Philosophy 6: Logic

Instructor Information

Dr. Elizabeth Rard
Email: elizabeth.rard@reedleycollege.edu
Phone: (559) 638-0300 EXT. 3274
Office: Annex 6
Office Hours:
      M 10:00-10:50
      W 10:00-10:50
        1:30-2:20 (Zoom only)
       Th 11:00-11:50
      F 10:00-10:50
      Or by appointment!

Course Information

Logic
PHIL-6-54587
Spring 2022

MWF 11:00-11:50
SOC 30

Description

This course introduces the concepts and methods of modern symbolic logic. Topics include symbolization, syntax, semantics, and natural deduction for sentential and predicate logic.

Required Text

Marcus Introduction to Formal Logic with Philosophical Applications *or*
Marcus Introduction to Formal Logic

In addition, supplemental materials will be posted to Canvas throughout the semester.

Grading

Midterm Exams: 25%   (2 @ 12.5%)
Final Exam: 15%   (1 @ 15%)
Problem Sets: 36%   (6 @ 6%)
Quizzes: 12%   (12 @ 1%)
Discussion Posts: 12%   (12 @ 1%)
Final Grade Breakdown:

Percent of total points	Grade
90-100	A
80-89.99	B
70-79.99	C
60-69.99	D
50-59.99	F

Course Policies

Course Communication policy

Keeping in contact with your instructor is key to your success in any course. Here is some important information about how we'll keep in touch throughout the semester.

Where to find everything:

- **Canvas:** All course materials, instructions, assignments, etc. will be posted on Canvas. New course content will be released every Monday between 12:00-1:00. Course content will be organized in weekly modules.

How you can contact me:

- **Email**: You can contact me by sending an email to me at elizabeth.rard@reedleycollege.edu, or by messaging me through Canvas. When contacting me please include your **full name and class number** in the subject line of your message, and observe professional email etiquette. If emailing me directly please use only your official SCCCD email account. I am available Monday-Friday between the hours of 9am and 5pm and will respond to your email within 24 hours.

- **Office Hours:** During my office hours I am available either in my office (Annex 6) or via Zoom (check schedule). For the virtual office hour go to the **Office Hours Page** of the **Introduction Module** for my up-to-date office hour schedule, and for more information about how to join office hours using Zoom.

How I will contact you:

- **Class Announcements:** I will post weekly class announcements on Canvas that will include reminders about upcoming assignments, any changes to our plan, or any other important information that I need to share with the class. Students are expected to check class announcements regularly on our course page.

- **Individual Messages:** If I need to get in contact with you specifically I will send a message through the Canvas inbox. Students are expected to check their SCCCD email regularly to monitor for any important communications.

Attendance and Drop Policy

Students are expected to participate consistently and regularly in all parts of this course throughout the semester.

- **Week One Drop**: During the first week of class students do not attend class (or contact me) will be dropped from the class.

- **Attendance:** Attendance will be taken at every class meeting. If a student has **more than six unexcused absences** prior to the end of Week 9 they may be **dropped from the class**. Please contact your instructor immediately in case of any emergency situation that results in more than six absences.   NOTE: If you have tested positive for COVID/have COVID symptoms, etc. please do not come to class. Email your instructor and your absences will be excused.

Late Work Policy

Staying on top of course work is crucial to a smooth and successful semester. The late penalties outlined below are designed to help you stay on track and not fall behind. That being said I realize that sometimes life gets in the way. Always communicate with your instructor (me!) in a timely fashion if events occur that will prevent your timely completion of class assignments.

- **Quizzes and discussion posts:** These assignments are given weekly and are time sensitive. Both will become available at **noon on Monday** of the week they are given, and will close at **2 pm on Monday of the following week**. Once these assignments have closed they cannot be made up.

- **Exams:** Make-up exams will only be given with documented proof of a valid excuse (such as hospitalization). If you know in advance that you will need to miss an exam contact your instructor immediately to discuss your options.

- **All other assignments**: All other assignments (problem sets) can be submitted past the due date. If an assignment is not **submitted by the deadline** it will receive a 10% penalty. If an assignment is more than **24 hours late** the penalty will increase to 20%. No additional penalties will be added. **No late work will be accepted after Friday at 2:00 pm of Week 17** (the last week of regular class).

Coursework

Reading Assignments

Students are expected to complete readings during the week that they are posted. Reading assignments will relate to the class lectures occurring during the week that they are posted.

