm
Meeting Location	UNIV 017
Instructional Modality	Face-to-Face
Office Hours	Monday 1:30-2:30pm, Wednesday 4:30-5:30pm, Friday 2-3pm
Office Hours' Location	MATH 817

Please note that class time will primarily be used to cover new material, with the exception of review classes before exams. If you have questions about class material, assignments or exams, then you should drop in during any of the office hour times in order to ask.

It is your responsibility to check your schedule and inform the instructor within the first week of the semester if your schedule is not compatible with the above office hour times.

Instructor

Name	Prof. Margaret E. M. Thomas
Email Address	memthomas at purdue.edu (please use your official Purdue email; emails MUST include MA38500 in the subject line)
Office Location	MATH 638 and Zoom if required (please see above for office hours info)

Course Description

Propositional calculus and predicate calculus with applications to mathematical proofs, valid arguments, switching theory, and formal languages.

Course Webpages

Official Course Page:

<https://www.math.purdue.edu/academic/courses/semester/202320/ma38500/index.html>

The main website for the course will be in [Brightspace](#). Course information, materials and announcements will be posted there. This will include class handouts, lists of assignment problems (see **Assessment Methods** below), exam information, and links to external resources.

Some information may also be found on the instructor's course website as follows:

<https://www.math.purdue.edu/~thoma922/teaching/ma38500/ma38500ss23.html>

Textbook

Jean E. Rubin, Mathematical Logic: Applications and Theory

Access to the textbook is required (see **Assessment Methods** below). The course will cover Chapters 1 - 3, 5 - 10, 12, and a few topics from Chapters 4, 11, 14 - 16.

A reprinted version of the book is available at a reduced cost from the [University Bookstore](#).

The original version of the book (published by Saunders) is out of print, but new and second-hand copies are still available from some other retailers or previous students.

A copy of the book is also available on reserve in the Department of Mathematics Library.

Technology

- [Brightspace](#) - for course resources and announcements (including assignment information, exam information and occasional lecture handouts);
- [Gradescope](#) (course link can be found within [Brightspace](#)) - for submission of assignments. (Please see Brightspace for further instructions on using Gradescope.)
 - If you handwrite your solutions on paper, then you should scan them as a **.pdf file**, e.g. using the [Gradescope Mobile App](#). If you write your solutions in electronic form, then please save them as a **.pdf file**.
 - You can submit your work using the [Gradescope Mobile App](#) or the [Gradescope](#) website. You can find the [Gradescope](#) link for this course in [Brightspace](#) if you have not used [Gradescope](#) before. (If you have, then you can log in directly to [Gradescope](#).)
 - If you are given the choice of submitting a .pdf file or picture files, then do **not** submit picture files, because [Gradescope](#)'s functionalities for grading picture files are more limited, and certain mistakes with submissions cannot be fixed. Please submit a .pdf file.
 - While submitting your work, **you must "assign pages" to all your solutions** as part of the submission process so that they can be located correctly. You may score 0 if you do not do this, as the grader may not be able to locate your solutions, or have time to do so. (If you are in a hurry to submit before the deadline, then first submit, but then you must go back and assign pages afterwards, which you can still do after the deadline.)

Assessment Methods

Assignments **Twelve** written assignments, approximately one per week (see **Schedule** below), consisting of problems from the textbook (see **Textbook** above).

The assigned problems will be posted each week to [Brightspace](#).

You are allowed (indeed, you are encouraged) to work together with other students on the assignments. You may also use other resources (other than textbook/notes). However, you **MUST** write up your **own** version of the solutions (**in your own words**), and write on your work the **names of any other students** with whom you worked as well as **clear reference to other resources** that you used. Presenting work that is not your own as though it were your own could result in sanctions and referral to the [OSRR](#) (also see **Academic Integrity** below).

Answers should be submitted to [Gradescope](#) (link in [Brightspace](#)) before the deadlines given in the **Schedule** below. (See [Gradescope](#) instructions above and further information in [Brightspace](#).)

Late submissions: It is possible that the [Gradescope](#) system may technically allow submissions to be made after the deadline; however, they will be recorded in the system as being **late**, and **will be only be graded at the discretion of the instructor and may incur a penalty**. You **MUST** email the instructor as soon as possible to provide an explanation for any submission recorded by the [Gradescope](#) system as "LATE".

Please be careful to start the submission process through [Gradescope](#) early enough so that you can finish submitting in time. If you find that you are too late to submit through [Gradescope](#) at all (as opposed to your submission being made but marked as “LATE” by [Gradescope](#), for which see the previous paragraph), then please email the instructor your .pdf submission with an explanation; it will be at the instructor’s discretion whether to accept your submission or not.

Midterm Examinations **Two** written closed-book tests in class of 45 minutes duration each.
Final Examination **One** cumulative written closed-book final examination of 2 hours duration (date/time TBA during Finals week).

Make-Up Exams: You must contact the instructor by email as early as possible if you would like to request to sit an examination at an alternative time due to an **excused absence** (see **Attendance** below). It will be at the instructor’s discretion how to accommodate such a request.

