

# SEMANTICS

01:615:325 ❖ Spring 2023

## Course Overview .....

<b>Time</b>	Tuesday & Friday, 12:10 – 1:30PM
<b>Location</b>	Scott Hall 206
<b>Instructor</b>	Tatevik Yolyan ( <a href="mailto:tatevik.yolyan@rutgers.edu">tatevik.yolyan@rutgers.edu</a> )
<b>Office Hours</b>	Wednesday, 12:00 - 1:00PM (over Zoom)

## Course Description .....

In any formal system, syntax is the description of structure (i.e. how symbols come together to form interpretable units), and semantics is the description of how those units are interpreted. In this course we will explore the **relationship between structure and interpretation in natural language** and how the meaning of a sentence is derived from its structure.

As language users, we are able to interpret the meanings of new sentences which we have not encountered before, and we are able to do this instantaneously as we speak to one another. As semanticists, we want to understand how it is that we piece together the meanings of new utterances. In general, we use empirical data to understand how various structures are interpreted, and we use formal tools from mathematics and logic to build a model of meaning that reflects our empirical findings. Semantics is therefore the **scientific study of meaning in natural language**.

## Important Dates .....

<b>Instruction Days</b>	January 17 – April 28
<b>Last day to drop without W</b>	January 26 (Thursday)
<b>Spring Break</b>	March 11 – March 19
<b>Last day to drop with W</b>	March 20 (Monday)
<b>Final Exam</b>	May 4 (Thursday)

## Prerequisite .....

The prerequisite for taking this course is **Introduction to Linguistic Theory (01:615:201)**. While a background in mathematics and logic will be useful for the course, it is not required. This class is fully self-contained and we will spend the first few weeks learning all the necessary formal tools needed for semantic analysis.

## Learning Goals .....

Upon successful completion of the course, students will be able to:

- Reason about language scientifically
- Investigate and analyze linguistic data
- Apply mathematics and logic in modeling natural language meaning
- Understand the relation between structure and meaning of natural language expressions
- **For majors and minors:** Add to your technical and conceptual repertoire in the field of linguistics as you complete a (core) course as part of your major or minor.

**Materials**.....

We will use the following text in this course, in addition to extra resources that will be provided on Canvas.

- Coppock, Elizabeth and Lucas Champollion. 2022 Draft. *Invitation to Formal Semantics*.

Downloadable at: [eecoppock.info/semantics-boot-camp.pdf](http://eecoppock.info/semantics-boot-camp.pdf)

You do not need to buy a textbook for this class.

**Student Support Hours**.....

There is a designated student support hour (aka office hour) every week. For additional support, you can also schedule a meeting with me personally.

Student support hours can be used to discuss a variety of things, including (but not limited to) material taught in class, practice problems from class, feedback on graded homework assignments, careers in linguistics, graduate school, and any personal accommodations you may need in the course. Here is some information to keep in mind regarding student support hours:

- All meetings will be held over Zoom unless you specify preference for an in-person meeting.
- To schedule a meeting outside of the usual hours, please email me to make arrangements. Requests for meetings should be done at least one day in advance.
- Student support hours cannot be used to get help on homework assignments.

**Assessment**.....

Your grade in the course will be based on participation, homework assignments, two quizzes, and a final exam. The grade breakdown for the class is as follows:

Participation	10%
Homeworks	50%
Quizzes	20%
Final Exam	20%

- **Participation.** Active participation in this class comes in many forms, and includes attending class, asking/answering questions, and working on practice problems during class. If you have to miss several class meetings, participation may also take the form of attending student support hours to catch up.
- **Homework.** There will be 7 homework assignments in total, with the lowest grade being dropped. Homework assignments will be available on Canvas on Fridays, and will be due the following Thursday. Assignments must be submitted on Canvas, preferably in PDF format. You do not need to type up assignments (and doing so may take up a very extensive amount of time), but you need to make assignments as legible as possible. Please scan the pages rather than submitting photos.
- **Quizzes.** In place of a midterm exam, there will be 2 short quizzes that will be taken during class time – one covering the material in Unit 1, and the other covering material in Unit 2. The quizzes are intended to serve as checkpoints to ensure that you are keeping up with the material. Each of these quizzes counts as 10% of your total grade.
- **Final Exam.** The final exam will be cumulative, but with much greater emphasis placed on the material covered in Unit 3. The final exam is worth 20% of the final grade in the course.

- **Extra Credit.** Some faculty and graduate students in the Department of Linguistics do experimental research on language. This research depends on the participation of undergraduate students. You can get up to 2 extra credit points added onto your grade by participating in experiments through the department experiment management system (sona) at: <http://rutgerslinguistics.sona-systems.com>

Grades are assigned according to the following scale:

A	B+	B	C+	C	D	F
> 90	85 – 89.9	80 – 84.9	75 – 79.9	70 – 74.9	60 – 69.9	< 60

## Attendance.....

Attendance is crucial for success in this class. Because of the nature of the material covered, it can be very difficult to learn on your own if you do not attend class regularly. Class time will be structured so that you get a chance to practice any new material that you learn, and get useful feedback based on yours and your peers' questions. The active learning component of the course cannot be substituted by reading the lecture materials alone. It is therefore very important to attend class whenever you can.

If you do miss a class, you are responsible for reading the relevant course materials and attempting the practice problems from class on your own. If you need help catching up, please schedule a meeting with me.

