

**CSC200/200H: Undergraduate Problem Seminar
Information Handout/Syllabus
Spring 2015
Version 1.4.0
2015/1/19 (last revised 2015/2/12/11:48AM)
(the most recent revision of this document can
always be found on the course web site)**

Location/Time: The course meets in Room CSB 601, M/W 2:00PM–3:15PM.

Instructor: Lane A. Hemaspaandra, CSB 618, cs200 “at” cs.rochester.edu.

Graduate TA: Ty Sen, CSB 625, cs200 “at” cs.rochester.edu. (Note: Like most CS people, the TAs and I prefer email to phones. By the way, please do make sure to use “cs200” for email regarding the course, not the TA’s or my one-person email addresses. That will help all the course staff both be on top of everything that happens. If you do need to contact a particular one of us directly and individually, you can find our one-person email addresses by looking at the pages you get to by clicking on our names on the course home page—Ty’s and mine are right there on the pages you get to for us, Adam’s is on his except you’ll have to look at the URL and substitute for “Username” his actual username from the URL’s last field, and for Charles you can from his page click on “URCS Undergrad directory” and there you’ll find his u.rochester.edu username listed under the letter C.)

Undergraduate TAs: Adam Scrivener (cs200 “at” cs.rochester.edu) and Charles Lehner (cs200 “at” cs.rochester.edu).

Office Hours (please note carefully the start and end dates; note that there are no office hours during Spring Break week):

1. Mondays, CSB 632, 1230pm-130pm, Adam. [From start of term until end of classes.]
Also, Lane will have an extra office hour, from the start of the term through and including February 8th, that will be Mondays, in CSB 632, 320-420pm. [From start of term until 2/9.]
2. Tuesdays, CSB 632, 500pm-600pm, Adam for the ones before Spring Break and Charles for the ones after Spring Break. [From 1/27 until end of classes.]
3. Wednesdays:
 - (a) CSB 624, noon-100pm, Ty. [From 2/11 until end of classes. Note: Actually, on 2/11 it was 30 minutes later than that, but then starting 2/18 it is at the time mentioned here: noon-100pm.]
 - (b) CSB 618, 320pm-420pm, Lane (please always feel free to stop by any time without an appointment, or to grab me right after any time I lecture; note: our class itself ends 315pm, so don’t worry if I’m a few minutes late arriving to my office for office hours, as I’m sometimes still in our classroom for a few minutes answering questions at the front of the room). [From start of term until end of classes.]
4. Thursdays, CSB 624, 130pm-230pm, Ty. [From 2/12 until end of classes.]
5. Fridays, CSB 632, 1100am-noon, Charles. [From 1/23 until end of classes.]

Prerequisites: You must have completed all the URCS B.S. premajor requirements. (MTH 150/MTH161/MTH162/CSC171/CSC172). *That is, to take this course this term, you must have already taken, completed, and received a passing grade in all of the premajor requirements—MTH 150, MTH 161, MTH 162, CSC171 (or AP credit for 171), and CSC 172.* (Related note about accounts: Basically all of you should already have a computer account on the csug machines, but if you don't, please see me immediately after the 1/21 class.)

Course Goal/Description: This is two courses in one. They are quite different, though related. Each has its own goal.

One part of the course is learning about the areas/research going on in computer science here in Rochester. To this end, we will have lectures from many of the department's research faculty members about their own research, and we might also include a talk or two by others. You should (read: must) attend these, and please listen and learn well—you will be hearing talks by people whose lives are devoted to aspects of a field that you care enough about to be taking this course (and in most cases, you are also majoring in computer science). Your grade on this part will be based on attendance as follows: There are a possible 100 points for this aspect of the course. You lose 0 points for the first research guest lecture you miss and you lose 20 points for each one after that that you miss (and if that leaves you with a negative score here then it will, when added in, even eat points out of your score on other parts of the course). (By research guest lectures, I mean all the lectures by anyone other than myself and the TA. If I or the TA give a research-y guest-like lecture, I'll make it clear whether it counts as a research guest lecture for grading purposes. For example, my first-day-of-class 1/14 lecture does *not* count against you for attendance purposes if you missed it, even though the last 25 minutes of it was something of a research-y mini-lecture on my work. The N's and R's on the course web page help code which days count regarding the guest-lecture attendance grade, namely: those with an "R" count and those with an "N" do no.)

I will not have an exam on the guest lectures, but it is a course rule that you may not have a laptop or smartphone/cellphone open or in use during the guest lectures (and similarly, you should not be reading books or doing work for other courses or etc.)—your eyes should be on only the speaker and his or her presentation, and if you want to take notes, do so with pen and paper (it is a good skill to have, and you are free to scan or copy those to a computer later if you like). (And on the days that are not research guest lectures, you should similarly focus on the class session and not be using electronics or reading books or doing other work, except if yours is the group that is speaking or just about to speak and your electronics are so you can hook up and give your group's talk.) (As to audio or video recording of lectures, the course rule is that during the lectures other than the research guest lectures, you may not record the class, and during any guest research lecture, you may record the lecture only if you get the explicit permission of the lecturer to do so. Note: If you have a documented disability that affects the issue of recording of lectures, or that requires you to use a laptop during classes, please see me.) Finally, though there are no exams on the guest lectures (or in general), we will sometimes have quizzes related to the guest lectures; these will often (and possibly always) be take-home exercises (that as to your grade will count as quizzes) that ask you to see the TA, or in some cases to see the TA or me, during an office hour to discuss some aspect of the guest lecture. Such quizzes will have clear instructions, and it is essential that you follow those meticulously; often, to even submit such quizzes, you will be required to have attended the lecture (so missing a guest lecture has a negative effect on your attendance grade and also you might get a zero on the quiz if there happens to be a quiz on that lecture; of course, due to the 1-for-free allowed miss regarding attendance and the 2 dropped lowest quizzes over *all* the

course's quizzes, if you do get very sick and need to miss a guest lecture those drops will cushion you a bit; but generally speaking, please do attend all the guest lectures!).

