BLHV-254 - Basic Logic/Critical Thinking

Fall 2018 – Section 101
Georgetown University – Bachelor of Arts in Liberal Studies

June 13, 2018

This is a provisional syllabus.
The official version will be available on the course website.

1 Course Description and Objectives

This course is about critical thinking. We will understand "critical thinking" as the activity of analyzing whether arguments are valid. An argument proposes that one or more statements follow from (or is a conclusion of) one or more other statements (premises or evidence statements). Do the alleged conclusions really follow from the premises or evidence? Why or why not? To answer these questions, we will learn first order logic, and use that as our basic tool for analysis. In particular, we will learn how to formulate statements precisely so there is no ambiguity, we will learn how to build models of the situations we want to talk about, and we will learn a variety of proof systems that give us a fairly systematic way of deciding if arguments are valid.

2 Contact Information and Office Hours

- Contact me by email, at **jt.paasch@gmail.com**.

- Do **not** try to contact me through my georgetown email address (which is jp475@georgetown.edu). It is not reliable, and it is likely your message will not reach me.

- I have **no physical office hours**, but we can **schedule a call** if you would like to talk (e.g., we can talk by phone or Skype).

3 Class Meetings

- This course is **100% online**.

- You do **not** need to visit any physical classrooms for this course.

- You **do** need a computer and an internet connection, since the course is online.

- You **do** need to complete all assignments online each week (see the next section).

4   Assignments

Each week, you will need to complete five assignments. All of these can be found on the course website. They are clearly marked, and they are advertised in the course website's home feed each week, so that you can find them easily. Here are the five assignments:

- **Reading**: each week, you must complete a reading assignment. All required texts can be downloaded from the course website.

- **Lectures**: each week, you must watch a number of online lectures. All required lecture videos can be watched from the course website.

- **Quizzes**: each week, you must complete one or more online quizzes, which will ask you questions about the reading and lectures. All quizzes are administered by the course website's quiz system, but they are clearly marked and advertised each week so that they are easy to find. To take each week's quizzes, you will log on to the course website, navigate to that week's quizzes, and click the "start quiz" button for each one. The course website will then guide you through the quiz.

- **Writing**: each week, you must submit a writing assignment. The instructions that tell you exactly what to write each week can be found on the course website. Under each writing assignment, there is button you can click to upload your writing assignment. When you have completed your writing assignment, you will click the "upload" button, and follow the instructions to upload your assignment. All writing assignments must be uploaded to the course website in this way. I will not accept any physical copies.

- **Peer Review**: each week, you must complete 3 peer reviews — i.e., you will grade 3 of your peers' writing assignments from the previous week. This is anonymous, and the grades you assign are not real grades. However, you will be graded (by me) for doing a good job (or not). The instructions that tell you exactly how to review each assignment are posted on the course website along with the writing assignments, so you will know exactly what you are supposed to grade your peers on. You will also receive an automated email each week that contains that week's peer review assignments, so that you know which assignments you are supposed to peer review.

5 Due Dates

- As I noted in the last section, each week you must complete five assignments. You have the **entire week** to complete that week's assignments.

- Each week, you may begin working on the week's assignments as early as **Monday morning** of that week.

- All assignments for each week must be completed and submitted to the course website by **Sunday night** (11:59pm) of that week.

- Late work is **not** accepted. **No exceptions**.

- Here are some rules to help you navigate the "no exceptions" policy:

  - You have a whole week to finish each week's work. Plan ahead.
  - Do not try to submit your work Sunday night at 11:58pm. Computers sometimes fail, and I have no sympathy.
  - If you're not done and it's Sunday afternoon, submit what you have. A partially complete assignment is *much* better than a zero.

6 Final Exam

- You will take a **final exam online**, during the 15th week of the course.

- Details about the exam will be posted on the course website after the semester begins.

- It will be a **multiple choice** exam.

- There will be a **time limit**: once you start it, you must finish it in 2 hours.

- When you take the exam: you may use your notes, you may use your readings, you may use the internet to google things, and you may do anything else that you might do in the real world when you do some critical thinking.

- Note: each student's questions are randomly selected and sorted from a larger pool of questions. Also, each question is written in such a way that you have to do some hard thinking to deduce the correct answer (a simple google search will not provide the answer — at best it will provide background information, which are you are perfectly welcome to use to formulate a judgment about what you think the correct answer is).

7 Grading

In this course, here are the weights:

- Writing: 25% of the final grade.

- Quizzes: 25% of the final grade.

- Peer review: 25% of the final grade.

- Final exam: 25% of the final grade.

The final grade is assigned on this scale:

- **A**: 93–100%

- **A-**: 90–92%

- **B+**: 87–89%

- **B**: 83–86%

- **B-**: 80–82%

- **C+**: 77–79%

- **C**: 73–76%

- **C-**: 70–72%

- **D+**: 67–69%

- **D**: 63–66%

- **D-**: 60–62%

- **F**: 0–59%

8 Disabilities

If you are a student with a documented disability who requires accommodations or if you think you may have a disability and want to inquire about accommodations, please contact the Academic Resource Center at 202-687-8354 or arc@georgetown.edu.

9 Turnitin.com

Students acknowledge that by taking this course all required papers can be submitted for a Textual Similarity Review to Turnitin.com for the detection of plagiarism. Use of the Turnitin.com service is subject to the terms of use agreement posted on the Turnitin.com site.

