SANTA ROSA JUNIOR COLLEGE
Building on a Legacy of Excellence

SYLLABUS[1][2][3]

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Office: Emeritus 1516 | **Phone:** (707) 524-1710 ext: 1710

Term: spring | **Year:** 2023 | **Course:** **PHIL 4** – ***Symbolic Logic***

Section: **6100** | **Course Hours:** 54 | **Units:** 3.0

Transferability: CSU, UC, IGETC

Duration: 18-Weeks | ***Begins:*** Monday, January 23, 2023 | ***Ends*:** Friday, May 19, 2022

In-person meetings will take place on: **Mondays | 4:00PM–6:00PM | Emeritus 1518 |**
******Participation at these in-person meetings will be graded.*******

Final Exam → Monday, May 22, 1:00PM–3:45PM

Prof. Tircuit's Office Hours (spring 2023):

- Since my office hours are subject to change, please find my office hours schedule at my faculty profile page by clicking on this **link**, or by navigating there through the college's website.
- You're welcome to **pop-in** during my office hours without an appointment, in person or via Zoom. You can also email me to **schedule** an office hours appt. during my scheduled office hours and outside of them: itircuit@santarosa.edu
- Here is the Zoom link for those wishing to join my office hours via Zoom: https://santarosa-edu.zoom.us/j/97251129060 | **Meeting ID:** 972 5112 9060

Please find SJRC's Philosophy Dept. Website here: https://philosophy.santarosa.edu/
On this website you will find information about Philosophy, Philosophy Classes, Philosophy Major, and Philosophy Resources.

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1 This syllabus may be substantively revised at any time. Students will be notified of any revisions, and, only after such notice, will be held responsible for adhering to them.
2 Substantive Revision: 02/27/2023 at 7:33 AM
3 Course Outline of Record: https://portal.santarosa.edu/SRWeb/SR_CourseOutlines.aspx?ck=PHIL4

COURSE DESCRIPTION

"not"
"and"
"or"
"if…then..."
"...if and only if..."

After millennia (i.e., since at least the time of Aristotle) of study by logicians most seem to agree that the above English words, in any language, constitute all or most of the fundamental ways that humans connect thoughts in order to try and make sense of their world without the possibility of falsehood.

"Logic" (from the Latin "logos" meaning "word" or "reason") seems to help us draw the borders between what we can and cannot imagine as necessary or probable truths about reality as we experience it and as we introspect about it. According to logician Patrick J. Hurley, much has been written (in a diversity of fields such as anthropology, education, psychology, and chemistry) about the distinction between inductive, or probabilistic reasoning, and deductive, or necessary reasoning.

In this class, we will focus on two subfields of necessary reasoning: natural deduction in **propositional** and **predicate** logics. In so doing, we will focus on various ways of proving whether a formal argument's conclusion really is guaranteed by its premises.

To do this we will learn how to use propositional logic symbols like statement letters such as: A, B, C, D, E, and so on. These letters will be used to represent propositions, also known as statements. We will also learn how to use the following symbols called logical connectives: ~ ⊃ ≡ • v. These are used to represent the English words "it is not the case that", "if...then...", "...if and only if...", "and", and "or", respectively. For example, "It is not the case that Starbucks makes hamburgers." translates into propositional logic as "~S". We will also learn how to construct truth tables and use the eighteen rules of implication and replacement (together "the rules of inference").

Towards the end of the course, we will learn how to use the following **predicate** logic symbols: (A,B,C,...X,Y,Z) and (a,b,c,...u,v,w). These are used to represent the predicates and subjects of propositions, respectively. For example, "Socrates is mortal." translates into predicate logic as "*Ms*". Two additional predicate logic symbols are: (*x*) and (∃*x*). These are universal and existential quantifiers, respectively. They are used to translate the English words "for any *x*" and "there exists an *x* such that", respectively. For example, "All skyscrapers are tall." translates into predicate logic as "(*x*)(S*x* ⊃ T*x*)". And "Some men are paupers." translates as "(∃*x*)(M*x* • P*x*)". Lastly, we will learn the four predicate logic quantifier rules: (1) universal instantiation, (2) universal generalization, (3) existential generalization, and (4) existential instantiation.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Reduce complex English sentences into the simpler component parts.
2. Translate typical English connectives.
3. Perform valid proofs for valid arguments using the statement logic.
4. Perform valid proofs in the predicate logic using four additional quantifier rules as extension of the statement logic.

