Course website: https://sites.google.com/site/logicbraden/
Instructor: Cherie Braden (cherie.braden@gmail.com)
Office hours: via Skype; Saturdays 2–4 p.m. and by appointment.
My Skype name: cheryllaynemarie (also searchable by my gmail address)

COURSE CATALOG DESCRIPTION

“Introduction to formal logic, covering truth functional propositional logic and quantification theory. Emphasis on developing symbolic techniques for representing and evaluating arguments.”

LEARNING GOALS

This course fulfills the QR goal for mathematical or formal reasoning. The School of Arts and Science’s Core Curriculum information is available here: http://sasundergrad.rutgers.edu/academics/requirements/core.

REQUIRED ON-CAMPUS FINAL EXAM

Thursday, May 5, 8 a.m. to 11 a.m. in Voorhees 105 on the Rutgers College Avenue Campus. See the final exam section of the syllabus for more information and alternative arrangements (which are limited, so do check this now).

TEXTBOOK & MATERIALS

Required: A Concise Introduction to Logic, 12th Edition:

It is very important to have the correct edition of the book. As long as you have the right edition, it’s okay to get a used copy. New copies come with some online tools and exercises that you may find helpful, but you will not be required to use these. You must have your book by January 27, which is the last day to add classes (January 26 is the last day to drop). I have scanned the first and second weeks’ reading to give people time to purchase the book.

This class does not have a scheduled online meeting time, although we will have an ongoing discussion forum. We are using Google Sites because of continuing issues with Rutgers servers. Also because of these issues, we will use non-Rutgers email
addresses, preferably gmail addresses, to communicate during the course. So please send me your non-Rutgers email address as soon as possible. Once I have that address, I will send all communications to that address, to avoid any confusion that might arise from switching back and forth.

I realize that students on campus may nonetheless experience difficulty accessing the internet if there is a DDoS attack, but you will need to find internet access when necessary (whether at a coffee shop, by tethering your phone, or by some other use of your ingenuity).

**TIME INVESTMENT & TUTORING**

Logic is one of the more difficult 200-level courses at Rutgers. If you don't have previous experience with logic or computer science (and perhaps even if you do), be prepared to work hard. Expect an average of 5-10 hours of work per week, depending on your adeptness at the subject. Some students end up needing tutoring. As of yet, no walk-in logic tutoring is listed on the Rutgers tutoring site ([https://rlc.rutgers.edu/student-info/walk-in-group-tutoring](https://rlc.rutgers.edu/student-info/walk-in-group-tutoring)) for this semester, but please check in again later (usually they have a logic tutor). If they don't get a logic tutor, you can try writing to them to ask for one-on-one sessions ([https://rlc.rutgers.edu/sas-one-on-one-tutoring](https://rlc.rutgers.edu/sas-one-on-one-tutoring)). If neither of these works out, you still have the option of making appointments with me, and you can get peer help on the forum.

**COURSE INFORMATION**

The most important thing to realize in this class is that logic is cumulative. If you skip earlier work, you won't be able to understand later work. Each assignment builds on the last. And it gets more and more difficult. Every week will involve reading, a video lecture, and homework.

**COURSE GRADE BREAKDOWN**

50% Weekly Assignments  
20% Quizzes  
10% Forum Participation  
20% Final Exam

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<thead>
<tr>
<th>Grade</th>
<th>Percentage</th>
<th>Description</th>
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<tr>
<td>A</td>
<td>91–100</td>
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<td>B+</td>
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<td>D</td>
<td>65–69</td>
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<td>F</td>
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**Weekly Assignments 50%**

There will be 13 weekly homework assignments. I will drop one homework grade from your final average, *if and only if you turn in every homework assignment and receive a grade higher than zero on every homework assignment*. Be careful. Because each week's work will be more difficult than the last, you would be wise to
do as well as you can on each assignment. Each homework assignment counts for approximately 3.6–3.9% of your final grade, depending on whether you earn the privilege of having one homework grade dropped.

Send all parts of a single week’s assignments in a single file if possible. Title your file LastNameFirstInitialAssignment#. For example, if Masha Dostoevsky is turning in assignment 5, she will title the file DostoevskyM5.

**Late work:** I will deduct 10 additional points for each day that an assignment is late. Late work also throws off your grade reports. If you want an accurate progress report, please turn in your work on time.

**Quizzes 20%**

There will be five quizzes over the course of the semester, and I will drop one quiz grade from your final average. This means each quiz counts for 5% of your final average. Quizzes might involve vocabulary, concepts, proofs, truth tables, etc. Quizzes will be available on the course website, and are open-book. You may not work on quizzes with other students. You may not get help from anyone, but you are allowed to use your book and lectures. Late quizzes will not be accepted. Questions on the final exam will resemble (but not be identical to) quiz questions.

