

COMP 527 Winter 2009: Lecture Schedule

Brigitte Pientka
bpientka@cs.mcgill.ca

January 6, 2009

Week 1	Lec 1	Jan 6	Overview	
	Lec 2	Jan 8	Natural Deduction	
Week 2	Lec 1	Jan 13	Tutch overview	
	Lec 2	Jan 15	Local soundness & completeness	HW 1 out
Week 3	Lec 1	Jan 20	Proofs as Programs	
	Lec 2	Jan 22	Subject Reduction	HW 1 due / HW 2 out
Week 4	Lec 1	Jan 27	Quantifiers	
	Lec 2	Jan 29	Computational meaning	HW 2 due / HW 3 out
Week 5	Lec 1	Feb 3	Classical Logic	
	Lec 2	Feb 5	Proof irrelevance	HW 3 due
Week 6	Lec 1	Feb 10	Review	
	Lec 2	Feb 12	Midterm I	
Week 7	Lec 1	Feb 17	Data-types	HW 4 out
	Lec 2	Feb 19	Induction	
			Break	
Week 8	Lec 1	Mar 3	Logic programming	
	Lec 2	Mar 5	Logic programming	HW 4 due / HW 5 out
Week 9	Lec 1	Mar 10	Sequent calculus	
	Lec 2	Mar 12	Meta-theoretic properties	HW 5 due / HW 6 out
Week 10	Lec 1	Mar 17	Inversion and focusing	
	Lec 2	Mar 19	Computations and focusing	HW 6 due
Week 11	Lec 1	Mar 24	Review	
	Lec 2	Mar 26	Midterm II	Proposal due
Week 12	Lec 1	Mar 31	Bottom-up logic programming	
	Lec 2	Apr 2	Higher-order logic programming	Mile stone 1 due
Week 13	Lec 1	Apr 7	Presentations	
	Lec 2	Apr 9	Presentations	Mile stone 2 due

General information about the course

There is a home page for the course

<http://www.cs.mcgill.ca/~bpientka/courses/comp527/index.html>

We will place useful information there such as a schedule and other course information. We will also make use of WebCT, and you will find assignments, course notes, information regarding the project and a discussion board there.

In the first half of the course, we will be using the proof tutor, Tutch. Please note that you must install it yourself. Information on how to install Tutch can be found on the course webpage (check under “Resources” and follow the link to the Tutch page). If you have trouble installing it, let us know asap.

In the second half of the course, we will be using a logic programming language. Check the “Resources” tab on the web page for instructions.

Method of evaluation

There will be 6 assignments (30 %), two midterms (25 % each), and a team project (20 %). The assignments will be a mix of practical and theoretical exercises. You have 2 late days during the semester which you can use for your homeworks. You must notify your instructor BEFORE the homework is due, that you want to use one or two late days. If you have used up your late days, we will only accept your late homework under exceptional circumstances.

The midterms will be in class and it will be closed book. One sheet of notes will be permitted.

Some possible papers on which you can base your project will be handed out in class, but you are welcome to suggest your own. A project usually provides some implementation for a technique described in a paper, or a formalization of a paper in a proof assistant. The total length of the project is 5 weeks, and three people should form one team.

The project has four main parts:

- Project proposal (two pages) (3%)

A good project proposal (2 pages) has a title, gives a brief motivation of the proposed project, and clearly identifies the goal and expected outcome. Explain clearly how you will measure success of the project. Your proposal should list at least 4 related papers, and briefly describe how your proposed project fits into the related work. Finally, you must clearly identify who in your team is responsible for what part, and give a time line of the project.

- Project milestones (3% each, total 6%): You must make electronically available a snapshot of your project and describe in a README file what has been accomplished by each team member. Each team must send a link to a web-page where the this information can be found to the TA's and the instructor.
- Project presentation (5%) : You will receive 1% for critically evaluating the other presentations. 4% will be given for the presentation. Only one of the team members should present the project but the other team members are also responsible of making sure the talk is well-structured, and the content is accessible. The same grade will be given to all team members.
- Project report (6 pages) (and submission of final project) (6%)
Project reports must have been prepared with ACM's standard style files (please consult SIGPLAN Author information on WebCT) using the 11pt template. You will find also a lot of useful information regarding how to write a research paper on the SIGPLAN website. In your project report, you must provide a link to the produced artefact, i.e. the formalization of a formal system in a proof assistant, or an implementation you built. Deadline: 23 April, 2009.

Please note that you must discuss your project in person with me before submitting your project proposal.

Your final report will be reviewed by both TA's, and myself. We will use the guidelines usually employed when reviewing peer-reviewing papers for workshops or conferences, and you can find more information about reviewing papers in theoretical computer science and the review form we will use on WebCT.