CIT 593 – Syllabus – Fall 2019
University of Pennsylvania
Department of Computer and Information Sciences – MCIT Program
Instructor: Dr. Thomas Farmer (tfarmer@seas.upenn.edu)
Office Hours for Instructor and all TAs can be found on Canvas

NOTE: This schedule is **NOT** a contract, the dates are tentative, they may be shifted as the semester continues.

Week	Date	Lecture/Lab Topics	Readings	HW Due Dates
1	08/28 (W)	Intro to Class / Binary Representations	P&P Chap 1 and 2	
	08/30 (F)	Binary Representations		
		Combined Recitation: Complete Binary Representation (LRSM AUD)		HW # 1 assigned
2	09/02 (M)	LABOR DAY (NO CLASS)		
	09/04 (W)	Transistors	P&P Chap 3.1 -> 3.2	
	09/06 (F)	Transistors → Logic Gates	P&P Chap 3.1 -> 3.3	
		Combined Recitation: Logic Gates → Combinational Logic (LRSM AUD)		HW #2 Assigned
3	09/09 (M)	Combinational Logic → Adders/Multiplier		HW #1 (Binary) Due
	09/11 (W)	Sequential Logic	P&P Chap 3.4 -> 3.6	
	09/13 (F)	Sequential Logic		HW #3 Assigned
		Combined Recitation: Sequential Logic → Counter (FSM) (LRSM AUD)		
4	09/16 (M)	Sequential Logic → Memory		HW #2 (Transistors) Due
	09/18 (W)	ALU + Memory -> CPU (Control & Datapath)	P&P 3.7 & Chap 4	
	09/20 (F)	ALU + Memory -> CPU (Control & Datapath)	*Regular recitations begin*	
5	09/23 (M)	ALU + Memory -> CPU (Control & Datapath)	Slides & Handouts	HW #3 (Sequential) Due
	09/25 (W)	LC4-ISA		
	09/27 (F)	LC4-ISA		
6	09/30 (M)	LC4-ISA		HW #4 (Datapath) Due
	10/02 (W)	LC4-ISA	P&P Chap 5	
	10/04 (F)	LC4-ISA		
7	10/07 (M)	Assembly Programming	P&P Chap 7	
	10/09 (W)	Assembly Programming		HW #5 (ISA) Due *(may move up)*
	10/11 (F)	FALL BREAK (No class)		
8	10/14 (M)	Assembly Programming	P&P Chap 8 & 9	
	10/16 (W)	Assembly Programming		
	10/18 (F)	Assembly – I/O & Traps	**Midterm Review in Recitation**	
9	10/21 (M)	Assembly – I/O & Traps	P&P Chap 11	HW #6 (Assembly) Due
	10/23 (W)	Assembly – I/O & Traps		
	10/25 (F)	**Lecture & Recitation Combined for Midterm Exam (11-1:30pm) – Material: Week #1 – Assembly Programming**		
10	10/28 (M)	Intro to C and the Stack		
	10/30 (W)	Intro to C and the Stack	P&P Chap 12 & 16	
	11/01 (F)	Intro to C and the Stack		
11	11/04 (M)	Intro to C and the Stack		HW #7 (Traps) Due
	11/06 (W)	Intro to C and the Stack	P&P Chap 14	
	11/08 (F)	C – Variables/Pointers		
12	11/11 (M)	C – Variables/Pointers		HW #8 (Assembly->C) Due
	11/13 (W)	C – Variables/Pointers	P&P Chap 18	
	11/15 (F)	C – Strings		
13	11/18 (M)	C – Strings	P&P Chap 19	HW #9 (C-Basics) Due
	11/20 (W)	C – Strings		*11/18 - HW #10 & #11 Assigned*
	11/22 (F)	C- Files		
14	11/25 (M)	C- Files		HW #10 (C Strings) Due
	11/27 (W)	Heap – C - Linked Lists	*Combined Recitation 11/27*	*11/25 – HW #12 Assigned*
	11/29 (F)	Thanksgiving Break		
15	12/02 (M)	Heap – C - Linked Lists		
	12/04 (W)	Heap – C – Hash Tables		
	12/06 (F)	Heap – C – Hash Tables		
16	12/09 (M)	Final Exam Review		HW #11 (C-File I/O) Due
	12/13 (F)	*FINAL EXAM (12-2pm)	*Double-check with Registrar!*	
	12/14 (S)			HW #12(C-Dynamic Mem) Due*

Weekly Homework will generally be due on Mondays @ 11:59pm.
* Early turn in of HW #12 will be rewarded with extra credit points (per early day)

<div align="center">**Course Information, Policies, and Grading**</div>

Required Textbook: "Introduction to Computer Systems", 2nd Edition, Patt and Patel

Recommended Books: "C How to Program" Deitel and Deitel
"The C Programming Language", Kernighan and Ritchie, aka "K&R"
"A Book on C 4th Ed," Kelley and Pohl
"Problem Solving and Program Design in C," Hanly and Koffman
"Practical C Programming," Online (can be found on Safari Online Textbooks Penn Library)
*** Note: Considering viewing the recommended books in the library at the start of the term. Find a book on C that you believe is readable, then purchase the book for later in the semester when we begin programming in C.*

Supplemental books On Reserve in Engineering Library:
"Structured Computer Organization 5th Ed" Tanenbaum
"Principle of Computer Architecture" Murdocca and Heuring

Homework: Reading will be assigned for each topic (see syllabus), it is your responsibility to keep up on the reading over the course of the semester. HW will be assigned via canvas & varying times will be allotted based on the difficulty.

