

Mount St. Mary's University

PHI 005-1 Intro to Logic MWF 10:20-11:20am

Chalon Campus, Drudis Hall 302A

Instructor: Nate Greely

Email: nategreely@msmu.edu

Office Hours: MW 1-2pm or by appointment HUM 320

Course Description

This course is an introduction to symbolic logic. Logic is the study of reasoning and argumentation. It provides the basic rules by which we can determine what to believe. This course focuses on deductive logic, though we will briefly cover inductive logic as well. The course will primarily cover techniques for analyzing deductive arguments using sentential logic, including translation into formal notation, truth tables, rules of inference, and derivations. In the final unit we will introduce predicate logic.

Learning Outcomes

Students will demonstrate their understanding of concepts and techniques in deductive logic by participating in class activities, completing homework assignments, quizzes, midterms, and a final.

Assessments

Evidence shows that active learning is essential to understanding. This is particularly important for a course like this in which we are learning a skill, much like a learning sport or a musical instrument. You must *practice*. To that end a large percentage of class time will consist of group activities and there will be regular homework assignments. Regular practice is essential. The course will be broken into seven units, each of which will be punctuated by an active review and exam. These short exams are designed to be quite easy if you attend regularly and participate in learning activities. There will also be two midterm exams and final exam.

The breakdown of your final grade is as follows:

Attendance and Participation – 12%

Logic is a skill and so it must be practiced. Much of that practice will occur in class with your peers. Class attendance and participation will constitute 12% of your grade. You may miss three class sessions without an excuse and still receive full points.

Homework Completion – 15%

Your logic practice will also take the form of short homework assignments. Homework will be graded on completion, not accuracy. The correct answers will then be discussed in class.

Unit Exams – 4% each (total 28%)

The course is divided into seven units, each of which will be punctuated by a short, in-class exam. Each exam will be preceded by a review session.

Midterm Exam 1 – 15%

A midterm exam cumulative for Units 1, 2, and 3 will occur in class on 10/2. The previous class session will be devoted to review for the midterm.

Midterm Exam 2 – 15%

A midterm exam cumulative for Units 4, 5, and 6 will occur in class on 11/6. The previous class session will be devoted to review for the midterm.

Final Exam – 15%

A final exam cumulative for the entire course will occur on 12/4. The previous two class sessions will be devoted to review for the final.

Textbooks

Basic Sentential Logic, Informal Fallacies, and Cognitive Biases by Rick Grush (provided on Canvas)

Logic 2010 Text (provided on Canvas)

