Syllabus

- **Course name**: cs473 Data Mining
- **Effective date of syllabus**: Aug 24, 2009
- **Site**: LCSEE, WVU
- **Course number**: 87638 cs473
- **Course format**: 3 credit hours 3 hr lectures, assessment by project+exams (cs473)
- **Textbook (optional)**:
  - ANSI Common LISP: Paul Graham
- **Schedule**: Tuesday/Thursday 1700-1815
- **Location**: ESB 207
- **Instructor name**: Tim Menzies Ph.D. ESB 841a, tim@menzies.us. Note: use the above email for private messages. For most of the class traffic, use the class discussion list (http://groups.google.com/group /csx73) and its email csx73@googlegroups.com.
Consultation times: Tuesday/Thursday 4:00 to 5:00pm, 841a or by appointment

Objectives

Upon successful completion of this course, students should:

- Be exposed to programming data miners in JAVA, LISP and shell script (CS.a).
- Have knowledge of basic principles (data structures, algorithms) required for solving data mining problem (CS.c).
- Have knowledge of principles required for the design, implementation and analysis of simple data mining experiments (CS.e).
- Be able to work and learn effectively as members of a team (CS.g.g3)

Links

- [http://www.arc.wvu.edu/courses/](http://www.arc.wvu.edu/courses/): WVU course pages
- [http://www.arc.wvu.edu/examschedule_fall.html](http://www.arc.wvu.edu/examschedule_fall.html): exam schedule page
- csx73@googlegroups.com: class email list

All students are required to join the GOOGLE news group [http://groups.google.com/group/agent-oriented](http://groups.google.com/group/agent-oriented). Official announcements will be posted to the thread admin. Students are required to read these thread on a regular basis.

Expected Workload

You MUST be prepared to dedicate AT LEAST 5-8 working hours a week to this class (excluding the time spent in the classroom). A minimal prerequisite for the successful completion is good understanding of programming concepts. You will be given class accounts on CS Department machines and all assignments will have to be submitted and run there. Please note that a Linux server can be accessed from any PC using a secure connection service, such as SSH (explanation to be provided in class).

Assessment

Note that all reports will be submitted using subversion to the ourmine website and written in Wiki/Markdown syntax.

- Monday week 4: Assignment #1: Intro exercises 10%
- Monday week 7: Assignment #2: intermediary data mining techniques, 10%
- Thursday week 7: Mid term 15%
- Monday week 10: Assignment #3: Experimental methods in data mining 10%
- Friday week 10: Literature reviews, 10%
- Last week of class: presentation on your project, 10%
- One week later: final report 15%
- End-of-term exam (Sunday December 19, 1100 to 1300) : 15%

Note that students must complete one other 5% tasks, at any time, during the term. But this tasks must be completed by the middle of November:

- Task 1: data mining studies, 5%
See also, below, for how to lose marks due to poor attendance.

For special consideration on the above, either:

- See me at start of semester advising planned absences or
- provide a medical certificate indicating that the student was unable to work on their studies for a relevant period (that note need NOT name the illness, but should list its duration)

By the end of project1, and for all subsequent work, students must regularly commit their work to a code repository provided by the lecturer. This repository will be monitored by the lecturer and students who are not making regular commits will be told to opt out of the group projects and work on their own.

Students can choose, or be told, to opt out of the group projects. If so, they will write 2*2000 essays for each remaining project in the term. They will also loose 7.5 marks from their end-of-year grade.

The code written for this subject's projects can be quite complex. To run it and grade it, I often need project members present. Therefore, for the coding projects, the code will be marked in debrief sessions which all group members will attend:

- Attendance is mandatory or you will score zero on that project (exception: medical certificates).
- Prior to the sessions, I will publish a calendar for students to fill in when they want to be graded. Students must negotiate amongst themselves for the available slots. It is your responsibility, not mine, to adjust your other commitments so you can attend.
- At the start of each debrief session, I load the code from the code repository that was committed at the time of project submission. This will be the version that is graded.
- At the start of each debrief session, I will collect from each student one sealed unmarked envelope. This envelope will contain the name of the student at the top, followed by a list of the group members.
  - Each group member (including the student) will be marked with the share of the project grade that the student feel their peers deserve for that project.
  - e.g. Tim=1, James=1, ObiWon=1 means that this student thinks that all students deserve equal marks.
  - e.g. Tim=0.5, James=0.75, ObiWon=1 means that this student thinks ObiWon did most of the work, Tim worked half as much as ObiWon, and James worked somewhere in between.
  - e.g. Tim=0, James=1, ObiWon=1 means that this student believed that Tim should get zero marks for that project while James and ObiWon should get equal marks.
- During those sessions, I will run the code and ask students questions about the code base. These questions will be asked on a round-robin basis (so all students will get an equal number of questions).
- After the sessions, after the students have left, I will open the envelopes.
- The final mark for each student will be computed from:
  - The functionality seen during the session (was the project goal achieved);
  - The answers the students gave to the questions (did each student demonstrate mastery of the techniques?);
  - The contents of the envelopes (did all students work equally on the project?).

**Attendance policy**

Students are expected to regularly attend all lectures. After three noted absences, students will lose two points per absence. After three noted lated arrivals, students will lose one point per late arrival. If you have another commitment that requires you to be consistently late, you should drop the class.
Social Justice Statement

West Virginia University is committed to social justice. I concur with that commitment and expect to foster a nurturing learning environment based upon open communication, mutual respect, and non-discrimination. Our University does not discriminate on the basis of race, sex, age, disability, veteran status, religion, sexual orientation, color or national origin. Any suggestions as to how to further such a positive and open environment in this class will be appreciated and given serious consideration.

If you are a person with a disability and anticipate needing any type of accommodation in order to participate in this class, please advise me and make appropriate arrangements with Disability Services (293-6700).

Statement of Academic Integrity

The integrity of the classes offered by any academic institution solidifies the foundation of its mission and cannot be sacrificed to expediency, ignorance, or blatant fraud. Therefore, I will enforce rigorous standards of academic integrity in all aspects and assignments of this course.

For the detailed policy of West Virginia University regarding the definitions of acts considered to fall under academic dishonesty and possible ensuing sanctions, please see the Student Conduct Code at http://www.arc.wvu.edu/admissions/integrity.html. Should you have any questions about possibly improper research citations or references, or any other activity that may be interpreted as an attempt at academic dishonesty, please see me before the assignment is due to discuss the matter.