

# MA 38500 Introduction to Logic

## Fall Semester 2021

updated November 29th 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	17043
Lecture Times	Tuesdays and Thursdays, 12:00noon - 1:15pm
Meeting Location	REC 114
Instructional Modality	Face-to-Face lectures Office hours (times below) will be held on <a href="#">Zoom</a> . (Streaming connection details are available in <a href="#">Brightspace</a> .)
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-; 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 <b>MUST</b> include <b>MA38500</b> in the subject line)
Office Location	MA 638, and <a href="#">Zoom</a> for office hours (connection details on <a href="#">Brightspace</a> )
Office Hours	Before October Break (up to Oct 8): Monday 2-3pm, Tuesday 1:30-2:30pm, and by appointment. Between October Break and Thanksgiving Break (Oct 13 - Nov 23 2021): Wednesday 2-3pm, Thursday 1:30-2:30pm, and by appointment. After Thanksgiving Break (from Nov 29 2021): Monday 2-3pm, Tuesday 2:30-3:30pm, and Friday 3-4pm.

### 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.

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

<https://www.math.purdue.edu/~thoma922/teaching/ma38500/ma38500fs21.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 lecture handouts, assignment information, exam information);
- [Gradescope](#) (course link within [Brightspace](#)) - for submission of assignments; you must produce assignment solutions as a **.pdf file**; see instructions in [Brightspace](#) for how to upload work to [Gradescope](#) and how to produce a good quality scan of handwritten work (e.g. using your phone). Do **not** submit picture files, although [Gradescope](#) will allow you to do this, because [Gradescope](#)'s functionalities for grading picture files are more limited.
- [Zoom](#) (connection details in [Brightspace](#)) - for participation in office hours;

## 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. You should submit a **.pdf file (not picture files) and assign pages to all your solutions**. See [Brightspace](#) (and **Technology** above) for further information and instructions.

**Late assignments** will be accepted only at the discretion of the instructor. **Extensions:** You must contact the instructor by email as early as possible if you would like to request an extension for an assignment. If the extension is granted, you will receive further instructions via email on how to submit your work. (See also policies regarding **Attendance** below.)

**Please be careful to start the submission process through [Gradescope](#) early enough** (it can take about 15 minutes, even if your connection works perfectly) so that you can finish submitting before the deadline. If the system times out, please email the instructor your .pdf submission and explain what happened; it will be at the instructor's discretion whether to accept it or not.

Please note that class time will primarily be used for the purposes of covering new material (and for review before exams). To ask questions about the assignments, please attend office hours.

Midterm Examinations      **Two** written closed-book tests in class of 75 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 whether to accept such a request or not, or to propose an alternative accommodation in such circumstances.

### Schedule

Planned schedule for assignment due dates and midterm tests:

Assessment	Date	Deadline/Time
Assignment 1	Tuesday August 31 2021	11:59pm EDT
Assignment 2	Tuesday September 7 2021	11:59pm EDT
Assignment 3	Tuesday September 14 2021	11:59pm EDT
Assignment 4	Tuesday September 21 2021	11:59pm EDT
Assignment 5	Tuesday September 28 2021	11:59pm EDT
Midterm Test 1	Tuesday October 5 2021	12noon EDT in class
OCTOBER BREAK                      Monday October 11 - Tuesday October 12 2021		
Assignment 6	<b>Friday</b> October 15 2021	11:59pm EDT
Assignment 7	<b>Thursday</b> October 21 2021	11:59pm EDT
Assignment 8	<b>Thursday</b> October 28 2021	11:59pm EDT
Assignment 9	<b>Thursday</b> November 4 2021	11:59pm EDT
Midterm Test 2	<b>Thursday</b> November 11 2021	12noon EST in class
Assignment 10	<b>Monday</b> November 22 2021	11:59pm EST
THANKSGIVING BREAK              Wednesday November 24 - Friday November 26 2021		
Assignment 11	Tuesday November 30 2021	11:59pm EST
Assignment 12	Tuesday December 7 2021	11:59pm EST
<b>Final Examination</b>	<b>Monday December 13 2021</b>	<b>8:00am EST in EE005</b>

### 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 in writing, 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, 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, and parenting leave. For details, see the [Academic Regulations & Student Conduct section](#) of the University Catalog website.

Guidance on class attendance related to COVID-19 are outlined in the [Protect Purdue Pledge](#) for Fall 2021 on the [Protect Purdue](#) website.

## 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 [Details for Students on Normal Operations for Fall 2021](#) announced on the Protect Purdue website, individuals who test positive for COVID-19:

- will be required to isolate per medical protocols and cannot attend class;
- are not guaranteed remote access to all course activities, materials, and assignments.

Also, an unvaccinated individual who has had a high-risk exposure may not attend class and will be required to quarantine for 14 days after any and every such high-risk exposure, regardless of symptoms.

Academic case managers will be available to coach and support students in quarantine and isolation.

## 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](mailto: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.** 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 \(point 10\)](#).

## 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](https://www.purdue.edu/purdue/ea_eou_statement.php)

## Academic Accommodation of Students with Disabilities

Purdue University is committed to making learning experiences accessible. 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](mailto: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.** 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 be made well in advance** (according to the requirements of the DRC) and requests should be made to schedule these with the same start time as is listed in the **Schedule** above, unless you make a prior agreement with the instructor to request a different start time. **For the Final Examination, you must make such requests with DRC by November 30, 2021 at the latest.**

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](#). 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 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, 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.

### **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. Considering the significant disruptions caused by the current global crisis as it related to COVID-19, students may submit requests for emergency assistance from the [Critical Needs Fund](#).

### **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.