Course Schedule

8/21 – Course Introduction

Unit 1 - Arguments

8/23 – Arguments and Their Parts; Reading: Grush Ch. 1.1

8/25 – Deductive Arguments, Validity, and Soundness; Reading: Grush Ch. 1.1

8/28 – Inductive Arguments, Strength, and Cogency; Reading: Grush Ch. 1.1

8/30 – Arguments Review and Quiz 1

Unit 2 - Symbolization

9/1 – Atomic and Compound Statements; Reading: Grush Ch. 1.2.1

9/4 – Labor Day Holiday No Class

9/6 – Logical Connectives; Reading: Grush Ch. 1.2.2-1.2.3

9/8 – Logical Connectives; Reading: Grush Ch. 1.2.4-1.2.7

9/11 – Symbolization; Reading: Grush Ch. 1.2.8

9/13 – Symbolization; Reading: Grush Ch. 1.2.9

9/15 – Symbolization Practice

9/18 – Symbolization Review and Quiz 2

Unit 3 – Truth Tables

9/20 – Truth Tables; Reading: Grush Ch. 2.1-2.2

9/22 – Using Truth Tables, Validity; Reading: Grush Ch. 2.3-2.6

9/25 – Using Truth Tables – Various Statement Types; Reading: Grush Ch. 2.7-2.9

9/27 – Truth Tables Review and Quiz 3

9/29 – Review for Midterm 1

10/2 – Midterm 1

Unit 4 – Direct Derivations

10/4 – Rules of Inference – R, DN, MP, and MT; Reading: Grush Ch. 3.1-3.2

10/6 – Rules of Inference – DS, DI, CONJ, SIMP, BC; Reading: Grush Ch. 3.3-3.4

10/9 – Direct Derivations Practice

10/11 – Direct Derivations Review and Quiz 4

Unit 5 – Conditional and Indirect Derivations

10/13 – Conditional Derivations; Reading: Grush Ch. 3.5

10/16 – Indirect Derivations; Reading: Grush Ch. 4.6

10/18 – Subderivations Practice

10/20 – Mid-Semester Break No Class

10/23 – Conditional and Indirect Derivations Review and Quiz 5

Unit 6 - Theorems

10/25 – Theorems; Reading: Logic 2010 Ch. 1.11

10/27 – Proving Theorems; Reading: Logic 2010 Ch. 1.11

10/30 – Using Theorems in Derivations; Reading: Logic 2010 Ch. 1.12

11/1 – Theorems Review and Quiz 6

11/3 – Review for Midterm 2

11/6 – Midterm 2

Unit 7 – Predicate Logic

11/8 – Predicate Logic Introduction; Reading: Logic 2010 Ch. 3.1

11/10 – Quantification; Reading: Logic 2010 Ch. 3.2-3.4

11/13 – Translation in Predicate Logic; Reading: Logic 2010 Ch. 3.5

11/15 – Models and Invalidity; Reading: Logic 2010 Ch. 3.10

11/17 – Rules of Inference – UI, EG; Reading: Logic 2010 Ch. 3.6

11/20 – Rules of Inference – EI, UG; Reading: Logic 2010 Ch. 3.6

11/22 – Derivations in Predicate Logic; Reading: Logic 2010 Ch. 3.7-3.8

11/24 – Thanksgiving Holiday No Class

11/27 – Predicate Logic Review and Quiz 7

11/29 – Review for Final Exam

12/1 – Review for Final Exam

12/4 – Final Exam

Grading

Numeric	Grade	Numeric	Grade
Over 93%	A	73% to 76%	C
90% to 92%	A-	70% to 72%	C-
87% to 89%	B+	67% to 69%	D+
83% to 86%	B	63% to 66%	D
80% to 82%	B-	60% to 62%	D-
77% to 79%	C+	<60%	F

Diversity and Inclusion

Mount Saint Mary's University's commitment to equity, diversity and justice (EDJ) is steeped in the tradition and legacy of the Sisters of St. Joseph of Carondelet (CSJ), our Catholic identity, mission and values. We are unwavering in our pursuit of inclusion, belonging and antiracism. We aspire to achieve our love of dear neighbor without distinction, which permeates all forms of social identities and human experiences. We honor and celebrate our similarities and differences. We are committed to the full inclusion of the entire Mount community. Due to historical legacies of exclusion, we offer particular care for underrepresented populations. We define diversity in the broadest sense, including but not limited to, age, differences in culture, citizenship status, disability, family status, gender, gender expression, gender identity, generational history, genetic information, geographic origin, language, political perspectives, mental and physical ability, military service, national origin, race and ethnicity, religion,

sexual orientation, size and socioeconomic class. Welcoming individuals from a variety of backgrounds improves and enriches our learning, living and working environments. Any breach of these values harms our community. Mount Saint Mary's University transforms its culture through the radical pursuit of institutionalized change. We strive for a campus where students, staff, faculty, alumnae and all whom we encounter feel welcomed, valued and are supported to reach their full potential. As we pursue our never-ending journey toward a more equitable, inclusive and antiracist campus in our richly diverse community, we welcome you.

Change in Modality SOP

Potential Emergency Disruption: Should the course modality undergo a long-term or permanent change during the semester, the instructor (with permission of the Department Chair/Program Director and approval of the Provost for long-term changes) will provide a comprehensive update of how the class will continue and any changes that may result.

University PPE Policy

All students must comply with the University personal protective equipment (PPE) policy while on campus. Non-compliant students will not be allowed to stay in class.

Generative AI/AGI and ChatGPT

Unless otherwise specified, all assignments and activities for this course require your original and authentic work, submitted for the first time in any academic or professional context. Use of AI-generated material (such as ChatGPT and other AI tools) is academically dishonest unless (1) you are asked to include material using AI as part of an assignment or (2) you request and receive express permission from an instructor.