Course Learning Objective

The student will be able to:

1. Distinguish arguments from non-arguments in ordinary language.
2. Examine ordinary statements for ambiguity, equivocation and clarity.
3. Generate translations from ordinary language into symbolic notations.
4. Distinguish valid from invalid argument forms.
5. Analyze complex expression into simple forms.
6. Determine truth values for complex expressions.
7. Deduce valid conclusions using proof strategies and rules.
8. Develop first-order predicate logic as an attempt to provide a method of analysis and as a possible foundation for mathematics.
9. Evaluate recent analytic philosophical positions using symbolic notations.
10. Describe the relation between modern symbolic notations and other formal systems, for example, computer languages.
11. Trace the historical development of modern symbolic logic and show the attempt to base mathematics on the foundation of the extended predicate logic.
12. Translate English statements with "or" "and" "if, then" "not" into the statement logic notation.

Required Text(s):

1. ***"A Concise Introduction to Logic"***, 12th ed., Patrick J. Hurley, Cengage Learning 2015 | ISBN-13: 978-1285196541 | ISBN-10: 1285196546 | used as little as a **$17.66** at https://www.amazon.com/dp/1285196546/ref=olp_aod_redir_impl1?_encoding=UTF8&aod=1

GRADING POLICIES

PHIL 4

Final Grade is weighted based on assignment groups as follows:

Getting Started	**Canvas Quiz**	**10%**
	Communication Plan Quiz	
	Syllabus Quiz	
	Review Professor Intro Assignment	
	Student Intro Assignment	
Core Assignments	**6.6, 7.1, 7.2, 7.3, 7.4, 7.5, 8.2**	**35%**
Non-Core Assignments	**Participation (In Person Courses)**	**25%**
	6.1, 6.2, 6.3, 6.4, 6.5, 8.1	
Exams	**Quiz #1**	**30%**
	Quiz #2	
	Final Exam	
		100%

GRADING SCALE

Letter Grade	Percentage	Min Points	Max Points
A	89 - 100%	1094.7	1230
B	79 - 88%	971.7	1094.6
C	69 - 78%	848.7	971.6
D	59 - 68%	725.7	848.6
F	0 - 58%	0	725.6

SPRING SEMESTER 2023

Monday, January 16, 2023	**Dr. Martin Luther King Jr. Day Holiday (No Classes, District Closed)**
Tuesday, January 17, 2023	Departmentally Determined Professional Development Activities Day (No Classes)
Wednesday, January 18, 2023	**CLASSES BEGIN**
Tuesday, January 24, 2023	Last day to register/add semester length class without instructor's signature or add code
Sunday, January 29, 2023	Last day to drop semester length class and be eligible for a refund
Sunday, February 5, 2023	Last day to register/add semester length class with the instructor's signature or add code
Sunday, February 5, 2023	Last day to drop a semester length class without "W" symbol
Monday, February 6, 2023	First Census Day
Thursday, February 16, 2023	**Mandatory Professional Development Activity Institutional Day (No Classes, District Closed for PDA)**
Friday, February 17, 2023	**Lincoln's Day Holiday Observance (No Classes, District Closed)**
Saturday, February 18 – Sunday, February 19, 2023	Saturday and Sunday (Classes will meet)
Monday, February 20, 2023	**Washington's Day Holiday (No Classes, District Closed)**
Monday, March 20 – Sunday, March 26, 2023	**Spring Break (No Classes)**
Friday, March 24, 2023	Professional Development 1/2 Flex Day (No Classes)
Monday, March 27 – Sunday, April 23, 2023	Midterm progress indicators posted in student portal
Sunday, April 23, 2023	**Last day to drop a semester length class with "W" symbol**

Saturday, May 20 – Friday, May 26, 2023	Final Examinations
Friday, May 26, 2023	Last day to opt for P/NP for a semester length class
Saturday, May 27, 2023	Commencement Exercises
Monday, May 29, 2023	**Memorial Day Holiday (No classes, District Closed)**
Tuesday, May 30, 2023	**Asian American & Pacific Islander Day (No classes, District closed)**
Friday, June 2, 2023	**Final grade rosters due**
Monday, June 5, 2023	Spring semester processing finalized

OTHER POLICIES

What you can expect from me

I will do my best to make this course an excellent learning experience for you. I will take suggestions for improving the learning environment seriously. I will grade your work fairly and in a timely manner.

