

Math 2283 - Honors Logic
Fall 2019 - Journal Topics
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2019.08.20 - Find the definitions of *logic* and *rhetoric*, write them down (with citation) and then write down a few thoughts on where you think these two disciplines intersect.

2019.08.22 - While you are attempting to go over the HW problems from Chapter 1 in the text book, pay attention to those which are confusing to you, and write down (or attempt to) the reasons why you are not certain of your answers, we will try to cover these in class on Tuesday!

2019.08.26 - We have spent some time dealing with quantifiers (universal and existential), and how they bind variables. If all variables are bound, we get a sentence (instead of a sentential function). Generally speaking, English sentences are complete thoughts, and thus not in the form of sentential functions. One might think that the quantified sentences we have looked at so far in this class are silly and not something we encounter in real life. Furthermore, we discussed in class the challenge of converting everyday language into purely logical form. Your job in this journal entry is to come up with some everyday sentences what use quantified language, and attempt to convert them into logical sentences. As an example, I briefly looked out my office window and noticed '*There are at least four students in the parking lot*'. This can be rewritten in quantified logic form (which I will not write here, spoilers!). Pay attention to how often you use quantified statements over the next couple of days, and write down, if possible, approximately how many you use.

2019.08.28 - Write down anything that you might think you have learned so far in this course that you might fall into the overlap between logic and rhetoric. Even if it is a stretch!

2019.09.01 - Express your thoughts on how your understanding of what you consider to be logic has changed so far since before we started this course.

2019.09.05 - Not all arguments we run across in every day life are valid, and some of them become rather prominent in culture. One such instance is the argument that Barack Obama was not eligible to be President of the United States because his father was not a US Citizen (the 'birther' conspiracy). A true statement regarding citizenship the following:

If a child is born to parents who are American citizens, then said child is a natural-born American citizen.

The argument that followed was that since Barack's father was not an American citizen, Barack was not eligible to become President. What is wrong with this argument? State your answer in technical logical terms, and in a nice '*englishy*' way. Next, do some *Google* searching and see what other example of bad arguments have made it into the public spotlight, and point out why they were wrong from a logical point of view.

2019.09.08 - Just be honest, how far have you gotten on the HW assignment due Tuesday (so as of Sunday night)? And have you looked at the HW 1 problem set again to start working on those corrections?

2019.09.09 - We have been learning about logical laws, rules of inference, and how they fit together in a logical argument. Write up at least a solid paragraph about this.

2019.09.10 - After today's lecture, we now know a little bit more about the logical idea of 'identity'. Why do we need a logical definition of identity when we have a mathematical definition (i.e. the '=' assignment between two objects)? Furthermore, does the logical definition of identity differ from how we use the concept of identity (equality) in every day life? Discuss this. Lastly, a few class periods back, when introducing the *Rule of Substitution*, when we replace a sentential variable p by another sentential variable or function, say, for example, $p \rightarrow q$, I made the comment that the justification is $p : p \rightarrow q$ and that we will avoid writing it as $p = p \rightarrow q$. Explain why this makes more sense now that we know about the logical theory of identity.

2019.09.15 - So you now know a little more about numerically quantified statements. We can write, using \exists and \forall , sentences such as: *There are at least two people in the elevator* in a strict logical form. Ponder the following and write about it: Do you think it would be possible to do something similar for a sentence such as *There is between 1/2 and 3/4 cups of sugar in this recipe*.

2019.09.17 - We spent almost a whole hour on that proof this morning. What I would like you to do is go over the proof again, this time hiding the justification column for each numbered line, and see if you can recreate each justification. If something is still particularly confusing, write it down in your journal. After this, reflect upon the proof in general. Does it make sense? Do you feel each step is really needed? Basically, anything you have to say about the proof process in general that we have learned so far, write it down!

2019.09.19 - For those of you who have resubmitted HW 1 to get more credit, do you feel that going back to that assignment and potentially fixing what you did wrong has helped your understanding of the material at all? For those of you who have not resubmitted HW 1 yet, what is holding you back?

2019.09.21 - Remember, you are coming to visit me this week! Write down some thoughts on how you think the course is going, and how you are doing overall in this class. What can we do to make this a better experience? What has worked for you? What has not worked for you? How do you think your visit to my office will go?

2019.09.26 - So how did the visit go this week?

2019.10.02 - How are the proofs treating you these days? There were a lot of proofs on HW 4... Are we getting comfortable with them yet? Does the 'Set Land' to 'Logic Land' idea I presented in class make sense more now? Just throw down your thoughts on the proof process for me to gaze upon.

2019.10.08 - I will revisit the proofs question again – before you get your Chapter 4 homework back, how well do you think you did on the proof problems? Are you getting the hang of these yet? Will you feel ready to do these on your own for the take-home midterm?

2019.10.09 - So you have been diligently reading Chapter 5 now. Many of the relation definitions introduced in class on Tuesday had counterparts to class definitions from Chapter 4. Was this correlation helpful at all in trying to understand the concept of relations, and how we compare them (and even operate on them)?

2019.10.09 - Bonus topic - So (1) midterm given out on Monday and handed in on Thursday, or (2) midterm handed out on a Thursday and handed in on a Tuesday. Which do you prefer and why?

2019.10.14 - So before you took this course, what were your thoughts on a *convincing* argument. Have your ideas on this changed yet? How? If not, why?

2019.10.22 - When we examine the *Book of Bad Arguments* in class, are you starting to notice that you are becoming more critical of the arguments you read? Has it become easier to pick apart arguments now?