

Syllabus

Overview

This is an advanced study course that introduces students to ongoing Operating Systems research. We will focus, in particular, on OS kernel, virtualization, scheduling, concurrency and synchronization, virtual memory, file system, devices, as well as distributed systems and applications in cloud environments. The class will contain a short part lectures, the rest will consist of student presentations of the papers we'll read. These papers will include both seminal papers and recent papers from top-level systems conferences. The goal of this course is to enable students to read and evaluate systems research. Students will work on a semester long practical project or on a survey paper. Expected reading is about 1-2 papers per week.

We assume that you have taken a basic course in Operating Systems, such as CS 3214, CS 4284, or CS 5204.

The course format will consist primarily of student presentations and discussion. Students will learn how to read, summarize and present research papers and how to evaluate them.

Every student is required to give a final presentation for their project or survey paper.

Staff Information and Meeting Times

Instructor: Dr Godmar Back
VTKW-2212
gback@cs.vt.edu or godmar@gmail.com
1-3046

Office hours: by appointment (send email)

Class website: <http://people.cs.vt.edu/~gback/cs6204/>

Class meets Tuesday and Thursday in McBryde 230 from 11:00am to 12:15pm.

Textbook

The primary reading will be assigned papers. I will also point out additional reading where applicable. I recommend the following textbooks as optional background reading:

Silberschatz, Galvin, Gagne: *Operating Systems Concepts*, 8th Edition or later, John Wiley and Sons

Format

Paper and presentation evaluations: All students are required to read and evaluate any assigned papers that are being discussed in class in advance.

A paper evaluation form will be available at the class website. Your evaluation should address the questions on this form. You will submit your evaluation forms electronically before the beginning of the class. **Late submissions will not be accepted.**

In addition to evaluating the paper, you will evaluate the speakers' presentations during class and submit a short written evaluation (one for each speaker) at the end of class, via SurveyMonkey.

In lieu of a late policy, you will have *three wildcards* for both the paper and speaker evaluations. That is, you may skip the evaluations that are due on three different dates without losing any credit. You need not ask for permission to do so in advance.

Paper presentation: Every student will prepare a 30-40 minute presentation on an assigned research paper. Your presentation should contain two parts: one in which you present the work as if it were your own, and a second part in which you present your evaluation of the work. You may meet with the instructor before your presentation to discuss your slides.

Final Presentation. All teams are required to do a final 20-30 minute presentation that summarizes the results of their term project.

Grading

I estimate that the contributions of the different portions to your final grade will be as listed below, but I reserve the right to adjust these weights as necessary:

30%	Term Project or Survey Paper
30%	Paper Presentations
15%	Class Participation
15%	Paper Evaluations
10%	Final Project Presentation

Collaboration Policy and Honor Code

On the class website you will find links to the following policies applying to this class: University Policy of Class Attendance, the Honor Code, and the ACM and IEEE Code of Ethics.

The tenets of the Virginia Tech Graduate Honor Code will be strictly enforced in this course, and all assignments shall be subject to the stipulations of the Graduate Honor Code. For more

information on the Graduate Honor Code, please refer to the GHS Constitution, located online at <http://ghs.graduateschool.vt.edu/>

The following policies regarding collaboration apply in this class.

You may discuss the papers being read with other students (and are encouraged to do so), but the evaluation you write must be your own.

When you prepare your presentations, you may do dry runs in front of other students and solicit feedback on your slides from them.

For any work you submit, pay particular attention to the proper citing of sources and references. You are specifically required to *read and follow* the guidelines posted at <http://ghs.graduateschool.vt.edu/student/avoiding.html>

If you work in a group, students must contribute equally to the project within a group. It is not acceptable for students to either not contribute to the project or not to let other group members contribute to the project. Please bring any problems in this regard to the instructor's attention early on.

The honor code applies to *all* work submitted or presented by students, including, but not limited to: your presentation(s), your structured and your open-ended project(s), even if such submitted work is not explicitly graded.

If you have any doubt about what is and is not allowed, it is your obligation to ask the instructor beforehand.

Special Accommodations

Students are encouraged to address any special needs or special accommodations with me during the first two weeks of the semester, or as soon as you become aware of your needs. Those seeking accommodations based on disabilities should obtain a Faculty Letter from the Services for Students with Disabilities office (540-231-0858) located in Lavery Hall, Suite 310) <http://www.ssd.vt.edu/>.