I am an ally to LGBTQIA+, Dreamers, veterans, women, people with disabilities, people who come from low socio-economic backgrounds, people who are unjustly dominated and marginalized on the basis of their "race", and anyone else who may feel that at times they are unjustly dominated or marginalized. I will do my best to help you succeed. Please do not hesitate to come to me with any questions or concerns. My door is always open.

What you can give the class

Come to class prepared. That way, we can have more effective learning activities. Please come prepared and ready to work.

Professional courtesy. Come on time and stay the whole time. Pay attention, listen to others, and be ready to contribute.

Use electronics ONLY to support learning.

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e-cigarettes

The Sonoma County Junior College District is a Smoke-Free Environment.

The District promotes a safe and healthful atmosphere for students, faculty, staff and visitors on its campuses, centers and other off-campus sites by reducing the health risks associated with tobacco smoke and related products. Therefore, the District is a tobacco- and smoke-free environment.

Smoking of any kind, including use of e-cigarettes or electronic cigarettes, and all uses of tobacco are prohibited on all property and in all indoor and outdoor spaces owned, leased, licensed, or otherwise controlled by the District, and in all District-owned vehicles.

The District offers information and referrals intended to assist students and staff who wish to quit smoking. For more information about smoking cessation options, contact Student Health Services at (707) 527-4445, or Environmental Health and Safety at (707) 527-4803.

Implementation of the District Smoke-Free Environment Policy will be the shared responsibility of every student, faculty member, staff person and visitor; additionally, the Sonoma County Junior College District Police shall enforce all state, county and city ordinances that prohibit smoking on or near District property.

Attendance

Attendance is mandatory. I don't want you to miss any class and you shouldn't want to miss class either. If you are chronically absent, we will need to have a conversation about this. You can't learn if you aren't here. After you've been absent for more than 20% of the class, we will schedule a conversation to find out how I can help you. We will work together to come up with the best course of action for your future in this course.

Cheating and Plagiarism

The work you do in this course must be your own. Feel free to build on, react to, criticize, and analyze the ideas of others but, when you do, make it known whose ideas you are working with. You must explicitly acknowledge when your work builds on someone else's ideas, including ideas of classmates, professors, and authors you read. If you ever have questions about drawing the line between others' work and your own, ask the course professor who will give you clear guidance. No attempts to complete assignments, tests, or papers, or to otherwise determine one's course grades that involve falsely representing answers or work product to the professor as being genuinely that of the student, will be tolerated. Please do your own work on individual assignments, tests, and papers.

Sonoma County Junior College District (SCJCD) holds that its primary function is the development of intellectual curiosity, integrity, and accomplishment in an atmosphere that upholds the principles of academic freedom. All members of the academic community - student, faculty, staff, and administrator - must assume responsibility for providing an environment of the highest standards, characterized by a spirit of academic honesty and mutual respect. Because personal accountability is inherent in an academic community of integrity, this institution will not tolerate or ignore any form of academic dishonesty.

Academic dishonesty is regarded as any act of deception, benign or malicious in nature, in the completion of any academic exercise. Examples of academic dishonesty include cheating, plagiarism, collusion, and other academic misconduct.

Faculty, students and administrators are partners in maintaining the District's academic integrity in accordance with the guidelines delineated below.

FACULTY RESPONSIBILITIES

-Conduct each course in a manner that encourages mutual respect, honorable behavior, and learning, thereby promoting student success and discouraging academic dishonesty.

-Inform students of the course requirements, grading procedures, and rules and expectations for acceptable conduct and behavior in each course, including definitions of academic dishonesty and the ethical use of technology. A statement about academic integrity and consequences should appear in the course syllabus.
-Inform students of the SRJC policy on Academic Integrity and the Student Conduct Standards, which is in the SRJC College Catalog and part of the District Student Discipline policy. Explain how these policies will be applied in each course.

-Inform students of their rights to due process should they wish to contest an allegation or penalty.

STUDENT RESPONSIBILITIES

-Conduct oneself in a respectful, honorable manner that focuses on learning, academic honesty, and success for both oneself and other students.

-Learn and understand the course requirements, grading procedures, and rules and expectations for acceptable conduct and behavior in each course, including definitions of academic dishonesty and the ethical use of technology.