HW Late Policy:
Hand in HW up to 72 hours late (3 days)– 25% deduction
Hand in HW up to 120 hours late (5 days) – 50% deduction
After 120 hours or solution set posted – no credit

Midterm: There will be no make-up exams for the midterm for any reason. Please inform your instructor during the first week of the semester if you have a conflict with the midterm dates. If you are ill before the midterm, then please inform your professor before the midterm exam and see the instructions below on registration of absences. In the event of an excused absence, the course grade will be based on the remaining exams and quizzes. If you fail to take a midterm exam and the absence is not excused, you will receive 0 for that exam.

Final Exam: There is a make-up in the spring semester for the final exam, which you may choose to take if you have three final exams on the same day, with CIT 593 being your 2nd exam, or you may have to take in case of illness. In either case, your grade will be delayed until the following spring semester.

Absences: Please enter any absences in the Course Absence Report system using Penn-In-Touch. "The Course Absence Report (CAR) system has been designed to provide a consistent way for students to notify course instructors of short term absences for one or more courses. It also provides a method for advising offices to track absences and coordinate support for students who miss classes. The submission of a CAR does not excuse you from your course obligations, students are still responsible for following up with each professor directly and adhering to course policies and procedures as outlined in the syllabus." For more information on CAR, see http://www.upenn.edu/registrar/CIT/CIT-CAR-User-Guide.pdf.

Cheating: 1st instance of HW cheating will be handled by the instructor. 2nd instances or exam plagiarism will be turned over immediately to the University of Pennsylvania Office of Student Conduct. Regardless of previous work in the course, the penalty for cheating/plagiarism is failure of the course (regardless of current course average), and potential permanent notation on your academic record that will follow you to all future academic institutions and possibly future employers. If you are unfamiliar with what constitutes cheating/plagiarism at Penn, visit this website:
http://www.upenn.edu/academicintegrity/

Grading: This course is not curved. None of the assignments or exams will be curved. The grade you earn is the grade you will receive in this course. There will be a few optional extra credit opportunities in the homeworks and sometimes on the exams. The following classic numerical ranges will be used to assign your final letter grade:

$97 \leq A+ \leq 100$	$77 \leq C+ < 80$
$93 \leq A < 97$	$73 \leq C < 77$
$90 \leq A- < 93$	$70 \leq C- < 73$
$87 \leq B+ < 90$	$67 \leq D+ < 70$
$83 \leq B < 87$	$60 \leq D < 67$
$80 \leq B- < 83$	$F < 60$

Weighting of Grade: HW (60%), Midterm (20%), Final (20%)

Creating an Inclusive Environment: A goal of this course is to prepare students for a career as a software engineer by giving them a sense of belonging within the field. This can only happen if all members of the course community – the instructor, TAs, and students – work together to create a supportive, inclusive environment that welcomes all students, regardless of their race, ethnicity, gender identity, sexuality, religious beliefs, physical or mental health status, or socioeconomic status. Diversity, inclusion, and belonging are all core values of this course. All participants in this course deserve to and should expect to be treated with respect by other members of the community.

Lectures, office hours, recitation and even your own student study groups should be spaces where everyone feels welcome and safe. In order to facilitate a welcoming environment, students of this course are expected to:

- Exercise consideration and respect in their speech and actions
- Attempt collaboration and consideration, including listening to opposing perspectives and authentically and respectfully raising concerns, before conflict
- Refrain from demeaning, discriminatory, or harassing behavior and speech

All members of the course community are expected to be familiar with and abide by the University's guidelines on general conduct and sexual harassment:

- University Code of Conduct: https://catalog.upenn.edu/pennbook/code-of-student-conduct/
- University Sexual Harassment Policy: http://www.upenn.edu/affirm-action/introsh.html

Students should also be familiar with other University guidelines regarding personal conduct:

- Conduct & Personal Responsibility guidelines in Pennbook: https://catalog.upenn.edu/pennbook/#policiesbytopictext
- University Principles of Responsible Conduct: http://www.upenn.edu/audit/oacp_principles.htm

If you are a victim of, witness, or are otherwise affected by unacceptable behavior:

- In cases of sexual harassment and assault, please consult DPS Special Services https://www.publicsafety.upenn.edu/about/special-services/sensitive-crimes and at 215-573-3333 or 511 from a campus phone; this is a confidential resource.
- To report other bias incidents, contact the Penn Office of Diversity: https://diversity.upenn.edu/diversity-at-penn/bias-motivated-incident-report
- For other violations of the code of student conduct, the Office of Student Conduct has an incident reporting form at https://www.osc.upenn.edu/referral-form

Please note that the Instructor is legally obligated to report incidents of sexual assault or harassment that he becomes aware of; if you wish your report to remain confidential, contact DPS Special Services using the information listed above.

Mental Health and Wellness: Your mental health and wellness is of utmost importance to the course instruction staff, if not the University as a whole. All members of the instruction staff will be happy to chat or just to listen if you need someone to talk to, even if it's not specifically about this course. If you or someone you know is in distress and urgently needs to speak with someone, please do not hesitate to contact me or an even finer Penn resource: CAPS (see link above): 215-898-7021; 3624 Market St. If you are uncomfortable reaching out to CAPS, any member of the instruction staff will be happy to contact them on. We understand that student life at Penn can be extremely difficult, both mentally and emotionally. If you are living with mental health issues such as anxiety, depression, ADHD, or other conditions, you are encouraged to discuss these with the instructor. Although the details are up to you to disclose, the instruction staff will do their best to support and accommodate you in order to ensure that you can succeed this course while staying healthy.