

COGS 300-3: Selected Topics in Cognitive Science – Reasoning

INSTRUCTOR: Jeff Pelletier
OFFICE: WMX 5661
OFFICE HOURS: TBA

TIME: Tu 10.30-12.30, Th 10.30-11.30
ROOM: Tu: AQ 4130; Th: AQ 5039
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COURSE DESCRIPTION:

This course will investigate reasoning from four directions:

1. As an abstract system. We will begin the course with a review of elementary logic. Nothing too deep, but will include an account of classical propositional logic and first-order logic, so that we have enough background to evaluate the claims made in other fields. We will also look a bit at decision theory and probability theory.
2. We will look at some psychological studies that investigate how people perform reasoning tasks. This literature is full of many interesting issues, and depending on the class desires, we may expand from the literature on the psychology of deductive reasoning into inductive and conditional reasoning, as well as decision making.
3. We will look at the role of reasoning in language, both its role in pragmatics, where one attempts to reason from ‘what is (literally) said’ to ‘what is (really) meant’, and also its role *within* the ‘what is literally said’ area. We will investigate some psychological work in this area.
4. We will look at some issues raised in Artificial Intelligence, and the role of reasoning there: especially “commonsense reasoning” and “non-monotonic reasoning”. We will look at some work in trying to evaluate the psychological plausibility of this sort of reasoning.

REQUIRED TEXTS: Materials available to students either electronically or by photocopy.

COURSE REQUIREMENTS: Active participation, including attendance 20%; two short (2-3pp) summaries of articles 10% each; class presentation 25%; final paper 35%.

PREREQUISITES: Either COGS 100 or COGS 200, depending on what year you took it. You should also have taken other lower-division COGS requirements.

It is strongly recommended that you see the Departmental Assistant regarding your degree requirements at least two semesters before you plan to graduate. Unless you meet both faculty and major/minor requirements, your graduation will not be approved.

Students requiring accommodation as a result of a disability must contact the Centre for Students with Disabilities (604-291-3112 or csdo@sfu.ca)