PHIL 2303: Introduction to Logic

Fall 2018 Syllabus

Monday & Wednesday, 4:00-5:15pm - JO 3.516

Professor Matthew J. Brown
Email: mattbrown@utdallas.edu
Phone: 972-883-2536
Office Location and Hours: JO 4.120
   Mon-Tues 1:30-3:00pm
Teaching Assitant Elizabeth Escalante
   Elizabeth.Escalante@UTDallas.edu
   Office Hours: M 11am-12pm, W 2-3pm in Student
   Success Center (MC 1.401)
Course Website: Visit for updates
   http://classes.matthewjbrown.net/logic/
Appointments: http://doodle.com/mattbrown

Contact Policy

Professor: I will be available to speak to you for several minutes before and after class each week. I will be fully engaged during class, with plenty of time for questions and discussion. I will be prompt to office hours each week, and will announce any cancellations well in advance. I will answer my phone during office hours unless I am with another student. I will happily make appointments before of after class, or by the website above. Generally, I will not respond to emails or phone messages. The only reason to email me would be to inform me of a genuine emergency situation *before* or *during* an exam that will prevent you from being at the exam, to remind me to do something I promised to do, such as post bonus readings, or to ask brief and urgent logistical questions.

   Teaching Assistant: Please email Ms. Escalante to make appointments outside of her office ours or to ask brief, logistical questions. Substantive questions and sensitive issues (e.g. grades) should be handled face-to-face in office hours, before/after class, or by appointment.

Peer Tutoring

Peer Tutoring – Science and Mathematics is excited to be hosting weekly reviews and one-on-one appointments for Phil 2303! Peer Tutoring – Science and Mathematics weekly reviews will be Thursday 3pm - 4:15pm in MC 3.610. During this time, a Learning Specialist will review topics covered in the course and work with students through example problems. One-on-one appointments are help in MC 1.312. Appointments can be made through http://accessc.utdallas.edu. Please check our website for additional information https://www.utdallas.edu/studentsuccess/help-with-courses/peertutoring/ or contact us at tutoring@utdallas.edu. Services will begin the second week of school.

Course Description

This course is an introduction to logic, primarily formal logic. Formal logic is the formal study of the structures of language, reasoning, inference, and proof. This course will focus on deductive logic, including formal analysis of statements and arguments, sentential and quantified logics, formal semantics and models, and logical proofs.

General Core Area 020 Mathematics

Courses in this category focus on quantitative literacy in logic, patterns, and relationships. Courses involve the understanding of key mathematical concepts and the application of appropriate quantitative tools to everyday experience.

Core Curriculum Objectives:

Critical Thinking to include creative thinking, innovation, inquiry, and analysis, evaluation, and synthesis of information
Communication to include effective development, interpretation, and expression of ideas through written, oral, and visual communication
Empirical and Quantitative Skills to include the manipulation and analysis of numerical data or observable facts resulting in informed conclusions

Learning Outcomes

Upon successful completion of this course, students will:

1. Determine the logical structure of English arguments by identifying premises and conclusions. (COM, CT)
2. Understand basic concepts in logic, such as truth functionality, validity, soundness, counter-examples, tautology, self-contradiction, logical equivalence, logical contradictoriness, and logical consistency. (CT, EQS)
3. Translate English statements into Sentential Logic (propositional notation). (COM, CT)
4. Translate English statements into Quantified Logic (predicate notation) (COM, CT)
5. Determine the validity of symbolic logical arguments using (a) truth tables, (b) models, and (c) natural deduction. (COM, CT, EQ)

Textbook

P.D. Magnus, *forall x: An Introduction to Formal Logic* (Order) (Download)

   The book is on order at Off Campus Books at 561 W Campbell Rd #201 (behind Fuzzy's).

You are strongly encouraged to have a *paper* copy of the textbook available for reference in class and while working on your homework. Whether you buy a copy from OCB or Lulu, or print it yourself, it is very inexpensive for a textbook. Coupon codes are often available at http://www.lulu.com/home

Schedule of Readings and Assignments

Changes may be made and will be announced in class and reflected on the course website.