-Learn and understand the SRJC policy on Academic Integrity and the Student Conduct Standards, which is in the SRJC College Catalog and part of the District Student Discipline policy.

-Learn and understand students' rights to due process in contesting an allegation or penalty made by an instructor or other representative of the district.

For more information on academic integrity: https://catalog.santarosa.edu/catalog-2019-2020/academic-integrity

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Late Work

1. Work turned in late can earn no more than 69% of points possible.
2. Work cannot be turned in more than four (4) days late.
3. "late work" means work turned in after the deadline has passed. For example, if an assignment is due at 7:00:00 PM, then at 7:00:01 PM the assignment is late if it was not turned in at 7:00:00 PM or before. Or, for another example, if an assignment is

due at 11:59:00 PM, then at 11:59:01 PM the assignment is late if it was not turned in at 11:59:00 PM or before.
4. During the last ten (10) days of the course, work cannot be turned in late.

Exceptions are made for emergencies only. Emergencies are situations where, for example, the student or the student's family is ill. All emergencies must be communicated to the professor as soon as the student knows that their ability to turn work in on time is being threatened. The professor may ask for evidence (for example, a doctor's note) that would indicate the truth of the student's claim of there having been an emergency.

I know that things come up in life that are beyond our control. Just reach out to me and let me know what's going on. Let's work together to ensure that you do well in this course.

Legible Work

Points may be deducted if any of your work is too illegible. Obviously, this section only applies to assignments that require a student to hand-write.

Office Hours

The best way to get in touch with me is by email at: itircuit@santarosa.edu
I am available often for office visits by appointment, and I am available for questions often via email. I will make every effort to ensure that you stay on schedule with the work required for this course, and to ensure that your work is excellent. No student is expected to earn an A in this course without possible help during office visits or help via email. I want you to get your work in on time, and I want you to get your work done excellently, so don't wait until the last minute on any assignment. If you have questions, come see me before or after class, or email me to schedule an office appointment or email me with your questions, right away. Normally, I will respond to email within 24 hours. This course is designed for you to have ample help, so don't ever feel like you have to go it alone.

Accommodations for Students with Disabilities

The Disability Resources Department (DRD) facilitates equity and access to a community college education for qualified students. Services include specialized academic advising focusing on individual abilities and limitations, disability management, and access technology. Students can receive accommodations including extra time for exams, mobility assistance, sign language interpreters, and access to classroom notes. Same day drop-in zoom appointments are available Mondays & Tuesdays 2:00-4:00pm, and Wednesdays & Thursdays 9:00-11:00am. Students are placed on a first come, first served list to meet with a specialist to determine if DRD services are right for you. Please call DRD reception at (707) 527-4278 to schedule your appointment, or click here (https://drd.santarosa.edu/)

General Evacuation Procedures In Case of Emergency

If you hear the evacuation alarm or are instructed to leave the building:
-Remain calm

-Follow all directions from your instructor, designated Building Captain, or Floor Leader.
-Evacuate the building to the nearest Emergency Assembly Area (EAA). Take keys, coat, purse and any other critical personal items with you as you will not be allowed to reenter the building. No exceptions.
-Use stairways. Do not use elevators.
-Close doors as rooms are vacated.
-Assist those who need help but do not put yourself at risk attempting to rescue trapped or injured victims.
-Individuals requiring special assistance should assemble in areas designated as such.
-Note location of trapped and injured victims and notify Floor Captain, Building Marshal, Building Manager, Incident Commander, or other emergency responders.
-Floor Captains will walk through the building to ensure evacuation is complete.
-Remain in EAA until further instructions are given.
-Do not reenter the building unless officially authorized to do so after the "All Clear" is given by the Building Marshal or authorized the Department of Police and Campus Safety personnel.

COURSE SCHEDULE

[NOTE: The instructions below are only intended to give you an idea of what to expect. The actual instructions, due dates, etc., are found on Canvas and may differ.]

[WEEK 1 | Assigned: January 23]

1. View: Canvas Overview
    a. Submit: Canvas Assignment
2. View: Syllabus Overview
    a. Submit: Syllabus Assignment
3. View: Ways to communicate with each other in this course
    a. Submit: Communication Plan Assignment
4. Submit: Review Professor Introduction Assignment
5. Submit: Student Introduction Assignment

-We will spend Weeks 2 and 3 covering **6.1 Symbols and Translation**.

