CSI/MAT 350 – Theory of Computation – FALL 2019

Professor: Shaun D. Ramsey, Ph.D. (Dr. Ramsey with he/him/his pronouns)
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Office: DUNN N106a
Office Hours: TR 12:45 - 1:45pm, W 3:30-4:30 (or by drop-in and appointment)
QSC Drop-In: M 6-7pm, Th 4-6pm in DUNN N103 (Based on last semester – may change)
Class meetings: 350-10 MWF 1:30-2:20PM GLDS 218
Text: Introducing the Theory of Computation by Wayne Goddard
Web: `http://shaunramsey.com/class/19FALL/350.html`

Overview and Advising: Theory of computation is the study in the fundamentals of computer science. A computer scientist should understand the notions of tractable, intractable and complexity before attempting to tackle any problem. By first examining simple languages and building up to higher and more complex languages, we develop a method of understanding complexity. By the end of the course, one should be able to identify different languages (and prove their classifications) and understand the limits of computability and complexity.

Suggestions: Get into a group and make sure to hack away at all the problem sets. That's where a lot of the true learning in the course will happen. Come to extra problem solving sessions that I hold! Solving problems is the best way to learn! The natural tendency is to procrastinate on these suggested homework problems. Do not do so. You will need to practice, fail, try again and get help in order to succeed. As an advanced course, I expect this diligence of each of you.

Grade Breakdown:

Exam I:	20%
Exam II:	20%
Exam III:	20%
Final:	25%
Quizzes:	5%
(CAPAC) Participation, Attendance, Attention, Classwork and Citizenship:	10%

Exams: Our tentative exam dates are: 9/20, 10/18, and 11/15 with a final during finals week.

Attendance: Attendance is mandatory in this course. On your sixth absence in a MWF course or your fourth absence in a TTh course, you automatically fail the course. As a matter of courtesy, you are expected to notify Dr. Ramsey before class describing the reason of your absence. You must be present on the day of an exam or you will receive a 0. There is no distinction between excused and unexcused absences. It is quite likely that I will email you to discuss the reasons you have missed the class, but it is ultimately your duty to keep track of your absences and to contact me. Missing a class may result in missed classwork and/or quizzes. There are no make-up quizzes or classwork. It is your responsibility to obtain assigned homework, announcements and class notes from a classmate. Coming late (or leaving early) to class will also count against you. In this case, every two late arrivals and departures (lates) count as an absence. Missing more than 15 minutes of a class counts as a full absence. Thus, for MWF, you fail the course with 12 lates or 6 absences or any mix of the two that add up to 6. Examples are: 2 lates and 5 absences, 4 lates and 4 absences, 6 lates and 3 absences, and so on. In addition, attendance is a portion of your grade as described in the grade breakdown.

Lateness: As a general rule, late assignments receive a grade of 0. I encourage you to do the assignments! We learn this material by doing it!

Accommodations: If you have an accommodation that has been reported to the college, please let me know as soon as possible so I can work to meet your accommodation. Please notify me of any necessary accommodation at least two weeks prior to the requirement so we can make it happen. If you suspect you might need an accommodation, I recommend that you speak with OAS as soon as possible.

Academic Honesty: You are always subject to the Honor Code of Washington College. Always sign the honor code on materials that you hand in (including homework and exams). All work must be your own. When handing in any assignment, including a program, you are required to cite every reference, including web pages. Failure to do so will be considered plagiarism. For exams in this course, you will be expected to sign the honor code and you may be audio, image, or video recorded.

Career Center: It is important to utilize all the resources available to you. The Career Center is a wonderful center dedicated to helping you. You can receive mock interviews there, attend a career fair, and even attend a workshop on graduate school admissions. For more information on these programs and other ways to connect with the Center for Career Development, please contact Nanette Cooley at ncooley2@washcoll.edu.

Quantitative Skills Center: The Quantitative Skills Center (QSC) is a free tutoring service provided to the students of Washington College. The QSC is located on the main floor of the Miller Library. The QSC has drop in hours and appointment hours available to fit all schedules. The appointment sessions are one-on-one with a student tutor. Drop in hours will usually be with a small group and you can feel free to come and go as you please during the available times. See the top of this syllabus for the CS times! Please go to the Quantitative Skills Center website, washcoll.edu/offices/quantitative-skills-center, for more information

or contact the Director, Kerrin Ehrensbeck by email at kehrensbeck2@washcoll.edu.

Counseling Center: We all experience stressful and difficult events as a normal part of life. As your instructor, I am not qualified to serve as a counselor, but I am a useful ear. So please feel welcome to open a discourse with me. I may guide you to a counselor and if you do need an actual counselor, Washington College offers counseling services on-campus that are available to you at no cost. All counseling services provided are completely confidential and in no way connected to your academic record. I strongly encourage you to take advantage of this valuable resource. Please contact The Office of Counseling Services at 410-778-7261, or email: vanderson2@washcoll.edu to schedule an appointment.

General Tentative Schedule:

Week 1	FAs, REs
Week 2	NFAs, Properties and Closure
Week 3	GNFA*/RIP, PL
Week 4	PL, Review, Exam
Week 5	CFG, PDA
Week 6	Properties
Week 7	CNF, PL
Week 8	Review, Exam
Week 9	TMs, Variations
Week 10	Properties, r and r.e.
Week 11	Diagonalization, Halting Problem
Week 12	Review, Exam
Week 13	Reduction
Week 14	P, NP, PSPACE, NPSPACE

Note: This document and a tentative week by week schedule are available from the website listed above.