# CS 110: Foundations of Information Technology

Instructor: Amber Stubbs, PhD

Class times: Monday and Thursday 3-4:30PM

Lab time: Tuesday 3-4:30PM

## Course description

Foundations of Information Technology is a broad introduction to issues and concepts that are fundamental in the IT field. These include aspects of system administration, user support, applications installation and management, hardware troubleshooting and ethical use of technology. This course emphasizes knowledge combined with practical, hands-on experience.

## Course Learning outcomes

By the end of the semester, students will be able to:

1. Evaluate technical resources for accuracy and reliability on current and future issues
2. Apply their knowledge of computers, hardware, software, networks, security, and other issues to solve basic technology problems in their own lives
3. Analyze a technology-related question or problem and do quality research using reliable sources to find an answer.
4. Identify and analyze user needs and take them into account when proposing solutions to problems
5. Communicate about technical topics effectively across a range of audiences and media
6. Understand professional, ethical, legal, security, and social issues related to topics in this course

## Grading:

- Attendance and participation: 10%
- Labs: 30%
- Tests/quizzes: 15%
- Analysis assignments: 25%
- Final Project: 20%

Final grades will be assigned according to the following ranges:

| Points (%) range | Grade | | Points (%) range | Grade |
|---|---|---|---|---|
| 94 - 100 | A | | 74 - 76 | C |
| 90 - 93 | A- | | 70 - 73 | C- |
| 87 - 89 | B+ | | 67 - 69 | D+ |
| 84 - 86 | B | | 64 - 66 | D |
| 80 - 83 | B- | | Below 64 | F |
| 77 - 79 | C+ | | | |

## Labs

Labs will be graded on a scale of 0-4:

- 4: All the work is done correctly, possibly with a few minor errors
- 3: The majority of the work is done correctly, with some major errors
- 2: Some work is done correctly, but there are some serious flaws
- 1: The majority of this work is incorrect or left blank
- 0: No work done

Your final lab grade will be calculated by summing all your lab grades and dividing by the total number of possible points. Labs will be assigned during class and are due before the following class unless otherwise noted.

## Analysis assignments

During the semester, you will get 3 “analysis assignments”. Each one will present you with technology- or policy-related scenario, and will ask you to analyze and situation, come up with at least two possible solutions, and develop a pro/con list for each solution. Your analysis and solutions need to be well-researched, include citations, and be well-written and well-argued. They should contain an analysis of any ethical implications of your arguments.

## Quizzes

Quizzes will be in-class exams and will consist of multiple choice and short answer questions. Make-ups will not be permitted except in unusual cases and must be arranged beforehand. Your lowest quiz grade will be dropped.

## Final project

For your final project, you will investigate a tech-related topic of your choice, and develop your own scenario and analysis plan for that topic. In addition to writing a paper about your scenario and solutions, you will present your research to the class.

## Policies

- Attendance at all lectures is mandatory.
  - Coming to class but spending the whole session on the Internet doesn't count
  - Missing classes will, therefore, affect your attendance and participation grade
- Labs will be assigned **each Tuesday and due the following Tuesday** before class.

- Collaboration is encouraged but copying is cheating.
  - More specifically, you can discuss concepts and general approaches, but you shouldn't share actual code, essays, or other material.
- Labs will lose 1 point for ever day that they are late. Since they are graded out of 4 points, you are strongly encouraged to turn them in on time.

## Contact with the instructor

Email is always the best way to get in touch with me. I will make every effort to respond to your emails within 24 hours (48 on the weekends). Please put "CS110" in the subject of any course-related email you send me. My office hours are listed on Moodle; if those hours do not work for you then please get in touch and we can schedule an appointment.

## Honor policy and academic integrity

Simmons College expects each student to adhere to the College Honor Code (http://internal.simmons.edu/students/slis/current/honor-code) and does not tolerate academic or scholastic dishonesty, such as plagiarism, cheating, or academic fraud (visit the website for definitions of these). Penalties range from failure on the assignment, failure in the course, or dismissal from the program.

## Accommodations

Reasonable accommodations will be provided for students with documented physical, sensory, systemic, cognitive, learning and psychiatric disabilities. If you have a documented disability and anticipate needing accommodations in this course, it is your responsibility to register with the Disability Services office as soon as possible to ensure that requested accommodations may be implemented in a timely fashion. For more information or to request academic accommodations, contact the Disability Services Office located in Room E-108 of the Main College Building. They are available by phone at 617-521-2474 or you may email Tim Rogers at *timothy.rogers@simmons.edu*.

