San José State University
Humanities & Arts/Philosophy
Philosophy 9, Math & Logic, Section 01, Spring 2017

Course and Contact Information

Instructor: Anand Jayprakash Vaidya

Office Location: FOB 205

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Office Hours: TR: 10:30-11:45; and by appointment

Class Days/Time: TR: 12:00-13:15

Classroom: BBC 203

Prerequisites: N/A

GE/SJSU Studies Category: B4

Course Format

Technology Intensive, Hybrid, and Online Courses

This course is a hybrid course, since it will use the Internet and require the use of a computer for some classes. However, most of the work will be done in class through short exercises, which will be reviewed by the instructor and other students. Nevertheless, students should be prepared to spend a whole class working online, if need be; and students should feel comfortable emailing questions to the instructor for online guidance on problem sets.

Faculty Web Page and MYSJSU Messaging

The instructor webpage is to be found at: http://anandvaidya.weebly.com/math-and-logic.html
This course may also use a Canvas web learning management system platform. If it does, the students will be notified in advance.

Course Description

This course will be an introduction to first order symbolic logic. We will be studying techniques for the formal evaluation of arguments within propositional logic and predicate logic, with an eye toward extensions of formal systems to cover areas such as modal logic. Time permitting we will look at some questions at the intersection of philosophy, computer science, and logic, such as the nature of rationality and artificial intelligence.

GE Learning Outcomes (GELOs)

The major goal of GE Area B4 is to enable students to use numerical and graphical data in personal and professional judgments and in coping with public issues.

GELO 1: Mathematical concepts courses should prepare the student to use mathematical methods to solve quantitative problems, including those presented in verbal form.

GELO 2: Mathematical concepts courses should prepare the student to demonstrate the ability to use mathematics to solve real life problems.

GELO 3: Mathematical concepts courses should prepare the student to arrive at conclusions based on numerical and graphical data.

Course Learning Outcomes (CLOs)

CLO 1: Learn to identify an argument in natural language and translate it into a formal language.

CLO 2: Learn to use some formal method, such as truth-tables, truth-trees, or the square of opposition, or natural deduction to evaluate an argument.

CLO 3: Learn to think critically about the application of a formal system to an argument for the purposes of evaluation.

Required Texts/Readings

Textbook

Logic and Critical Reasoning by Anand Vaidya

Logic and Critical Reasoning Lectures by Anand Vaidya:

Both are available for free through the instructor at: http://anandvaidya.weebly.com/math-and-logic.html

Course Requirements and Assignments

This course will have 3 exams. The last exam will be the final exam. There will be regular in class worksheets / homework assignments. However, these worksheets / homework assignments will only be worth a small percentage of the student's final grade. They will be used primarily to prepare students for the exams. It is essential that students work on these worksheets / homework assignments in class with the instructor or in small groups as directed.

Final Examination or Evaluation

There will be a final exam that will cover material from the course. It will mostly cover material from the latter part of the course, thus it won't be purely cumulative. However, it will include material from prior sections of the course depending on where the instructor feels there are gaps in the course.

Grading Information

Assignments	Percentage	Points
Worksheets	10%	100 total (10pts for each of 10Ws)
Exam 1	30%	300
Exam 2	30%	300
Final Exam	30%	300
Final Grade = Raw Score / Total Points + Calibrated Course Curve		

Determining Borderline Grades, Calibrated Curve, and Course Passing Grade

Students that attend class; work with the instructor; and work in small groups will be given the benefit of rounding up on borderline grades. That is, if you fall on a borderline between, say C+ and B-, then if you regularly came to class, and put in a solid effort, you will get the B-. The instructor will apply a course curve to your grade. This curve depends on the instructor's evaluation of the overall performance of the class relative to standards of competence in logic education. Finally, this course must be passed with a C- or better as a CSU graduation requirement.

Classroom Protocol

Although attendance is not graded, it is highly advised that students attend all classes for the purposes of engaging the material in a way that allows for optimal learning. Worksheets are primarily done in class with the instructor and other students. Cell phones should be turned off, and students should be respectful of others that are trying to learn. The expectation of the instructor is that students want to learn the material being taught, and that regardless of whether they are interested in every part of the material being taught, they will act so as not to disrupt those that are interested in learning the material.

University Policies

General Expectations, Rights and Responsibilities of the Student

As members of the academic community, students accept both the rights and responsibilities incumbent upon all members of the institution. Students are encouraged to familiarize themselves with SJSU's policies and practices pertaining to the procedures to follow if and when questions or concerns about a class arises. To learn important campus information, view University Policy S90–5 at http://www.sjsu.edu/senate/docs/S90-5.pdf. And also: http://info.sjsu.edu/static/catalog/policies.html. In general, it is recommended that students begin by seeking clarification or discussing concerns with their instructor. If such conversation is not possible, or if it does not address the issue, it is recommended that the student contact the Department Chair as the next step.

