CS 2210 – Logic for Computer Scientists

Fall Semester 2013

Slides 1 – August 27, 2013

Pascal Hitzler

Kno.e.sis Center

Wright State University, Dayton, OH

http://www.knoesis.org/pascal/

Website/Material and Assistant

http://www.pascal-hitzler.de/teaching/f13/index.html

Or go to http://www.pascal-hitzler.de and follow the link near the bottom of the page to the lecture.

Assistants:

Chris Lamp, lamp.4@wright.edu

Joshua (Cong) Wang, joshua.cong@gmail.com

Distance learning option

- **This class has a distance learning option.**

- **I.e. there will be quite a bit of communication via email. If something slips my attention (e.g., concerning difficulties with the online material) please let me know.**

- **It is okay to send me solutions to homework assignments by email (scans or typeset [LaTeX recommended]). However, it is your responsibility that everything is clearly readable after printout. I will deposit the graded homework with the department secretary for pick-up [let me know if this is a problem].**

- **I assume everybody will be physically present for the exams. Exceptions will be made only in documented cases of emergencies.**
Exams will be on Saturdays: September 28th, November 2nd, December 7th at 9:30am.

Organizational Matters

- **Physical class meetings are Tuesdays and Thursdays 9:30am to 10:50am.**

- **No class on Thursday 29th of August!**

- **Room: Russ 153**

- **Assistant open hours/ help desk:**
  to be announced
  Let us know if more/others are required.

- **For questions:**

  - **For content questions: ask during the lecture, or go to the open hours of the assistants, or send emails to the assistants. As a last resort, send by email and I'll answer (usually) in class. My email: pascal@pascal-hitzler.de**

  - **For organizational issues: Preferably use email to assistant, or if appropriate to me. If you think it's better to talk in person, come to my office hours.**

Organizational Matters

- **Office Hours: Tuesdays 3:30pm to 4:30pm, Joshi 389.**
  Email contact preferred. Phone will only work by appointment.

- **Textbook (required):**
  Uwe Schöning, Logic for Computer Scientists, Birkhäuser, 2008.

- **Textbook (recommended):**
  Mordechai Ben-Ari, Mathematical Logic for Computer Science, Springer, 1993
  I will only take the Tableaux Algorithms from this one.

- **Grading:**
  3 exams, 30% each
  Graded Homework Assignments: 10%
  Exams are on Saturdays, attendance strictly required.

Organizational matters

- **We will frequently make exercise sessions.
  You will get exercises, to be done at home and graded by us, and discussed afterwards in class.**

- **Some exercises are labeled "hand-in". Only these "hand-in" exercises count towards your homework grade.**

- **Each "hand-in" exercise question counts 4 points.
  Exercises are due *one week after I pose them – before class*.**

- **Hand-ins are possible in the following ways:**
  - **hand to me before class**
  - **have them put into my mailbox in the department office**
  - **email a pdf to me.**

- **The exercises are the tough part of the class. If you stay on top of them, you should find the exams relatively easy.**

Handing in homework solutions

- **Due one week after I pose them in class, due *before* class.**

- **Your name on every sheet.**
- **Answers clearly numbered as in class.**
- **Easily readable handwriting or typesetting.**
- **Remove fuzzy margins.**
- **Staple multiple pages (no paper clips or other methods).**
- **If emailed, it is your responsibility that a printout is easy to read. *Do not use Word* as math content is almost unreadable. Rather scan hand-written solutions. If you want to typeset, use LaTeX.**

- **Explain and justify your solutions whenever appropriate.**

Doing exercises

- **It may be helpful to work in teams (e.g., two people) to discuss the more difficult exercises. However, I expect that, after discussion, each person writes the solution entirely by him/herself.**

- **If I get two identical or near-identical write-ups, or otherwise two versions which look like one is a copy of the other, both parties will receive zero points.**

- **And yes, it's easy to spot this. In fact, if you manage to do a *clever* copying – one where it's clear it's not a copy – then I don't have a problem with this (because this requires insight into the exercise).**

Organizational matters

- **I prefer to use a public website: http://www.pascal-hitzler.de/teaching/f13/index.html**

- **The manuscript may also contain drafts of future material, taken from previous lectures, which is subject to change [you can ignore this, but you may find it instructive to take a look].**

- **The new manuscript will be posted shortly before class (usually, the evening before) in a near-final version. The final version will be posted, usually, on the evening of the class session.**

- **The manuscript bears a date (first page) and margin notes indicate the dates when which part was covered (important e.g. for due dates of exercises).**

Course overview

Tentative

We cover Schöning 1.1, 1.2, 1.4, then Ben-Ari 2.6

We cover Schöning 2.1, 2.2, 2.3, then Ben-Ari 5.5

We will also cover basics of Datalog, but there is no suitable textbook reference – please refer to the manuscript.