## Title IX and the Simmons College Gender-Based Misconduct Policy

Title IX Federal law states that all students have the right to gain an education free of gender-based discrimination. Some examples of gender-based discrimination, as defined by this law include sexual harassment or exploitation, sexual assault, domestic/dating violence, and stalking. In compliance with Title IX, Simmons College has a 'Gender-Based Misconduct Policy' which defines these forms of misconduct, outlines College protocol and procedures for investigating and addressing incidences of gender-based discrimination, highlights interim safety measures, and identifies both on and off-campus resources.

Simmons College encourages all community members to report incidences of gender-based misconduct. If you or someone you know in our campus community would like to receive support or report an incident of gender-based discrimination, please contact any of the following: Simmons Title IX Coordinator, Regina Sherwood (faculty/staff concerns): THCS C-210, 617 521 2082; Simmons Deputy Title IX Coordinator, Sarah Neill (student concerns): Provost's suite C-219, 617 521 2123; Associate Dean of Student Life and Title IX Representative, Raymond Ou: Student Life C-211, 617 521 2125; Coordinator of Simmons Violence Prevention and Educational Outreach Program, Gina Capra: W-003, 617 521 2118; Simmons College Public Safety: Palace Road Building Lobby, 617 521 1111 (emergency) or 617 521 2112 (non-emergency).

Additionally, the Gender-Based Misconduct Policy has a Consensual Relationships clause that

prohibits intimate, romantic or sexual relationships between students, faculty, staff, contract employees of the College, teacher’s assistants, and supervisors at internship/field placement sites.

To view the full Simmons College Gender-Based Misconduct Policy, please go to: https://internal.simmons.edu/students/general-information/title-ix/gender-based-misconduct-policy-for-students-faculty-staff-and-visitors

# CS 110 – Foundations of Information Technology Course Calendar

This is a tentative schedule and may be changed during the semester. In general, labs will be assigned on **Tuesdays** and due **before class** the following **Tuesday.**

| **Week of**: | **Topics/Events** | **Labs/assignments** |
|---|---|---|
| January 15 | 1/18: Introduction to the course, Ethics in CS and IT | |
| January 22 | 1/22: Computer hardware<br>1/23: computer dissection lab<br>1/25: Evaluating online resources (Linda Schuller) | Lab 1: computer dissection<br>**Analysis 1: hard drives** assigned |
| January 29 | 1/29: Operating systems and Command line, install bash shell on VMs<br>1/30: command line lab<br>2/1: finished CL lab, showed command line games | Lab 1 due<br>Lab 2: command line |
| February 5 | 2/5: Privacy discussion (Strava)<br>2/6:**Quiz 1,** privacy lab<br>2/8: command line: environment variables | Lab 2 and **Analysis 1** due<br>**Analysis 2: Ethics discussions**<br>Lab 3: Internet privacy |
| February 12 | 2/12: networks and Internet<br>2/13: Basic HTML<br>2/15: HTML lab | Lab 3: due<br>Lab 4: HTML |
| February 19 | 2/19: CSS/file transfer<br>2/20: HTML/CSS/file transfer<br>2/22: **quiz 2, tour of Simmons server room** | Lab 4 due<br>Lab 5: CSS |
| February 26 | 2/26: HTML and CSS<br>2/27: responsive web<br>3/1: responsive web lab | Lab 5 due |
| March 5 | **Spring Break** | |
| March 12 | Operating Systems and Virtual Machines<br>Create Linux VM<br>3/15: presentations | Lab 6: Linux commands |
| March 19 | File systems, BIOS, Bootable thumb drive<br>3/22: presentations | Lab 6 due<br>Lab 7: regex 2 |
| March 26 | Command line commands<br>3/29: presentations | **Final Project assigned**<br>Lab 6 due<br>Lab 7: command line puzzle hunt |
| April 2 | Regular expressions 1<br>**4/5: presentation,** | Lab 7 due<br>Lab 8: regex 1 |
| April 9 | 4/9 and 4/10: Quiz 3 (command | |

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|---|---|---|
| | line), open book)<br>4/12: presentations | Final project assigned |
| April 16 | **4/16 – no class, Patriot's day**<br>4/17 – Administration: groups and permissions<br><br>4/19: presentations | Lab 8 due |
| April 23 | Security and passwords<br><br>4/26: presentations | Lab 9: password cracking |
| April 30 | Peer review of final projects | Lab 9 due<br>**Before class on Monday: Final projects: version 1 due** |
| May 7 | 5/7 – last day of classes, final puzzle hunt | Final project revisions due 5/11 |