Dropping and Adding

Students are responsible for understanding the policies and procedures about add/drop, grade forgiveness, etc. Add/drop deadlines can be found on the current academic year calendars document on the Academic Calendars webpage at http://www.sjsu.edu/provost/services/academic_calendars/. The Late Drop Policy is available at http://www.sjsu.edu/aars/policies/latedrops/policy/**.** Students should be aware of the current deadlines and penalties for dropping classes.

Information about the latest changes and news is available at the Advising Hub at http://www.sjsu.edu/advising/.

Consent for Recording of Class and Public Sharing of Instructor Material

University Policy S12-7, http://www.sjsu.edu/senate/docs/S12-7.pdf, requires students to obtain instructor's permission to record the course and the following items to be included in the syllabus:

- "Common courtesy and professional behavior dictate that you notify someone when you are recording him/her. You must obtain the instructor's permission to make audio or video recordings in this class. Such permission allows the recordings to be used for your private, study purposes only. The recordings are the intellectual property of the instructor; you have not been given any rights to reproduce or distribute the material."
    - In classes where active participation of students or guests may be on the recording, permission of those students or guests should be obtained as well.
- "Course material developed by the instructor is the intellectual property of the instructor and cannot be shared publicly without his/her approval. You may not publicly share or upload instructor generated material for this course such as exam questions, lecture notes, or homework solutions without instructor consent."

Academic integrity

Your commitment, as a student, to learning is evidenced by your enrollment at San Jose State University. The University Academic Integrity Policy S07-2 at http://www.sjsu.edu/senate/docs/S07-2.pdf requires you to be honest in all your academic course work. Faculty members are required to report all infractions to the office of Student Conduct and Ethical Development. The Student Conduct and Ethical Development website is available at http://www.sjsu.edu/studentconduct/.

Campus Policy in Compliance with the American Disabilities Act

If you need course adaptations or accommodations because of a disability, or if you need to make special arrangements in case the building must be evacuated, please make an appointment with me as soon as possible, or see me during office hours. Presidential Directive 97-03 at http://www.sjsu.edu/president/docs/directives/PD_1997-03.pdf requires that students with disabilities requesting accommodations must register with the Accessible Education Center (AEC) at http://www.sjsu.edu/aec to establish a record of their disability.

Accommodation to Students' Religious Holidays

San José State University shall provide accommodation on any graded class work or activities for students wishing to observe religious holidays when such observances require students to be absent from class. It is the responsibility of the student to inform the instructor, in writing, about such holidays before the add deadline at the start of each semester. If such holidays occur before the add deadline, the student must notify the instructor, in writing, at least three days before the date that he/she will be absent. It is the responsibility of the instructor to make every reasonable effort to honor the student request without penalty, and of the student to make up the work missed. See University Policy S14-7 at http://www.sjsu.edu/senate/docs/S14-7.pdf.

Student Technology Resources

Computer labs for student use are available in the Academic Success Center at http://www.sjsu.edu/at/asc/ located on the 1st floor of Clark Hall and in the Associated Students Lab on the 2nd floor of the Student Union. Additional computer labs may be available in your department/college. Computers are also available in the Martin Luther King Library. A wide variety of audio-visual equipment is available for student checkout from Media Services located in IRC 112. These items include DV and HD digital camcorders; digital still cameras; video, slide and overhead projectors; DVD, CD, and audiotape players; sound systems, wireless microphones, projection screens and monitors.

SJSU Peer Connections

Peer Connections' free tutoring and mentoring is designed to assist students in the development of their full academic potential and to inspire them to become independent learners. Peer Connections tutors are trained to provide content-based tutoring in many lower division courses (some upper division) as well as writing and study skills assistance. Small

group and individual tutoring are available. Peer Connections mentors are trained to provide support and resources in navigating the college experience. This support includes assistance in learning strategies and techniques on how to be a successful student. Peer Connections has a learning commons, desktop computers, and success workshops on a wide variety of topics. For more information on services, hours, locations, or a list of current workshops, please visit Peer Connections website at http://peerconnections.sjsu.edu for more information.

SJSU Writing Center

The SJSU Writing Center is located in Clark Hall, Suite 126. All Writing Specialists have gone through a rigorous hiring process, and they are well trained to assist all students at all levels within all disciplines to become better writers. In addition to one-on-one tutoring services, the Writing Center also offers workshops every semester on a variety of writing topics. To make an appointment or to refer to the numerous online resources offered through the Writing Center, visit the Writing Center website at http://www.sjsu.edu/writingcenter. For additional resources and updated information, follow the Writing Center on Twitter and become a fan of the SJSU Writing Center on Facebook. (Note: You need to have a QR Reader to scan this code.)