Discussion Board Posts

Students are required to post to a weekly discussion board, and to reply to at least two fellow classmates per week. Specific directions will be provided each week. Students need to make their **initial post** by **2:00 pm on Friday** of the week they are due, and must post **responses** to other students by **2 pm on the following Monday**. Please follow academic etiquette when interacting on discussion boards. It's fine (and even encouraged) to question or disagree with someone's post, but always do so in a way that is respectful and has a goal of fostering communication and intellectual exploration. **Note: Some of the posts will contain somewhat challenging logic problems. Your scores will primarily be based on**

effort and completeness of answer. You will still receive most discussion points even if your solution is incorrect (so don't skip these because you're not sure you have the right answer!).

Problem Sets

Students will complete 6 problem sets throughout the semester that allow students to apply the material covered in class.

Quizzes

During non-exam weeks students will be expect to complete short, multiple-choice quizzes. The quizzes will contain approximately 5 questions and you will have 20 minutes to complete the quiz.

Examinations

There will be **three** exams in this course (two midterms and a final). They will be cumulative but will emphasize the material covered since the last exam.   Anything in the readings or discussed in class is fair game for the exams.

Where to find your grade

Grades will be available on Canvas. Assignment/exam scores will be posted to Canvas.. **IT IS THE RESPONSIBILITY OF THE STUDENT TO BRING ANY MISSING/WRONG SCORES TO THE ATTENTION OF THE INSTRUCTOR ASAP.** All problems must be reported to the instructor within 24 hours of the final exam. After that scores will not be changed. Any student with a question about their current grade in the course should feel encouraged to contact the instructor.

Behavioral Standards:

Behavioral Standards: Students are expected to do their best to be on time. Students should silence all cell phones before entering the classroom. **CELL PHONE USE IN CLASS IS ONLY PERMITTED FOR EMERGENCIES.** All students will treat each other with professional courtesy at all times. Students should participate regularly in class discussions and are encouraged to ask questions. Unless otherwise prompted, students should raise hands when they have questions or comments. All students are expected to follow all COVID related college and district policies (including wearing masks and practicing social distancing while in class). Not compliant students will be asked to comply. Students who still fail to comply will be asked to leave the classroom.

Special Needs Requests

If you have a verified need for an academic accommodation or materials in alternate media (i.e., Braille, large print, electronic text, etc.) per the Americans with Disabilities Act (ADA) or Section 504 of the Rehabilitation Act, please contact your instructor as soon as possible.

Academic Dishonesty

Students at Reedley College are entitled to the best education that the college can make available to them, and they, their instructors, and their fellow students share the responsibility to ensure that this education

is honestly attained. Because cheating, plagiarism, and collusion in dishonest activities erode the integrity of the college, each student is expected to exert an entirely honest effort in all academic endeavors. Academic dishonesty in any form is a very serious offense and will incur serious consequences.

Cheating

Cheating is the act or attempted act of taking an examination or performing an assigned, evaluated task in a fraudulent or deceptive manner, such as having improper access to answers, in an attempt to gain an unearned academic advantage. Cheating may include, but is not limited to, copying from another's work, supplying one's work to another, giving or receiving copies of examinations without an instructor's permission, using or playing notes or devices inappropriate to the conditions of the examination, allowing someone other than the officially enrolled student to represent the student, or failing to disclose research results completely.

Plagiarism

Plagiarism is a specific form of cheating: the use of another's words or ideas without identifying them as such or giving credit to the source. Plagiarism may include, but is not limited to, failing to provide complete citations and references for all work that draws on the ideas, words, or work of others, failing to identify the contributors to work done in collaboration, submitting duplicate work to be evaluated in different courses without the knowledge and consent of the instructors involved, or failing to observe computer security systems and software copyrights.

Incidents of cheating and plagiarism may result in any of a variety of sanctions and penalties, which may range from a failing grade on a particular examination, paper, project, or assignment in question to a failing grade in the course, at the discretion of the instructor and depending on the severity and frequency of the incidents.

Student Learning Outcomes

Upon completion of this course, students will be able to:
1. Identify arguments and distinguish the premises of an argument from its conclusion.
2. Translate statements into the language of sentential logic and use truth tables to determine whether they are contingent, self-contradictory, or tautologous.
3. Use truth tables to determine whether sets of statements are consistent or inconsistent.
4. Translate ordinary language arguments into the language of sentential logic; determine whether such arguments are valid or invalid; and prove, by means of natural deduction, the validity of such arguments.
5. Translate ordinary language arguments into the language of predicate logic; determine whether such arguments are valid or invalid; and prove, by means of natural deduction, the validity of such arguments.