10 Georgetown Honor System

All students are expected to follow Georgetown's honor code unconditionally. We assume you have read the honor code material located at

http://scs.georgetown.edu/academic-affairs/honor-code

and in particular have read the following documents: Honor Council Pamphlet, What is Plagiarism, Sanctioning Guidelines, and Expedited Sanctioning Process. Papers in this course will all be submitted to turnitin.com for checking.

Submitting material in fulfillment of the requirements of this course means that you have abided by the Georgetown honor pledge:

In the pursuit of the high ideals and rigorous standards of academic life, I commit myself to respect and uphold the Georgetown Honor System: To be honest in any academic endeavor, and to conduct myself honorably, as a responsible member of the Georgetown community, as we live and work together.

11 Plagiarism

In accord with university policy, all incidents of suspected plagiarism or other Honor Code violations will be reported to the Honor Council without fail.

If the Honor Council finds that a student has plagiarized or has violated the Honor Code in any other way, the student may receive a grade of F for the course.

12 Extreme Weather, Emergencies, and Instructional Continuity

The following is university policy:

> During inclement weather or other emergencies on a day when we are scheduled to meet face-to-face, check the university's Web site or call (202) 687-7669 for information on whether the university is open. If the university is open, this class will meet. If the university is closed, this class will meet through distance means such as online videoconferencing; check your e-mail for a message from me on how we will proceed in that situation. Due dates for written assignments submitted through Blackboard will not be changed due to campus closings.
>
> The university recently has acquired the capability to send text messages and recorded messages about emergencies to cell phones and other mobile devices. Sign up on MyAccess.

Since this class is entirely online, the above mostly has no bearing on this course. However, in certain extreme cases (e.g., if the entire city of D.C. were to

go without power for more than a few days), we may alter our course schedule to accommodate.

13 Policy Accommodating Students' Religious Observances

The following is university policy:

> Georgetown University promotes respect for all religions. Any student who is unable to attend classes or to participate in any examination, presentation, or assignment on a given day because of the observance of a major religious holiday or related travel shall be excused and provided with the opportunity to make up, without unreasonable burden, any work that has been missed for this reason and shall not in any other way be penalized for the absence or rescheduled work. Students will remain responsible for all assigned work. Students should notify professors in writing at the beginning of the semester of religious observances that conflict with their classes.

In this course, you should plan ahead for religious holidays (or any other period of absence), and submit your work earlier, exactly as you would if you had a business trip, a family party, or anything else that might occur in the course of a week.

14 Schedule

- **Week 1: Introduction**
  Dates: Begins Aug 29th – Ends (assignments due) Sep 9th, 11:59pm.
  Topics: Introduction, Sets, Relations, Functions, Graphs, Trees.

- **Week 2: Models I**
  Dates: Begins Sep 10th – Ends (assignments due) Sep 16th, 11:59pm.
  Topics: Structures, Formal Languages.

- **Week 3: Models II**
  Dates: Begins Sep 17th – Ends (assignments due) Sep 23rd, 11:59pm.
  Topics: Formal Models, Valuations, Validity.

- **Week 4: Quantifiers I**
  Dates: Begins Sep 24th – Ends (assignments due) Sep 30th, 11:59pm.
  Topics: Variables, Bindings, Valuation.

- **Week 5: Quantifiers II**
  Dates: Begins Oct 1st – Ends (assignments due) Oct 7th, 11:59pm.
  Topics: Valuation, Proofs.

- **Week 6: Quantifiers III**
  Dates: Begins Oct 8th – Ends (assignments due) Oct 14th, 11:59pm.
  Topics: Natural Deduction, Sequent Calculus.

- **Week 7: Quantifiers IV**.
  Dates: Begins Oct 15th – Ends (assignments due) Oct 21st, 11:59pm.
  Topics: Tableaux, Resolution.

- **Week 8: Conjunction and Negation I**
  Dates: Begins Oct 22nd – Ends (assignments due) Oct 28th, 11:59pm.
  Topics: Conjunction, Negation, Truth Tables (maybe).

- **Week 9: Conjunction and Negation II**
  Dates: Begins Oct 29th – Ends (assignments due) Nov 4th, 11:59pm.
  Topics: Natural Deduction, Sequent Calculus.

- **Week 10: Conjunction and Negation III**
  Dates: Begins Nov 5th – Ends (assignments due) Nov 11th, 11:59pm.
  Topics: Tableaux, Resolution.

- **Week 11: Disjunction, Implication, and Biconditionals I**
  Dates: Begins Nov 12th – Ends (assignments due) Nov 18th, 11:59pm.
  Topics: Disjunction, Implication, Biconditionals, Truth Tables (maybe).

- **Week 12: Thanksgiving Break (No assignments)**
  Dates: Begins Nov 19th – Ends Nov 25th, 11:59pm.
  No assignments due.

- **Week 13: Disjunction, Implication, and Biconditionals II**
  Dates: Begins Nov 26th – Ends (assignments due) Dec 2nd, 11:59pm.
  Topics: Natural Deduction, Sequent Calculus.

- **Week 14: Disjunction, Implication, and Biconditionals III**
  Dates: Begins Dec 3rd – Ends (assignments due) Dec 9th, 11:59pm.
  Topics: Tableaux, Resolution.

- **Week 15: Final Exam**
  Date: you may take the exam anytime from Dec 13th through Dec 16th, 11:59pm.