SJSU Counseling and Psychological Services

The SJSU Counseling and Psychological Services is located on the corner of 7th Street and San Carlos in the new Student Wellness Center, Room 300B. Professional psychologists, social workers, and counselors are available to provide confidential consultations on issues of student mental health, campus climate or psychological and academic issues on an individual, couple, or group basis. To schedule an appointment or learn more information, visit Counseling and Psychological Services website at http://www.sjsu.edu/counseling

Philosophy 9 / Math & Logic, Spring 2017, Course Schedule

The schedule is subject to change with fair notice and how the notice will be made available. The instructor may change the pace of the material depending on how students are reacting and learning the material.

Course Schedule

Week	Date	Topics	Assignments & Readings
1	**R, Jan 26**	Course Introduction, Policies, and Expectations	*Get Acquainted with Website, Text, and Canvas Learning*
2	**T, Jan 31**	Basic Concepts of Formal Logic 1: The Subject Matter of Formal Logic	*Read*: Identifying Arguments
2	**R, Feb 2**	Exercises on Identifying Arguments	*Prepare for*: Exercises
3	**T, Feb 7**	Basic Concepts of Formal Logic 2: Formal Criteria for the Evaluation of Arguments	*Read*: Formal Criteria for Evaluation of Arguments
3	**R, Feb 9**	Exercises on Formal Criteria for Evaluating Arguments	*Prepare for*: Exercises on Formal Criteria for Evaluating Arguments
4	**T, Feb 14**	Formal Systems: Propositional Logic and Translation	*Read:* Language of Propositional Logic, Translation into Propositional Logic
4	**R, Feb 16**	Exercises on the Language of Propositional Logic	*Prepare for*: Exercises on the Language of Propositional Logic
5	**T, Feb 21**	Exercises on Translation	*Prepare for*: Exercises on Translation
5	**R, Feb 23**	Exercises on Translation	*Prepare for*: Exercises on Translation
6	**T, Feb 28**	Exercises on Translation	*Prepare for*: Exercises on Translation **Exam 1 Passed Out: Take Home**
6	**R, Mar 2**	**Work on Exam**	
7	**T, Mar 7**	Formal Methods of Evaluation: Truth-Tables	*Read*: Truth-Table Analysis **Exam 1 Turned In**
7	**R, Mar 9**	Exercises on Truth-Tables	*Prepare for*: Exercise on Truth-Tables
8	**T, Mar 14**	Exercises on Truth-Tables	*Prepare for*: Exercise on Truth-Tables
8	**R, Mar 16**	Formal Methods of Evaluation: Truth-Trees	*Read*: Truth-Tree Analysis
9	**T, Mar 21**	Exercises on Truth-Trees	*Prepare for:* Exercise on Truth-Trees

Week	Date	Topics	Assignments & Readings
9	**R, Mar 23**	Exercises on Truth-Trees	*Prepare for*: Exercises on Truth-Trees **Exam 2 Passed Out: Take Home**
10	**T, Mar 28**	No Class: Spring Break	
10	**R, Mar 30**	No Class: Spring Break	
11	**T, Apr 4**	Formal Methods of Evaluation: Natural Deduction	*Read*: Natural Deduction **Exam 2 Turned In**
11	**R, Apr 6**	Exercises on Natural Deduction for Propositional Logic	*Prepare for*: Exercises on Natural Deduction
12	**T, Apr 11**	**Home Study: Rules of Inference**	
12	**R, Apr 13**	**Home Study: Rules of Replacement**	
13	**T, Apr 18**	Exercises on Natural Deduction for Propositional Logic	*Prepare for*: Exercises on Natural Deduction
13	**R, Apr 20**	Exercises on Natural Deduction for Propositional Logic	*Prepare for*: Exercises on Natural Deduction
14	**T, Apr 25**	Exercises on Natural Deduction for Propositional Logic	*Prepare for*: Exercises on Natural Deduction
14	**R, Apr 27**	Formal Methods of Evaluation: Quantitative Reasoning	*Read*: Quantitative Reasoning
15	**T, May 2**	Exercises on Quantitative Reasoning	*Prepare for*: Exercises on Quantitative Reasoning
15	**R, May 4**	Exercises on Quantitative Reasoning	*Prepare for*: Exercises on Quantitative Reasoning
16	**T, May 9**	Exercises on Quantitative Reasoning	*Prepare for*: Exercises on Quantitative Reasoning
16	**R, May 11**	Exercises on Quantitative Reasoning	*Prepare for*: Exercises on Quantitative Reasoning
1	**T, May 16**	Exercises on Quantitative Reasoning	*Prepare for*: Exercises on Quantitative Reasoning
Final Exam	**T, May 23**	**Final Exam: 9:45-12:00 BBC 203**	