-For Weeks 2 and 3 WATCH lecture video series, READ 10-page section in Hurley, and STUDY: **6.1 Symbols and Translation**.

[WEEK 2 | Assigned: January 30]

Chapter 6: Propositional Logic

6.1 Symbols and Translation

-Practice in class:
Exercises: (I) -Translate the following statements into symbolic form.
-Use capital letters to represent affirmative English statements.
(II) -Translate the following statements into symbolic form.
-Use capital letters to represent affirmative English statements.
(III) -Determine which of the following are not well-formed formulas.

-Work on homework.

-For Week 3 continue to use the refer to the lecture video series and the 10-page section in Hurley, to STUDY: **6.1 Symbols and Translation**.

[WEEK 3 | Assigned: February 6]

6.1 Symbols and Translation

-Practice in class:
Exercises: (I) -Translate the following statements into symbolic form.
-Use capital letters to represent affirmative English statements.
(II) -Translate the following statements into symbolic form.
-Use capital letters to represent affirmative English statements.
(III) -Determine which of the following are not well-formed formulas.

-Complete homework.

-For Week 4 WATCH lecture video series, READ 9.5-page section in Hurley, and STUDY: **6.2 Truth Functions**.

[WEEK 4 | Assigned: February 13]

6.2 Truth Functions

-Practice in class:
Exercises: (I) Identify the main operator in the following propositions.
(II) -Write the following compound statements in symbolic form.
-Use your knowledge of the historical events referred to by the simple statements to determine the actual truth value of the compound statements.
(III) -Determine the truth values of the following symbolized statements.
-Let A, B, and C be true.
-Let X, Y, and Z be false.
-Circle your answer.
(IV) -When possible, determine the truth values of the following symbolized statements.
-Let A and B be true, Y and Z false.
-P and Q have unknown truth value.
-If the truth value of the statement cannot be determined, then choose "undetermined."

-Complete homework.

-Next week, Week 5, we do not have class. It will be Washington's Day.

-For Week 6 WATCH lecture video series, READ 6-page section in Hurley, and STUDY: **6.3 Truth Tables for Propositions**.

[WEEK 5 | February 20]

WASHINGTON'S DAY | NO CLASSES

[WEEK 6 | Assigned: February 27]

6.3 Truth Tables for Propositions

-Practice in class:
Exercises: (I) Use truth tables to determine whether the following symbolized statements are tautologous, self-contradictory, or contingent.
(II) -Use truth tables to determine whether the following pairs of symbolized statements are logically equivalent, contradictory, consistent, or inconsistent.
-First, determine whether the pairs of propositions are logically

equivalent or contradictory.
-Second, if they are not logically equivalent or contradictory, then determine if they are consistent or inconsistent.
(III) Use truth tables to obtain the answers to the following exercises.

-Complete homework.

-For Week 7 WATCH lecture video series, READ 3.5 pages section in Hurley, and STUDY:
6.4 Truth Tables for Arguments

[WEEK 7 | March 6]

6.4 Truth Tables for Arguments

-Practice in class:
Exercises: (I) -Translate the following arguments into symbolic form.
-Construct a truth table for each symbolized argument.
-Indicate whether each argument is valid or invalid.
(II) -Construct a truth table for the following symbolized arguments.
-Indicate whether each is valid or invalid.
(III) -The following dialogue - "Romance with an Android" - contains eleven arguments.
-Translate each argument into symbolic form.
-Use truth tables to determine whether each is valid or invalid.

-Complete homework.

-For Week 8 WATCH lecture video series, READ 7 pages section in Hurley, and STUDY:
6.5 Indirect Truth Tables

[WEEK 8 | March 13]

6.5 Indirect Truth Tables

-Practice in class:
Exercises: (I) -When possible, compute the truth values of the simple components in the following compound propositions.
-If no truth value can be computed, write a question mark (?) under the letter or letters with unknown truth value.
(II) -Use indirect truth tables to determine whether the following arguments are valid or invalid.
(III) -Use indirect truth tables to determine whether the following groups of statements are consistent or inconsistent.

-Complete homework.

-For Week 9 SPRING BREAK | NO CLASSES
-For Week 10 WATCH lecture video series, READ 12-page section in Hurley, and STUDY:
6.6 Argument Forms and Fallacies.

