

MA 38500 Introduction to Logic

Spring Semester 2021

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	13875
Lecture Times	Mondays, Wednesdays, Fridays at 11:30am EST/EDT (WL Campus time)
Meeting Location	WALC 2088
Instructional Modality	Face-to-Face / Hybrid/HyFlex In-person lectures (time/place above) will be simultaneously live-streamed for those who cannot or prefer not to attend in person. If possible, the recording of the live stream would be posted after class to Brightspace . Streaming connection details are available in Brightspace . Office hours (times below) will be held on Zoom .
Course Credit	3 credit hours
Prerequisites	Any of MA 17400, MA 17200, MA 18200, MA 26100, MA 26300, MA 27100, MA 27101 with a Minimum Grade of C-; MA 30100 is strongly recommended

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	Zoom (connection details on Brightspace)
Office Hours	Mondays 4-5pm, Wednesdays 3:30-4:30pm, Fridays 2:30-3:30pm EST/EDT (WL Campus time)

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/coursepage?subject=MA&course=38500>

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), and links to external resources ([Zoom](#), [Gradescope](#)).

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

<https://www.math.purdue.edu/~thoma922/teaching/ma38500/ma38500ss21.html>

Textbook

J. 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, and a few topics from Chapters 4, 11 - 16.

A reprinted version of the book is available at a reduced cost from the [University Bookstore](#). The original version of the book is out of print but new and second-hand copies are still available from some online 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 (including lecture handouts) and announcements;
- [Gradescope](#) (course link within [Brightspace](#)) - for submission of assignments; this requires the capacity to produce assignment solutions as a .pdf file, which may include scanning and uploading handwritten work (using a phone or other suitable device); instructions on how to make a good quality scan your work and upload it to [Gradescope](#) can also be found on [Brightspace](#); please read these instructions before submitting.
- [Zoom](#) (connection details in [Brightspace](#)) - for participation in office hours and possible lecture live-streaming;

Assessment Methods

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

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

Answers should be submitted via [Gradescope](#) (link in [Brightspace](#)) before the deadlines given in the schedule below. You should submit your answers as a .pdf file, which can be a scan (using your phone or other suitable device) of your handwritten work. Instructions on how to make a good quality scan of your work and upload it to [Gradescope](#) can be found on [Brightspace](#).

You may work together with other students on the assignments, but **MUST** write up your *own* version of the solutions, and you should write clearly on your work the names of any other students with whom you worked.

A selection of the problems will be graded each week. Part of the credit for each assignment will be given for making a reasonable attempt at all of the problems.

Late assignments will be accepted only at the discretion of the instructor (see Attendance below).

Midterm Tests **Two** written closed-book tests in class of 45 minutes duration each.

An online midterm test option will be available for those who *cannot* attend a test in person. (See Attendance below.)

Final Examination **One** cumulative written closed-book final examination of 2 hours duration (date/time TBA during Finals week).

An online final examination option will be available for those who *cannot* attend the final exam in person. (See Attendance below.)

Planned schedule for assignment due dates and midterm tests:

Assessment	Date	Deadline/Time
Assignment 1	Monday January 25 2021	11:00pm EST
Assignment 2	Monday February 1 2021	11:00pm EST
Assignment 3	Monday February 8 2021	11:00pm EST
Assignment 4	Monday February 15 2021	11:00pm EST
Assignment 5	Monday February 22 2021	11:00pm EST
Midterm Test 1	Monday March 1 2021	11:30am EST in class
Assignment 6	Monday March 8 2021	11:00pm EST
Assignment 7	Monday March 15 2021	11:00pm EDT
Assignment 8	Monday March 22 2021	11:00pm EDT
Assignment 9	Monday March 29 2021	11:00pm EDT
Midterm Test 2	Monday April 5 2021	11:30am EDT in class
Assignment 10	Monday April 12 2021	11:00pm EDT
Assignment 11	Monday April 19 2021	11:00pm EDT
Assignment 12	Monday April 26 2021	11:00pm EDT
Final Examination	TBA, during Finals week (the week starting Monday May 3 2021)	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 are expected to attend all classes in-person unless they are ill or otherwise unable to attend class. If they feel ill, have any symptoms associated with COVID-19, or suspect they have been exposed to the virus, students should stay home and contact the Protect Purdue Health Center (496-INFO).