**Forum Participation 10%**

Here you are free to get help from your peers (and offer help). If you have a question about the material, as long as it is not something that pertains only to you or that is personal, I encourage you to ask it in the forum, because others might have the same question. Do not post answers to homework, quiz, or test questions for all to see. I encourage you to help each other using explanation and conversation, but never simply give answers. Never post a screenshot unless I have explicitly given you permission to do so.

Your participation grade in this course will be based on how active, helpful, and inquisitive you are in the forum. I will judge participation by looking at the frequency with which you contribute quality posts to the forum.

Your participation score counts as 10% of your course grade, and you will be able to see how you’re doing when it comes to participation by looking at your grade reports. But keep in mind that this score can go up or down during the semester, depending on how well you participate. For example, the first progress report might show that you have 8/10 for participation, but if you participate less afterward, it will go down. If you improve, it will go up. The reason I am doing it this way is so that you can keep track of exactly how you are doing in the class. In my view, a course grade should not come as a surprise: you have the power to control your grade by monitoring your own progress and finding ways to improve.
SAMPLE GOOD FORUM POSTS:

“I find it easier to do this proof if you work backwards from the conclusion. You know you have to prove that the negation of the conclusion generates the contradiction, so see what you can accomplish by assuming the negation.” (This helps with a strategy.)

“Your question about this proof is answered in the explanation on page 145.”

“You have to show that x applies to every premise before you can use induction to add a universal quantifier.” (This explains a concept.)

“My version of the proof had 12 steps, and I had to make two assumptions.” (These are broad hints.)

SAMPLE BAD FORUM POSTS:

Sharing an entire proof (This is unacceptable.)

“Step 3 should use conjunction introduction to combine A and C.” (This hint is too specific, and is unacceptable.)

“I don’t know. Just try it again.” (This isn’t helpful.)

“You can find the answer at www.randowebsite.com.” (This is cheating.)

NEVER SHARE A PICTURE OR SCREENSHOT WITHOUT MY EXPLICIT PERMISSION.

These examples are just guidelines. Use your judgment, and ask me first when you aren’t sure if a hint is acceptable for the forum. But I do encourage you to help each other. Give guidance, not answers.

Midterm Exam: None

There is no midterm exam in this class.

Final Exam 20%

The final exam will be the only closed-book test we have in this class. Questions on the final exam will resemble (but not be identical to) quiz questions. Bring pencils or pens and your RUID to the exam. You will be given a blue book in which to answer questions and do proofs. See the first page of the syllabus for more information.
You will not be able to take the exam without presenting an RUID. Because I am in Canada, you will not be able to schedule your exam for another day. If you are unable to be on campus for the final exam, you will be required to do one of the following things instead: a. take the final exam at a different recognized campus or test location, with a proctor approved by me, and show that proctor your RUID, or b. arrange to take the final exam using ProctorTrak, the online proctoring system presently affiliated with Rutgers. Using ProctorTrak will involve your granting a representative of that company access to your webcam, and will also cost you something in the neighborhood of $30-$40. If none of these options will work for you, you’ll need to look into switching out of the class. If you take one of the alternate options, you will need to make the alternate arrangements by April 15.

COURSE WEBSITE

Assignments each week will be posted under Assignments on the course website. Due dates will be listed here and on the course calendar. It will be your responsibility to save this information offline (e.g., on your computer or by writing it down) in case you lose internet access. You are responsible for keeping up in the course even if the internet goes down on campus.

PROGRESS REPORTS

I use Gradebook Pro on my iPad to keep track of your grades. I will send grade reports roughly every two to three weeks (these get delayed for everyone when some students turn in late work!). Reports are broken down by category. Unfortunately, my iPad won’t allow me to use my gmail address to send these reports. You will receive them from my icloud account. DO NOT REPLY DIRECTLY TO PROGRESS REPORT EMAILS. If you have concerns about your grade reports, please write to me at my gmail address.

ABSENCES

Because this is an online course, there’s really no such thing as an absence. Because you have about a week to complete each assignment, there are very few legitimate excuses for getting behind. If you find yourself in unexpected and inevitable circumstances, please get in touch with me immediately, and be prepared to provide documentation for serious illnesses or emergencies. If you find yourself falling behind in classes because of personal issues or emergencies, academic advising is there to help get you back on track: http://sasundergrad.rutgers.edu/academics/advising/advising-centers

REVIEW WEEK

I will be busy organizing a conference from April 27–30, but I will be in New Jersey on those days, and I may be able to meet students in person, by appointment, on the
28th. I will be available for Skype appointments on the remaining days of our exam review week.

**COURSE PLAN:** See website for individual lectures, slides, readings, quizzes, and assignments. New material will be available by the beginning of each week.