Regular and Substantive Interaction (RSI) Guidelines

Mount Saint Mary's University, Los Angeles is an institution committed to delivering an exceptional educational experience for its students. As one of our Five Pillars of Distinction, Innovative Teaching and Learning is woven into the fabric of the University. Therefore, it is our responsibility as an institution to outline and inform our faculty and students in instruction and practice of the "Regular and Substantive Interactions" (RSI) Guidelines set forth by the Department of Education, and subsequently our accreditor, WSCUC Senior College and University Commission (Faculty, visit myMSMU "Just for Faculty" for more information). Substantive interaction refers to a variety of faculty actions that support student learning, such as initiating class activities, facilitating discussions, giving feedback for assignments and responding to student questions. Some of the ways students play a role in substantive interaction include participation with activities, reflecting on topics, listening to their peers and collaborating on group projects.

Academic Integrity

Degree candidates are expected to adhere to the MSMU [statements on Academic Integrity](#) in the MSMU catalog and myMSMU. This includes avoiding plagiarism and constructing your best work on each assignment. Papers and other work including images, should not be copied from the Internet. Infractions may be addressed by the MSMU administration and possibly include an Academic Integrity Board review.

Academic freedom statement

For faculty, academic freedom in research, teaching, and publication is fundamental to the advancement of truth and learning. Freedom of thought and expression is essential to fulfill the mission, and obligations, of academics and educators. The student has the freedom to express ideas that differ from any interpretation or any viewpoint presented by an instructor. In exercising this freedom, there should be no disruption of the academic process of the class. The student has the right to be evaluated accurately and fairly on academic performance as outlined by the instructor at the beginning of the course. The student has the right to discuss and review any academic performance with instructors. A student who believes that an evaluation was made on a basis other than academic performance has the right to an appeal procedure. See the University [Academic Freedom Policy](#) for more information.

Academic Grievance statement

The Academic Grievance Committee shall receive and investigate complaints, excluding those pertaining to a learning disability (see College Disability Grievance Procedure) that have not been resolved on a lower level (Instructor and Department Chair/Program Director). Students have 14 business days from the posting of grades or dismissal notice to appeal a grade/standing in program. The burden of proof is on the student. A student who believes that the instructor made a clerical error in computing the grade or an egregious error of judgment in evaluating the student's performance has the right to an appeal procedure. See the University [Academic Grievance Policy](#) for more information on the Academic Grievance Committee's jurisdiction, functions, and resolution process. Email: AcademicGrievance@msmu.edu

Disability Statement

Mount Saint Mary's University, Los Angeles is committed to ensuring the full participation of all students in its programs. If you have a documented disability (chronic, medical, physical, learning, psychological, or temporary), or think you may have a disability and need a reasonable accommodation to participate in class, complete course requirements, or access the University's programs or services; contact [Disability Services](#) (DS) as soon as possible. To receive an accommodation, you must register with DS. DS works with students confidentially and does not disclose any disability-related information without student consent. DS coordinates and promotes disability accommodations and awareness and works in partnership with faculty and all other student service offices. For further information about services for students with disabilities, contact DS at the Chalon Academic Support Center, H207, (310) 954-4142, or at the Doheny Student Resource Center, Building 3, (213) 477-2690. You can also email for more information at disability@msmu.edu.

Please be advised that this class may be audio- or video-recorded as an accommodation under the American with Disabilities Act, but only with prior permission from Disability Services and the instructor. Students may only use such recordings for personal use; no posting or further distribution or use is permitted.

Student credit hour policy

A credit hour is an amount of work represented in intended learning outcomes and verified by evidence of student achievement that reasonably approximates not less than:

- (1) One hour of classroom or direct faculty instruction and a minimum of two hours of out- of-class student work each week for approximately fifteen weeks for one semester, or the equivalent amount of work over a different amount of time; or
- (2) At least an equivalent amount of work as required in paragraph (1) for other academic activities,

including laboratory work, internships, practica, studio work, and other academic work leading to the award of credit hours

Taken from: <http://msmu.smartcatalogiq.com/en/2016-2018/2016-2018-Catalog/Academic-Policies-and-Procedures/General-Information-for-Undergraduate-Programs/Student-Credit-Hour>

Religious Accommodation:

If you require any accommodation on religious grounds, please alert me in writing as soon as possible.