In the current context of COVID-19, in-person attendance cannot be a factor in the final grades. However, timely completion of alternative assessments can certainly be part of the final grade. **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.**

Classroom engagement is extremely important and associated with your overall success in the course. The importance and value of course engagement and ways in which you can engage with the course content even if you are in quarantine or isolation will be discussed at the beginning of the semester. Student survey data from Fall 2020 emphasized students' views of in-person course opportunities as critical to their learning, engagement with faculty/TAs, and ability to interact with peers.

Only the instructor can excuse a student from a course requirement or responsibility. When conflicts 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 by email. For unanticipated or emergency conflict, when advance notification to an instructor is not possible, the student should nevertheless contact the instructor as soon as possible by email. In cases of bereavement, quarantine, or isolation, the student or the student's representative should contact the [Office of the Dean of Students](#) via email or by phone at 765-494-1747.

Academic Guidance in the Event a Student is Quarantined/Isolated

If you must quarantine or isolate at any point in time during the semester, please reach out to the instructor via email so that we can communicate about how you can continue to learn remotely. Work with the Protect Purdue Health Center (PPHC) to get documentation and support, including access to an Academic Case Manager who can provide you with general guidelines/resources around communicating with your instructors, be available for academic support, and offer suggestions for how to be successful when learning remotely. Your Academic Case Manager can be reached at macmg@purdue.edu. Importantly, if you find yourself too sick to progress in the course, notify your academic case manager and notify the instructor via email. We will make arrangements based on your particular situation.

Classroom Guidance Regarding Protect Purdue

The [Protect Purdue Plan](#), which includes the [Protect Purdue Pledge](#), is campus policy and as such all members of the Purdue community must comply with the required health and safety guidelines. Required behaviors in this class include: staying home and contacting the Protect Purdue Health Center (496-INFO) if you feel ill or know you have been exposed to the virus, [properly wearing a mask in classrooms and campus buildings](#), at all times (e.g., mask covers nose and mouth, no eating/drinking in the classroom), disinfecting desk/workspace before and after use, maintaining appropriate social distancing with peers and instructors (including when entering/exiting classrooms), refraining from moving furniture, avoiding shared use of personal items, maintaining robust hygiene (e.g., handwashing, disposal of tissues) prior to, during and after class, and following all safety directions from the instructor.

Students who are not engaging in these behaviors (e.g., wearing a mask) will be offered the opportunity to comply. If non-compliance continues, possible results include instructors asking the student to leave class and instructors dismissing the whole class. Students who do not comply with the required health behaviors are violating the University Code of Conduct and will be reported to the [Office of the Dean of Students](#) with sanctions ranging from educational requirements to dismissal from the university.

Any student who has substantial reason to believe that another person in a campus room (e.g., classroom) is threatening the safety of others by not complying (e.g., not wearing a mask) may leave the room without consequence. The student is encouraged to report the behavior to and discuss next steps with their instructor. Students also have the option of reporting the behavior

to the [Office of the Student Rights and Responsibilities \(OSRR\)](#). See also [Purdue University Bill of Student Rights](#).

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.

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.**

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

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 as accessible as possible. If you anticipate or experience physical or academic barriers based on disability, you are welcome to let the

instructor know so that we can discuss options. You are also encouraged to contact the Disability Resource Center (DRC) at: drc@purdue.edu or by phone: 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>

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](#) for drop-in hours (M-F, 8 am-5 pm).

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 completely free and can be done on BoilerConnect. If you have any questions, please contact [Purdue Wellness](#).

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 and to speak with a clinician, 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.

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.