Objectives

In the process of completing this course, students will:

1. Identify arguments and distinguish the premises of an argument from its conclusion.
2. Translate statements into the language of sentential logic and use truth tables to determine whether they are contingent, self-contradictory, or tautologous.
3. Use truth tables to determine whether sets of statements are consistent or inconsistent.
4. Translate ordinary language arguments into the language of sentential logic; determine whether such arguments are valid or invalid; and prove, by means of natural deduction, the validity of such arguments.
5. Translate ordinary language arguments into the language of predicate logic; determine whether such arguments are valid or invalid; and prove, by means of natural deduction, the validity of such arguments.

The following course schedule is **tentative**. Any changes to the schedule will be announced in class ahead of time.

Week	Plan
Week 1 1/10 - 1/14	**Content** Introduction to the course **Chapter 1: Introducing Logic** 1.1, 1.2, 1.5 Logical Operators **Assignments** Welcome Discussion Post Quiz Week 1
Week 2 1/17 -1/21	**Content** Well-formed formulas, Main Operators 2.1, 2.2 Translations introduction 1.4, 2.1 **Assignments** Discussion Post Week 2 Quiz Week 2 **Important Dates:** 1/17 Martin Luther King Jr. Day (NO CLASS)
Week 3 1/24 – 1/28	**Content** Translations Continued Truth Tables Truth Tables, Truth functions 2.3, 2.4 **Assignments** **Problem Set 1 due on 1/28 at 2:00 pm** Discussion Post Week 3 Quiz Week 3
Week 4	**Content**

1/31 – 2/4	Truth Tables: Classifying Propositions 2.5
	Truth Tables: Valid and Invalid Arguments 2.6
	Indirect Truth Tables 2.7
	<u>Assignments</u>
	Discussion Post Week 4 Quiz Week 4
Week 5 2/7 – 2/11	**<u>Content</u>** Indirect Truth Tables 2.7 **Chapter 3: Inference in Propositional Logic** Rules of inference 3.1 **<u>Assignments</u>** **Problem Set 2 Due on 2/11 at 2:00 pm** Discussion Post Week 5 Quiz Week 5
Week 6 2/14 – 2/18	**<u>Content</u>** Rules of inference 3.2 **<u>Assignments</u>** **MIDTERM: 2/18** **<u>Important Dates:</u>** 2/18 Lincoln's Birthday (NO CLASS)
Week 7 2/21 – 2/25	**<u>Content</u>** Rules of Equivalence 3.3 **<u>Assignments</u>** Discussion Post Week 7 Quiz Week 7 **<u>Important Dates:</u>** 2/21 Washington's Birthday (NO CLASS)
Week 8 2/28 – 3/4	**<u>Content</u>** Rules of Equivalence 3.4 **<u>Assignments</u>** Discussion Post Week 8 Quiz Week 8
Week 9	**<u>Content</u>** Conditional Proof 3.7

3/7 – 3/11	**Assignments** **Problem Set 3 Due on 3/11 at 2:00 pm** Discussion Post Week 9 Quiz Week 9
Week 10 3/14 -3/18	**Content** Indirect Proof 3.9 **Assignments** Discussion Post Week 10 Quiz Week 10
Week 11 3/21 – 3/25	**Content** Logical Truths 3.8 **Assignments** **Problem Set 4 Due on 3/25 at 2:00 pm** Discussion Post Week 11 Quiz Week 11
Week 12 3/28 – 4/1	**Content** **Chapter 4: Monadic Predicate Logic** 4.1 Syntax 4.3 Translation in Predicate Logic 4.2 **Assignments** **MIDTERM:** Released at noon on 10/ 25 Due at **2 pm** on 11/1
Week 13 4/4 – 4/8	**Content** Translations continued Derivations in Predicate Logic 4.4 **Assignments** Discussion Post Week 13 Quiz Week 13 **Important Dates:** 4/11-4/15 Spring Recess (Campus Holiday)
Week 14 4/18 – 4/22	**Content** Derivations in Predicate Logic Continued

	Assignments Discussion Post Week 14 Quiz Week 14
Week 15 4/25 – 4/29	**Content** Quantifier Exchange 4.5 **Assignments** **Problem Set 5 Due on 4/29 at 2:00 pm** Discussion Post Week 15 Quiz Week 15
Week 16 5/2 – 5/6	**Content** CP/IP in Predicate Logic **Assignments** Quiz Week 16
Week 17 5/9 – 5/13	**Content** CP/IP in Predicate Logic cont. Conclusion **Assignments** **Problem Set 6 Due on 5/11 at 2:00 pm** Discussion Post Week 17 **All late work due by 2:00 pm on 5/13**
Week 18 5/16 – 5/20	**Assignments** **Final Exam May May 18 11:00-12:50**