<table>
<thead>
<tr>
<th>SCHEDULE</th>
<th>TOPICS</th>
<th>ASSIGNMENT DUE DATE (by 5 pm on Sunday afternoons)</th>
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<tbody>
<tr>
<td></td>
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<td><em>(due date January 31 for students who first appear on class roster January 22 or after)</em></td>
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<tr>
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<td><em>(due date February 2 for students who first appear on class roster January 22 or after)</em></td>
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<tr>
<td>February 1−7</td>
<td>3. <em>Boolean Operators and Truth Tables</em> (Hurley 6.1−6.4)</td>
<td>Sunday, February 7</td>
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<td><em>QUIZ 1</em></td>
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<td>February 8−14</td>
<td>4. <em>More on Propositional Logic</em> (Hurley 6.5−end of chapter)</td>
<td>Sunday, February 14</td>
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<td>February 15−21</td>
<td>5. <em>Rules of Implication and Replacement; iff and other translations</em> (Hurley 7.1−7.4; online slides)</td>
<td>Sunday, February 21</td>
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<td><em>QUIZ 2</em></td>
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<td>February 29−March 6</td>
<td>7. <em>Types of Truths; Practice with Proofs</em> (slides online)</td>
<td>Sunday, March 6</td>
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<td>March 7−13</td>
<td>8. <em>Possible Worlds; The Implication Rabbit Hole in Philosophy; Material Implication Games</em></td>
<td>Sunday, March 13</td>
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<td><em>QUIZ 3</em></td>
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<td>SPRING BREAK</td>
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<td>No Work</td>
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<td>March 21−27</td>
<td>9. <em>Introduction to Quantifiers</em> (Hurley 4.1−4.3)</td>
<td>Sunday, March 27</td>
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<tr>
<td>March 28−April 3</td>
<td>10. <em>Predicate Logic</em> (Hurley 8.1−8.3)</td>
<td>Sunday, April 3</td>
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<tr>
<td>April 4−10</td>
<td>11. <em>More Predicate Logic</em></td>
<td>Sunday, April 10</td>
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<td>Event Description</td>
<td>Deadline Date</td>
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<td>April 11–17</td>
<td>12. Practice with Proofs (slides online)</td>
<td>Sunday, April 17</td>
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<td>April 18–24</td>
<td>13. Probability in Formal Philosophy (selections from Hurley Chapter 11)</td>
<td>Sunday, April 24 (Quiz 5 also due)</td>
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<td>April 25–May 2</td>
<td>Review Week (No Homework)</td>
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<td></td>
<td><strong>FINAL EXAM (in person; bring RUID and pencils/pens)</strong></td>
<td>Thursday, May 5, 8–11 a.m., 105 Voorhees Hall</td>
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</tbody>
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**ACADEMIC INTEGRITY**

“Violations include cheating, fabricating, plagiarism,” and “facilitating violations of academic integrity” (aiding and abetting). See the following link for more information on the university's policy:

http://academicintegrity.rutgers.edu/academic-integrity-policy#I_AcademicIntegrity

**OTHER INFORMATION FROM THE UNIVERSITY**

Full disability policies and procedures are at http://disabilityservices.rutgers.edu/

Students with disabilities requesting accommodations must follow the procedures outlined at http://disabilityservices.rutgers.edu/request.html

**Student-Wellness Services:**

**Just In Case Web App**

http://codu.co/cee05e

Access helpful mental health information and resources for yourself or a friend in a mental health crisis on your smartphone or tablet and easily contact CAPS or RUPD.

**Counseling, ADAP & Psychiatric Services (CAPS)**

(848) 932-7884 / 17 Senior Street, New Brunswick, NJ 08901 / rhscaps.rutgers.edu/

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.

**Violence Prevention & Victim Assistance (VPVA)**
(848) 932-1181 / 3 Bartlett Street, New Brunswick, NJ 08901 / [vpva.rutgers.edu](http://vpva.rutgers.edu/)
The Office for Violence Prevention and Victim Assistance provides confidential crisis intervention, counseling and advocacy for victims of sexual and relationship violence and stalking to students, staff and faculty. To reach staff during office hours when the university is open or to reach an advocate after hours, call 848-932-1181.

**Disability Services**
(848) 445-6800 / Lucy Stone Hall, Suite A145, Livingston Campus, 54 Joyce Kilmer Avenue, Piscataway, NJ 08854 / [https://ods.rutgers.edu/](https://ods.rutgers.edu/)
The Office of Disability Services works with students with a documented disability to determine the eligibility of reasonable accommodations, facilitates and coordinates those accommodations when applicable, and lastly engages with the Rutgers community at large to provide and connect students to appropriate resources.

**Scarlet Listeners**
Free and confidential peer counseling and referral hotline, providing a comforting and supportive safe space.