[WEEK 9 | March 20-26]

-SPRING BREAK | NO CLASSES

[WEEK 10 | March 27]

6.6 Argument Forms and Fallacies

-Practice in class:

Exercises: (I) -Indicate which of the eight argument forms the following symbolized arguments take.
-In some cases, a symbolized argument must be rewritten using commutativity or double negation before it becomes an instance of one of these forms.
-Those not having a named form are invalid.

(II) -Translate the following arguments into symbolic notation.
-Indicate which of the eight argument forms they take.
-In some cases, a symbolized argument must be rewritten using commutativity or double negation before it becomes an instance of one of the eight forms.
-Those not having a named form are invalid.

(III) -Identify the following dilemmas as either constructive or destructive.
-Suggest a refutation for each dilemma by escaping between the horns, grasping by the horns, or constructing a counter-dilemma.

(IV) -The following dialogue – “A Little Help from a Friend” - contains at least fifteen arguments.
-Translate each argument into symbolic notation.
-Name which of the eight argument forms presented in this section is taken by each symbolized argument.

(V) -The following selections were taken from letters-to-the-editors newspaper columns.
-Each contains one or more arguments.
-The exact form of the argument may be hidden or ambiguous.
-Use the argument forms presented in this section to structure the selections as specifically named arguments.

-Complete homework.

-For Week 11 Prepare to Take Quiz #1.

-The quiz will cover the Chapter 6 sections that we covered.

- For Week 11 WATCH lecture video series, READ 8-page section in Hurley, and STUDY:
  7.1 Rules of Implication I | First 4 rules out of 8: MP, MT, HS, and DS.

[WEEK 11 | April 3]

-Take Quiz #1

-Quiz covers Chapter 6 sections that we covered.

Chapter 7: Natural Deduction in Propositional Logic

7.1 Rules of Implication (RI) I
First 4 RI out of 8: MP, MT, HS, and DS.
First 4 Rules of Inference (ROI) out of 19.

-Practice in class:

Exercises: (I) -For each of the following lists of premises, derive the conclusion and supply the justification for it.
-There is only one possible answer for each problem.
(II) -The following symbolized arguments are missing a premise.
-Write the premise needed to derive the conclusion (last line).
-Supply the justification for the conclusion.
-Try to construct the simplest premise needed to derive the conclusion.
(III) -Use the first four rules of inference to derive the conclusions of the following symbolized arguments.
(IV) -Translate the following arguments into symbolic form.
-Use the first four rules of inference to derive the conclusion of each.
-The letters to be used for the simple statements are given in parentheses after each exercise.
-Use these letters in the order in which they are listed.

-Complete homework.

-For Week 12 WATCH lecture video series, READ 5.5-page section in Hurley, and STUDY:
7.2 Rules of Implication II | Last 4 RI of 8: CD, Simp, Conj, and Add.

[WEEK 12 | April 10]

7.2 Rules of Implication II
Last 4 RI of 8: CD, Simp, Conj, and Add
For a total of 8 ROI out of 19.

-Practice in class:
Exercises: (I) -For each of the following lists of premises, derive the indicated conclusion and complete the justification.
-In problems 4 and 8 you can add any statement you choose.
(II) -The following symbolized arguments are missing a premise.
-Write the premise needed to derive the conclusion (last line).
-Supply the justification for the conclusion.
(III) -Use the first eight rules of inference to derive the conclusions of the following symbolized arguments.
(IV) -Translate the following arguments into symbolic form.
-Use the first eight rules of inference to derive the conclusion of each.
-The letters to be used for the simple statements are given in parentheses after each exercise.
-Use these letters in the order in which they are listed.

-Complete homework.

-For Week 13 WATCH lecture video series, READ 6-page section in Hurley, and STUDY:
7.3 Rules of Replacement (RR) I | First 5 RR of 10: DM, Com, Assoc, Dist, and DN.

[WEEK 13 | April 17]

7.3 Rules of Replacement I
First 5 RR of 10: DM, Com, Assoc, Dist, and DN.
For a total of 13 Rules of Inference out of 19.

-Practice in class:
Exercises: (I) -For each of the following lists of premises, derive the indicated conclusion and complete the justification.
-For double negation, avoid the occurrence of triple tildes.
-Exercise 6 has two possible answers.
(II) -In the following symbolized arguments, derive the line needed to obtain the conclusion (last line).
-Supply the justification for both lines.