- **Reporting Absences.** If you anticipate that you will be absent for whatever reason, please report your absence via the Self-Reporting Absence Application at the following link: <https://sims.rutgers.edu/ssra/>
- **Religious Observance.** University policy excuses absences due to religious observance and allows make-up work under these circumstances. To learn more about religious observance policies at Rutgers, visit the following link: <https://studentsupport.rutgers.edu/services/absence-and-verification-notice/absences-for-religious-obligations>.
- **Dean of Students.** If you are absent for several class meetings due to illness or personal obstacles, please reach out to me as soon as possible. In these cases, you should also contact the Dean of Students ([deanofstudents@echo.rutgers.edu](mailto:deanofstudents@echo.rutgers.edu)) in order to get special accommodations for make-up work. You can learn more about this at the following link: <https://studentsupport.rutgers.edu/services/absence-and-verification-notice>.

## Academic Integrity.....

Students are expected to maintain academic integrity and be familiar with Rutgers's **Academic Integrity Policies**, which are available at: <http://nbacademicintegrity.rutgers.edu/home/academic-integrity-policy/>.

Rutgers University takes academic dishonesty very seriously. By enrolling in this course, you assume responsibility for familiarizing yourself with the Academic Integrity Policy and the possible penalties (including suspension and expulsion) for violating the policy. As per the policy, all suspected violations will be reported to the Office of Student Conduct.

Academic dishonesty includes (but is not limited to): Cheating; Plagiarism; Aiding others in committing a violation or allowing others to use your work; Failure to cite sources correctly; Fabrication; Using another person's ideas or words without attribution, including re-using a previous assignment; Unauthorized collaboration; Sabotaging another student's work. If you are ever in doubt, consult your instructor.

**Schedule**.....

The following table provides a tentative schedule for the materials that will be covered.

Week	Dates	Topic	Assessment	Learning Goals
1	1/17 - 1/20	Introduction		What is semantics?
<b>Unit 1: Formal Tools</b>				
2	1/24 - 1/27	Sets, Relations, Functions		Understand applications and limitation of logic for modeling meaning in natural language.
3	1/31 - 2/3	Propositional Logic	HW 1 Due	
4	2/7 - 2/10	Predicate Logic		
5	2/14 - 2/17	Predicate Logic (cont.)	HW 2 Due	
<b>Unit 2: Compositionality</b>				
6	2/21 - 2/24	Types	Unit 1 Quiz	Understand the principle of compositionality and formally capture the relationship between structure and meaning.
7	2/28 - 3/3	Lambda Calculus	HW 3 Due	
8	3/7 - 3/10	Lambda Calculus (cont.)	HW 4 Due	
9	3/14 - 3/17	<b>Spring Break</b>		
10	3/21 - 3/24	Compositional Rules	Unit 2 Quiz	
11	3/28 - 3/31	TBD	HW 5 Due	
<b>Unit 3: Semantic Interpretation</b>				
12	4/4 - 4/7	Quantifiers		Apply the formal tools in the previous units to various semantic puzzles.
13	4/11 - 4/14	Scope and Ambiguity	HW 6 Due	
14	4/18 - 4/21	Intensional Semantics	HW 7 Due	
15	4/25 - 4/28	TBD		
	5/4	<b>Final Exam (12:00 - 3:00PM)</b>		

■ **Flexibility in Planning.** The last weeks of Unit 2 and Unit 3 are marked as TBD in order to allow for flexibility in the course schedule. These weeks can be used to review the material in the unit, go over graded homework assignments, discuss a topic in the unit in more depth, or cover the material in the unit at a slower pace. What we do in each of these weeks will depend on the needs of the class.

■ **Assessments.** Homework is assigned on Friday, covers the material from that week, and is due on the following Thursday. For example, HW1 will be assigned on Friday 1/27, covers the material from Week 2, is due on Thursday 2/2. Quizzes will be given on the Friday of the week where they are listed, and will take up approximately half of the class time.

**Student Services**.....

■ **Disability Services.** Rutgers University welcomes students with disabilities into all of the University's educational programs. In order to receive consideration for reasonable accommodations, a student with a disability must contact the appropriate disability services office at the campus where you are officially enrolled, participate in an intake interview, and provide documentation. You can learn more about this process at the following link: <http://ods.rutgers.edu/students/documentation-guidelines>.

If the documentation supports your request for reasonable accommodations, the Disability Services Office will provide you with a Letter of Accommodations. Please share this letter with me and discuss the accommodations with me as early in the course as possible. To begin this process, complete the Registration form on the ODS web site at: <https://webapps.rutgers.edu/student-ods/forms/registration>.

■ **Counseling Services.** CAPS is a University mental health support service that includes counseling, alcohol and other drug assistance, and psychiatric services staffed by a team of professional within Rutgers Health services to support students' efforts to succeed at Rutgers University. CAPS offers a variety of services that include: individual therapy, group therapy and workshops, crisis intervention, referral to specialists in the community and consultation and collaboration with campus partners. Call (848) 932-7884 or visit <http://health.rutgers.edu/medical-counseling-services/counseling/>

■ **Student Support and Mental Wellness Services.**

- Student Success Essentials: <https://success.rutgers.edu>
- Student Support Services: <https://www.rutgers.edu/academics/student-support>
- The Learning Centers: <https://rlc.rutgers.edu/>
- The Writing Centers: <https://writingctr.rutgers.edu>
- Rutgers Libraries: <https://www.libraries.rutgers.edu/>
- Office of Veteran and Military Programs and Services: <https://veterans.rutgers.edu>
- Student Health Services: <http://health.rutgers.edu/>
- Office for Violence Prevention and Victim Assistance: <http://www.vpva.rutgers.edu/>