Schedule

Planned schedule for assignment due dates and midterm tests:

Assessment	Date	Deadline/Time
Assignment 1	Friday January 13 2023	6pm EST
Assignment 2	Friday January 20 2023	6pm EST
Assignment 3	Friday January 27 2023	6pm EST
Assignment 4	Friday February 3 2023	6pm EST
Assignment 5	Friday February 10 2023	6pm EST
Midterm Test 1	Friday February 17 2023	12:30pm EST in class
Assignment 6	Friday February 24 2023	6pm EST
Assignment 7	Friday March 3 2023	6pm EST
Assignment 8	Friday March 10 2023	6pm EST
Final date to withdraw from a course with a W or WF	Friday March 10 2023	
SPRING BREAK	Monday March 13 2023 – Sunday March 19 2023	
Assignment 9	Friday March 24 2023	6pm EDT
Midterm Test 2	Friday March 31 2023	12:30pm EDT in class
Assignment 10	Friday April 7 2023	6pm EDT
Assignment 11	Friday April 14 2023	6pm EDT
Assignment 12	Friday April 21 2023	6pm EDT
Final Examination TBA (during Final Exams week)		TBA

Course Evaluation

Final grades will be calculated according to the following weighting of the above assessments:

Top 10 Assignments	25%	(i.e. the lowest two assignment scores will be dropped)
Midterm Tests	40%	(i.e. 20% for each midterm)
Final Exam	35%	

Students who get at least 97% of the total points in this course are guaranteed an A+, 93% guarantees an A, 90% an A-, 87% a B+, 83% a B, 80% a B-, 77% a C+, 73% a C, 70% a C-, 67% a D+, 63% a D, and 60% a D-; for each of these grades, it’s possible that at the end of the semester a somewhat lower percentage will be enough to get that grade.

The instructor reserves the right to adjust this grading scheme at the end of the course; this adjustment will be applied uniformly and in a manner which only increases individual grades.

Attendance

Students need to inform the instructor of any conflict that can be anticipated and will affect the timely submission of an assignment or the ability to take an exam. Only the instructor can excuse a student from a course requirement or responsibility.

- When conflicts or absences can be anticipated, such as for many University-sponsored activities and religious observations, the student should inform the instructor of the situation as far in advance as possible **in writing, by email**.
- For **unanticipated or emergency absences** when advance notification to the instructor is not possible, the student should contact the instructor as soon as possible by **email**.
- When the student is unable to make direct contact with the instructor and is unable to leave word with the instructor's department because of circumstances beyond the student's control, and in cases falling under excused absence regulations (**see below**), the student or the student's representative should contact or go to the [Office of the Dean of Students](#) website to complete appropriate forms for instructor notification.

Under academic regulations, excused absences may be granted for cases of grief/bereavement, military service, jury duty, parenting leave, or emergent medical care. For details, see the [Academic Regulations & Student Conduct section](#) of the University Catalog website.

In cases related to COVID-19, please follow the [Protect Purdue Updates for the Spring 2023 Semester](#).

Academic Guidance in the Event a Student is Quarantined/Isolated

If you must miss class at any point during the semester, please reach out to the instructor via **email** so that you can communicate about how you can maintain your academic progress. If you find yourself too sick to progress in the course, notify your adviser and notify the instructor via **email**. Arrangements will be made based on your particular situation.

Please note that, according to the [Protect Purdue Updates for the Spring 2023 Semester](#), individuals who test positive for COVID-19:

- will be required to isolate per CDC medical protocols and cannot attend class;
- must inform the instructor of their absence and contact [Purdue University Student Health Center \(PUSH\)](#) at (765) 494-1700 if you are symptomatic and need to schedule a test;
- are not guaranteed remote access to all course activities, materials, and assignments.

Classroom Guidance Regarding Protect Purdue

Students are referred to the [Protect Purdue Pledge](#) and the [Protect Purdue](#) website for current information about Protect Purdue protocols.

Any student who has substantial reason to believe that another person is threatening the safety of others by not complying with Protect Purdue protocols is encouraged to report the behavior to and discuss the next steps with their instructor. Students also have the option of reporting the behavior to the [Office of the Student Rights and Responsibilities](#). See also [Purdue University Bill of Student Rights](#) and the Violent Behavior Policy under University Resources in Brightspace.

Academic Integrity

Academic integrity is one of the highest values that Purdue University holds. Individuals are encouraged to alert university officials to potential breaches of this value by either emailing integrity@purdue.edu, or by calling 765-494-8778, or by contacting the [Office of the Dean of Students](#). While information may be submitted anonymously, the more information that is submitted provides the greatest opportunity for the university to investigate the concern.

More details are available on our course Brightspace under University Policies and Statements.

Purdue prohibits "dishonesty in connection with any University activity. Cheating, plagiarism, or knowingly furnishing false information to the University are examples of dishonesty" (Section B.2.a of the [Student Regulations concerning Conduct](#)).

Furthermore, the University Senate has stipulated that "the commitment of acts of cheating, lying, and deceit in any of their diverse forms (such as the use of ghostwritten papers, the use of substitutes for taking examinations, the use of illegal cribs, plagiarism, and copying during examinations) is dishonest and must not be tolerated. Moreover, knowingly to aid and abet, directly or indirectly, other parties in committing dishonest acts is in itself dishonest."