(III) Use the first thirteen rules of inference to derive the conclusions of the following symbolized arguments.
(IV) -Translate the following arguments into symbolic form.
-Use the first thirteen rules of inference to derive the conclusion of each.
-Use the translation letters in the order in which they are listed.
(V) -The following dialogue – "With This Ring" – contains eight arguments.
-Translate each into symbolic form.
-Use the first thirteen rules of inference to derive the conclusion of each.

-Complete homework.

-For Week 14 WATCH lecture video series, READ 5.5-page section in Hurley, and STUDY:
7.4 Rules of Replacement (RR) II | Last 5 RR of 10: Trans, Impl, Equiv, Exp, and Taut.

[WEEK 14 | April 24]

7.4 Rules of Replacement II
Last 5 RR of 10: Trans, Impl, Equiv, Exp, and Taut.
For a total of 18 Rules of Inference out of 19.

-Practice in class:
Exercises: (I) -For each of the following lists of premises, derive the indicated conclusion and complete the justification.
-For tautology, derive a conclusion that is simpler than the premise.
(II) -In the following symbolized arguments, derive the line needed to obtain the conclusion (last line).
-Supply the justification for both lines.
(III) Use the first eighteen rules of inference to derive the conclusions of the following symbolized arguments.
(IV) -Translate the following arguments into symbolic form.
-Use the first eighteen rules of inference to derive the conclusion of each.
-Use the translation letters in the order in which they are listed.
(V) -The following dialogue – "Is This the End?" – contains ten arguments.
-Translate each into symbolic form.
-Use the first eighteen rules of inference to derive the conclusion of each.

-Complete homework.

-**Prepare for Quiz #2:**

-The quiz will cover the Chapter 7 sections that we covered.

-Also, for Week 15 WATCH lecture video series, READ 8-page section in Hurley, and STUDY: **8.1 Symbols and Translation.**

[WEEK 15 | May 1]

-**Take Quiz #2:**

-The quiz will cover the Chapter 7 sections that we covered.

Chapter 8: Predicate Logic

8.1 Symbols and Translation

-Practice in class:

Exercises: (I) -Translate the following statements into symbolic form.
-Avoid negation signs preceding quantifiers.
-The predicate letters are given in parentheses.

-Complete homework.

-We will spend the next two Weeks on section 8.2.

-For Week 16 WATCH lecture video series, READ 9-page section in Hurley, and STUDY: **8.2 Using the Rules of Inference | WEEK 1.**

[WEEK 16 | May 8]

8.2 Using the Rules of Inference | WEEK 1

-Practice in class:

Exercises: (I) -Use the eighteen rules of inference to derive the conclusions of the following symbolized arguments.
-Do not use either conditional proof or indirect proof.

(II) -Translate the following arguments into symbolic form.
-Then use the eighteen rules of inference to derive the conclusion of each.
-Do not use conditional or indirect proof.

(III) -The following dialogue – "Where's the Beef?" – contains nine arguments.
-Translate each into symbolic form.
-Use the eighteen rules of inference to derive the conclusion of each.
-Some of them are quite challenging.

-Work on homework.

-For Week 17 continue to WATCH lecture video series, READ 9-page section in Hurley, and STUDY: **8.2 Using the Rules of Inference | WEEK 2.**

[WEEK 17 | May 15]

8.2 Using the Rules of Inference | WEEK 2

-Practice in class:

Exercises: (I) -Use the eighteen rules of inference to derive the conclusions of the following symbolized arguments.
-Do not use either conditional proof or indirect proof.

(II) -Translate the following arguments into symbolic form.
-Then use the eighteen rules of inference to derive the conclusion of each.
-Do not use conditional or indirect proof.

(III) -The following dialogue – "Where's the Beef?" – contains nine arguments.
-Translate each into symbolic form.
-Use the eighteen rules of inference to derive the conclusion of each.
-Some of them are quite challenging.

-Complete homework.

-Prepare to take Final Exam next week:

-Final Exam will cover the Chapter 8 sections that we covered.

[WEEK 18 | May 22]

-Take Final Exam | 1:00 PM – 3:45 PM

-Final Exam will cover the Chapter 8 sections that we covered.