

## Syllabus

### Internet Resources:

[Stanford Encyclopedia  
of Philosophy](#)

- [Classical Logic](#)
- [Intuitionistic  
Logic](#)
- [Paraconsistent  
Logic](#)
- [Modal Logic](#)

[LaTeX for Logicians](#)

## Syllabus

Advanced Logic

PHIL 6220-04, Autumn 2018

Instructor: Joe Salerno

Office: 207 Adorjan Hall

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### Books Required:

- *Logics* (L), by John Nolt (Wadsworth Publishing Co.)
- *Logic for Philosophy* (LP), by Ted Sider (Oxford)
- *Modal Logic Primer* (MLP), by Joe Salerno (manu to be provided)

**Outcomes:** The student in this course should walk away with a deeper formal understanding of logical concepts such as consistency, validity, and contingency, and have the tools to evaluate formally propositional, predicate and modal reasoning. Areas of non-classical logic will be explored along the way.

Schedule: the following is a schedule of material we will be covering, roughly in order, and at a speed that depends on the majority of the class.

### PART 1: Propositional Logic

Review and Basics

Classical Propositional Logic

What is Logic? Chapter 1 (LP)

Syntax: Chapters 2.2-2.3 (L)

Semantics: Chapters 3.1-3.2 (L)

Semantics: 2.1.-2.4 (LP)

Semantics continued

Semantic Trees: Chapter 3.3 (L)

MetaTheory: Mixed Strategies, Mathematical Induction, Decidability, Soundness and Completeness

MetaTheory: Chapter 5 (L)

Non-Classical Propositional Logics

## **Part 2: Predicate Logic**

Classical Predicate Logic

Syntax: 6.1-6.3 (L)

Translations (Handout)

Semantics: 7.4 (L)

Chapter 4.1-4.3, 4.5 (LP)

## **Part 3: Modal Logic**

Modal Propositional Logic

Proof Theory: Chapter 1 (MLP)

Basic Possible World Semantics: Chapter 2 (MLP)

Kripke Semantics: Chapter 3 (MLP)

Counterfactual and Indicative Conditionals: Chapter 4 (MLP)

Quantified Modal Logic (MLP)

## **Quizzes**

Sept 3

Sept 10

Sept 17

Sept 24

Oct 1

Oct 8

Nov 5

Nov 12

Nov 19

Dec 3

If we don't get to the quiz for whatever reason on the scheduled day, then it will be on the following day.

**Midterm Exam:** October 17th. Class time.

**Final Exam:** December (to be discussed with class, December 12th?).

**Grading:** Grading will be based upon the performance on the 10 quizzes (2% each) and 2 exams (40% each), with such things as improvement or serious deterioration in performance, class participation, and willingness to seek help with course material being taken into account where appropriate. Exams will be graded on roughly the following 0-100 point scale:

A: 90-100

B+: 87-89

B: 80-86

This grading scale was designed to fit the following interpretation of the various grades:

A: A solid performance that reveals no fundamental shortcomings either in understanding or ability to discuss the material.

B+: A few serious shortcomings (or perhaps a number of minor ones) but still clearly above a minimally acceptable performance.

B: A minimally acceptable performance, probably revealing a good number of serious shortcomings.

C+ or Lower: Not a minimally acceptable performance, even if there is some evidence that something has been learned.

## Title IX

Saint Louis University and its faculty are committed to supporting our students and seeking an environment that is free of bias, discrimination, and harassment. If you have encountered any form of sexual misconduct (e.g. sexual assault, sexual harassment, stalking, domestic or dating violence), we encourage you to report this to the University. If you speak with a faculty member about an incident of misconduct, that faculty member must notify SLU's Title

IX coordinator, Anna R. Kratky (DuBourg Hall, room 36; [akratky@slu.edu](mailto:akratky@slu.edu); 314-977-3886) and share the basic facts of your experience with her. The Title IX coordinator will then be available to assist you in understanding all of your options and in connecting you with all possible resources on and off campus.

If you wish to speak with a confidential source, you may contact the counselors at the University Counseling Center at 314-977-TALK. To view SLU's sexual misconduct policy and for resources, please visit the following web addresses: [www.slu.edu/here4you](http://www.slu.edu/here4you) and <https://www.slu.edu/general-counsel>.

## Disability Services

Students with a documented disability who wish to request academic accommodations must contact Disability Services to discuss accommodation requests and eligibility requirements. Once successfully registered, the student also must notify the course instructor that they wish to access accommodations in the course.

Please contact Disability Services, located within the Student Success Center, at [Disability\\_services@slu.edu](mailto:Disability_services@slu.edu) or 314.977.3484 to schedule an appointment. Confidentiality will be observed in all inquiries. Once approved, information about the student's eligibility for academic accommodations will be shared with course instructors via email from Disability Services and viewed within Banner via the instructor's course roster.

Note: Students who do not have a documented disability but who think they may have one are encouraged to contact Disability Services.

## Academic Integrity

*Academic integrity is honest, truthful and responsible conduct in all academic endeavors.* The mission of Saint Louis University is "the pursuit of truth for the greater glory of God and for the service of humanity." Accordingly, all acts of falsehood demean and compromise the corporate endeavors of teaching, research, health care, and community service via which SLU embodies its mission. The University strives to prepare students for lives of personal and professional integrity, and therefore regards all breaches

of academic integrity as matters of serious concern.

The governing University-level Academic Integrity Policy was adopted in Spring 2015, and can be accessed on the Provost's Office website at: [https://www.slu.edu/provost/policies/academic-and-course/policy\\_academic-integrity\\_6-26-2015.pdf](https://www.slu.edu/provost/policies/academic-and-course/policy_academic-integrity_6-26-2015.pdf).

Additionally, each SLU College, School, and Center has adopted its own academic integrity policies, available on their respective websites. All SLU students are expected to know and abide by these policies, which detail definitions of violations, processes for reporting violations, sanctions, and appeals. Please direct questions about any facet of academic integrity to your faculty, the chair of the department of your academic program, or the Dean/Director of the College, School or Center in which your program is housed.

## **Student Success Center**

In recognition that people learn in a variety of ways and that learning is influenced by multiple factors (e.g., prior experience, study skills, learning disability), resources to support student success are available on campus. The Student Success Center assists students with academic-related services and is located in the Busch Student Center (Suite, 331). Students can visit <https://www.slu.edu/life-at-slu/student-success-center/> to learn more about tutoring services, university writing services, disability services, and academic coaching.

## **University Writing Services**

Students are encouraged to take advantage of University Writing Services in the Student Success Center; getting feedback benefits writers at all skill levels. Trained writing consultants can help with writing projects, multimedia projects, and oral presentations. University Writing Services offers one-on-one consultations that address everything from brainstorming and developing ideas to crafting strong sentences and documenting sources. For more information, visit <https://www.slu.edu/life-at-slu/student-success-center/> or call the Student Success Center at 314-977-3484.

## **Basic Needs Security**

Students in personal or academic distress and/or who may be specifically experiencing challenges such as securing food or difficulty navigating campus resources, and who believe this may affect their performance in the course, are encouraged to contact the Dean of Students Office ([deanofstudents@slu.edu](mailto:deanofstudents@slu.edu) or 314-977-9378) for support. Furthermore, please notify the instructor if you are comfortable in doing so, as this will enable them to assist you with finding the resources you may need.

Subpages (1): [Advanced Logic Fall 2011](#)