Incidents of academic misconduct in this course will be addressed by the course instructor and referred to the [Office of Student Rights and Responsibilities \(OSRR\)](#) for review at the university level. Any violation of course policies as it relates to academic integrity will result minimally in a failing or zero grade for that particular assignment or test, and at the instructor's discretion may result in a failing grade for the course. In addition, all incidents of academic misconduct will be forwarded to OSRR, where university penalties, including removal from the university, may be considered.

Commercial Note Taking in Classes

Notes taken in class are generally considered to be "derivative works" of the instructor's presentations and materials, and they are thus subject to the instructor's copyright in such presentations and materials. **No individual is permitted to sell or otherwise barter notes, either to other students or to any commercial concern, without the express written permission of the course instructor.** To obtain permission to sell or barter notes, the individual wishing to sell or barter the notes must be registered in the course or must be an approved visitor to the class. Course instructors may choose to grant or not grant such permission at their own discretion, and may require a review of the notes prior to their being sold or bartered. If they do grant such permission, they may revoke it at any time, if they so choose.

See the [Regulations on Student Conduct: Miscellaneous Conduct Regulations \(point 10\)](#).

Copyright

Effective learning environments provide opportunities for students to reflect, explore new ideas, post opinions openly, and have the freedom to change those opinions over time. Students and instructors are the authors of the works they create in the learning environment. As authors, they own the copyright in their works subject only to the university's right to use those works for educational purposes (see the Purdue University Copyright Office website). Students may not copy, reproduce, or post to any other outlet (e.g., YouTube, Facebook, or other open media sources or websites) any work in which they are not the sole or joint author or have not obtained the permission of the author(s).

Nondiscrimination

Purdue University is committed to maintaining a community which recognizes and values the inherent worth and dignity of every person; fosters tolerance, sensitivity, understanding, and mutual respect among its members; and encourages each individual to strive to reach his or her own potential. In pursuit of its goal of academic excellence, the University seeks to develop and nurture diversity. The University believes that diversity among its many members strengthens the institution, stimulates creativity, promotes the exchange of ideas, and enriches campus life. Purdue's nondiscrimination policy: https://www.purdue.edu/purdue/ea_eou_statement.php

Academic Accommodation of Students with Disabilities

Purdue University strives to make learning experiences accessible to all participants. If you anticipate or experience physical or academic barriers based on disability, you are welcome to let the instructor know so that options can be discussed. You are also encouraged to contact the Disability Resource Center at: drc@purdue.edu or by phone at 765-494-1247.

In this mathematics course accommodations are managed between the instructor, student and DRC Testing Center. **If you have been certified by the Disability Resource Center (DRC) as eligible for accommodations, you should contact your instructor to discuss your accommodations as soon as possible.** Here are instructions for sending your Course Accessibility Letter to your instructor: <https://www.purdue.edu/drc/students/course-accessibility-letter.php>

Such accommodations can only be taken into account if the instructor is informed about them in a timely way. In particular, **requests to take any examination at the DRC Testing Center should follow the [requirements of the DRC](#)** (e.g. for midterm examinations, requests should be made at least 5 business days in advance) and requests should be made to schedule such examinations with the same start time as is indicated in the **Schedule** above, unless a prior agreement is made with the instructor to request a different start time.

Mental Health

If you find yourself beginning to feel some stress, anxiety, and/or feeling slightly overwhelmed, try [WellTrack](#). Sign in and find information and tools at your fingertips, available to you at any time.

If you need support and information about options and resources, please see the [Office of the Dean of Students](#). Call 765-494-1747. Hours of operation are M-F, 8am- 5pm.

If you find yourself struggling to find a healthy balance between academics, social life, stress, etc. sign up for free one-on-one virtual or in-person sessions with a [Purdue Wellness Coach at RecWell](#). Student coaches can help you navigate through barriers and challenges toward your goals throughout the semester. Sign up is free and can be done on BoilerConnect.

If you're struggling and need mental health services: Purdue University is committed to **advancing the mental health and well-being of its students**. If you or someone you know is feeling overwhelmed, depressed, and/or in need of mental health support, services are available. For help, such individuals should contact [Counseling and Psychological Services \(CAPS\)](#) at 765-494-6995 during and after hours, on weekends and holidays, or by going to CAPS office on the second floor of the [Purdue University Student Health Center \(PUSH\)](#) during business hours. The [CAPS website](#) also offers resources specific to situations such as COVID-19.

Basic Needs Security

Any student who faces challenges securing their food or housing and believes this may affect their performance in the course is urged to contact the Dean of Students for support. There is no appointment needed and Student Support Services is available to serve students 8 a.m.-5 p.m. Monday through Friday.

Major Campus Emergency

In the event of a major campus emergency, course requirements, deadlines, and grading are subject to change that may be necessitated by a revised semester calendar or other circumstances beyond the instructor's control. Relevant changes to this course will be posted on course websites or can be obtained by contacting the instructor via **email**. You are expected to read your @purdue.edu email on a frequent basis.