M 8/20 Welcome & Introduction
W 8/22 Basic Concepts in Logic (Ch 1)
M 8/27 Basic Concepts Continued
    Practice Exercises 1.A-D
W 8/29 Sentential Logic (Ch 2.1-2.2)
M 9/3 Labor Day Holiday, No Class
W 9/5 Sentential Logic (2.3-2.4)
    Practice Exercises 2.A-C
    EXAM 1 opens 9/6
M 9/10 Sentential Logic Continued
    Practice Exercises 2.D-F
W 9/12 Sentential Logic Continued
    Practice Exercises 2.G-H
    EXAM 2 opens 9/13
M 9/17 Truth Tables (Ch 3)
W 9/19 Truth Tables Continued
    Practice Exercises 3.A-F
M 9/24 Quantified Logic (4.1-4.4)
W 9/26 Quantified Logic Continued
    Practice Exercises 4.A-B
    EXAM 3 opens 9/27
M 10/1 Quantified Logic Continued
    Practice Exercises 4.C-D
W 10/3 Quantified Logic (4.5)
    Practice Exercises 4.E-G
M 10/8 Quantified Logic (4.6)
    Practice Exercises 4.H-I
W 10/10 Quantified Logic Continued
    Practice Exercises 4.J-K
    EXAM 4 opens 10/11
M 10/15 Formal Semantics (5.1-5.2)
W 10/17 Formal Semantics Continued
    Practice Exercises 5.A-C
M 10/22 Models (5.3-5.4)
W 10/24 Models (5.5)
    Practice Exercises 5.D-G
M 10/29 Models Continued
    Practice Exercises 5.H-J
W 10/31 Proofs in SL - Basic Rules, Direct Proof
    EXAM 5 opens 11/1
M 11/5 SL Basic Rules, Indirect Proof (6.1)
    Practice Exercises 6.A
W 11/7 Derived Rules, Replacement (6.2-6.3)
    Practice Exercises 6.B-C
M 11/12 Proof strategy (6.6–6.7)
    Practice Exercises 6.D-E
W 11/14 Continued

    Practice Exercises 6.F-G
M 11/19-F 11/23 Fall Break, No Class
M 11/26 Proofs in Quantified Logic (6.4)
    Practice Exercises 6.H-I
W 11/28 Continued
    Practice Exercises 6.J-M
M 12/3 Proofs & Semantics (6.8-6.9)
    Practice Exercises 6.N-R
W 12/5 Proofs Continued
    Practice Exercises S-V
12/11-12/20 (TBD) FINAL EXAM

Grades and Assignments

Assignment Types

1. Practice Exercises (61 Parts)
2. Exams
3. Final Exam
4. Engagement Points (see below)

Grading Policy

Grades will be determined as follows:

A: Satisfactory Grade on all 5 Exams
    Satisfactory Grade on all parts of Final Exam
    Completion of 50 Practice Exercise Parts**
    Shows competency on all Learning Outcomes
B: Satisfactory Grade on first 4 Exams
    Satisfactory Grade on Parts 1-4 of Final Exam
    Completion of 40 Practice Exercise Parts**
    Shows competency on Outcomes 1, 2, 3, 4, 5a
C: Satisfactory Grade on first 3 Exams
    Satisfactory Grade on Part 1-3 of Final Exam
    Completion of 30 Practice Exercise Parts**
    Shows competency on Outcomes 1, 2, 3, 5a
D: Satisfactory Grade on first 2 Exams
    Satisfactory Grade on Part 1-2 of Final Exam
    Completion of 20 Practice Exercise Parts**
    Shows competency on Outcomes 1, 2, 3
F: Failure to satisfy the criteria for grades A-D.

- "Satisfactory" is typically 80% (or B-level) correctness.
- "Completion" of Practice Exercises means reasonable effort
- Add **plus (+)** to your base grade if you earn at least 10 engagement points.
- Add a **minus (−)** to your base grade for in the following:
  - 6+ missed Practice Exercise Parts for your grade level.
  - Disruptively tardy to class, or disruptively leaving class early.
- If you have a (+) and a (−) they cancel out. If a (−) cancels your (+), you can still gain another (+), and vice versa.

- ** Missed Practice Exercise Parts may cause to to earn a (–) grade, but will not otherwise prevent you from achieving the requisite grade level.
- During each exam period, you will have the opportunity to take the exam or retake the previous exam(s).

Engagement Points

Engagement points are earned in the following ways:

a. Attend 9 classes (1 point, 3 max)
b. Attend 10 tutoring appointments or weekly reviews (1 point max)
c. In-class participation (1-3 points per)
d. Logic puzzles (2 points per)
e. Textbook corrections (1 point)
f. Complete 6 extra Practice Exercise Parts (1 point)

Exams

Exams will take place on eLearning in the Testing Center on Thursdays, Fridays, and Saturdays by appointment. The final exam will have an online Testing Center component and an in-class written component.

1. Basic Concepts
2. Sentential Logic - Symbolization
3. Truth Tables
4. Quantified Logic - Symbolization
5. Formal Semantics

Final Exam: Cumulative (5 parts above) plus Proofs.

Testing Center Guidelines:

- Seats will fill up quickly, students should register for their exams during the first two weeks of the semester, or no later than 72 hours prior to exam date (based on seat availability - seats might not be available if they wait until the last minute), via this link https://ets.utdallas.edu/testing-center.
- Students are strongly encouraged to read the "Student Guidelines" prior to taking exams https://ets.utdallas.edu/testing-center/students/
- Walk-ins will not be accepted, students must have an appointment to be admitted.
- Students are required to present a physical Comet ID Card to be admitted (no exceptions).

Course and Instructor Policies

Classroom expectations

You are expected to have **read the assignments *before* class**, and it would be to your benefit to also read them again after class. You are expected to **bring a copy of assigned readings** for each day's class, and have them available to refer to. You are expected to **listen respectfully** to the professor and your fellow students, and **participate** in class discussions and activities.

Clear failure to abide by these expectations will result in you being asked to leave the classroom and being counted absent for the day.

Late Work, Make-Up, and Completion

No late work or make-up exams will be allowed without consent of the professor *prior to* the due/exam date, except in situations where University policy requires it, or in case of truly dire circumstances, where evidence can be provided.

Cheating and Plagiarism

Don't do it! If you incorporate any work that is not your own into any project that you do, and you do not cite the source properly, this counts as plagiarism. This includes someone doing the work for you, taking work done by another student, verbatim copying of published sources, *paraphrasing* published work without citation, and paraphrasing in a inappropriate way even with citation. Re-using work created for another course also counts as plagiarism in most contexts. Unless group work is *explicitly* permitted or required, it is expected that all of the work that you turn in is original and your own, and that any sources that you make use of are correctly cited.

If you are caught cheating or plagiarizing, it is absolutely mandatory for me to turn you in to the Dean of Students Office of Community Standards and Conduct.

Class Attendance

Attending class is strongly encouraged. Homework assignments due in class can only be turned in personally the day of that class or before. In-class assignments and activities likewise cannot be made up.

Electronic Devices

Electronic devices will not be needed in this class except for accessibility purposes. It is strongly recommended that you have a paper copy of the textbook that you bring to class with you. You'll be better off (and research supports this) if you take notes on paper and transcribe it onto your computer than if you type your notes directly. Furthermore, many of the logical notations used in this class are difficult to transcribe electronically.

Please don't distract others by checking email or social media on your phone, tablet, or laptop, using a music player or headphones, or doing work for another class during our discussions. For the most part, you should put away your computer, silence your phone, turn off your music, and engage with your classmates and I. Students making distracting use of electronic devices will be asked to leave and counted absent for the day, without being warned. Students who require devices for accessibility purposes are encouraged to notify the professor, who is happy to work with you to make any accommodations.

What to Call Me, Other Faculty, and TAs

I prefer to be called "Matt," "Matthew," "Professor Brown," or "Dr. Brown." My preferred pronouns are he/him/his. Professors regardless of gender should be referred to by title or degree, "Professor X" or "Dr. X." Teaching Assistants who have not obtained a doctoral

degree should be referred to as "Mr. Y" or "Ms. Z," never using "Miss" or "Mrs." unless the teaching assistant instructs you otherwise.

Concealed Handguns on Campus

As of August 1, 2016, concealed handgun license holders are permitted to carry their weapons onto the campus and into the general buildings of the University. Unlicensed individuals may not do so, and unconcealed weapons are not allowed. You are not required to disclose whether your status as licensed carrier, nor whether or not you are carrying a handgun at any particular time, to me or anyone other than an official peace officer. Nevertheless, I ask that you voluntarily refrain from bringing weapons into the classroom. Furthermore, I will designate my office as an exclusion zone, prohibiting the concealed carry of a handgun in that space. You will be provided with oral notification to that effect upon visiting my office.

University Policies

The information contained in the following link constitutes the University's policies and procedures segment of the course syllabus: http://go.utdallas.edu/syllabus-policies

A syllabus is a living document. This descriptions, timelines, and policies contained in this syllabus are subject to change in the interest of improving the quality of the course, at the discretion of the professor. Adequate notice will be provided for any changes, and in many cases they will be discussed with the students.

Scan me