The other part of the course, which will take (far) more of your out-of-class time, is about... doing cooperative problem solving. The goal of that aspect of the course is to immerse you in doing projects and research, and in writing up the research, and, basically, for you to have an early-on-in-your-careers chance to learn what it is like to *do research*.

Grading: The overall course grades (A, A-, etc.) will not be any fixed curve, but rather will reflect the instructor's judgment about what grade is appropriate based on performance quality, i.e., based on the number of points you get. Each of the two regular projects is worth 100 points. Students who are taking this course as CSC200H (honors) have in addition to do a special (and very, very difficult) project, which is worth 100 points, and that project will be as assigned by me (see below for more on this special project). Also, regarding the research guest lectures, there are 100 points (and your score can vary from 100 to some negative number), scored as discussed above. You will also get a class participation grade out of 100 points. See the *class participation* section below for a discussion of this grade. The quizzes, all combined (except with the lowest two dropped), will be averaged and will constitute another 100 point block. All these 100-point blocks are added together to form your point total, and then that will be divided by 600 if you are in 200H and 500 if you are in 200 to get your course average. For example, suppose you are taking this as 200H, so you do 2 projects and also the honors-only project, and suppose you get 100 points on two and 0 points (eek!) on one, and suppose there are 8 quizzes and you get 0% on 4 and 100% on 4, and suppose your class participation score is 20% and you missed 7 research guest lectures. Then your point total is built of 200 (out of a possible 300) for projects and the paper, 66.67 (out of a possible 100) for quizzes, 20 (out of a possible 100) for class participation, and negative 20 (out of a possible 100) for attendance. So your point total is 266.67 out of a possible 600, and your course average is 44.4 percent. (In a typical year, this would be very deep in "E" land, grade-wise, though of course there is no fixed curve. But do keep in mind that this is an intensive course, and each student is expected to apply himself or herself with dedication. But don't worry—the projects are challenging but (with luck) fun.)

This course is available only for credit, not as an audit.

If you are unhappy with your grade on some quiz or project or you attended an entire guest lecture but in BlackBoard's grade center we have you marked down as not attending it, you may appeal it, but only *in writing* and *within 48 weekday hours* (Saturday and Sunday hours don't count against you) of the date the piece of work was announced as available for return or of the time the guest lecture in question ended in the case of attendance records. To do so regarding attendance records, send an email to cs200 at cs.rochester.edu stating that you attended the entire lecture on [then give the date] yet that BlackBoard marks you as not having been present (the attendance grade for a class is all or nothing, so if you missed part of a lecture and got a No, you cannot ask to have your No turned into a Yes, even if you caught most of the lecture; in recording attendance we might give a Yes to people who are just very slightly late, but that is at the TA's discretion and is not an entitlement). FYI, we try very hard to have the guest-talk attendance Yes/Nos up in BlackBoard by the end of the same calendar day as the talk. To appeal a quiz or project grade, you must (within the 48 weekday hour window) email to cs200 at cs.rochester.edu a color scan (if you absolutely do not have a color scanner available, a black-and-white scan can be sent) of your entire work that you are asking to have regraded, along with also sending in your email as text or as a pdf your written argument as to why you think your work was misgraded. A TA or I, most likely I (so

note the warning below!), will after looking the issue over get back to you, also in (email) writing. (Warning: I tend to be a *far* more meticulous, detailed, demanding grader than pretty much any TA.) The exception to all the above (and also any “48 weekday hour(s)” below) is that at the end of the term (defined as from April 18th onward), those two “48 weekday hours” each become “24 weekday hours.”

Note that when you request a regrade, the entire piece of work—not just the issue you are asking about—will be regraded, and your grade may move either up or down. For example, if I (or a TA) discover that a TA (or I) missed some errors, or just was overgenerous relative to the view of the regrader (see my above comment about my grading relative to that of TAs), moving down is a real possibility. These rules and deadlines will be strictly enforced. Of course, the TAs and I are always happy to discuss with you, after a project is handed in, the (intellectual/technical) issues regarding the solutions of the project.

Let me mention also a subtle issue regarding regrading of projects. If a group member asked to have a project regraded, then that group member if regrading were done for the whole group would have put all the group members’ grades at risk of being lowered. To avoid this, if you submit a project for regrading, it only triggers regrading of that project *for you*. If multiple group members want to ask for a regrade, each must *separately*, of course within the above-specified 48-weekday-hours/etc. period, request a regrade (doing all the above stuff—sending in a scan and written argument, although if you choose to group members can work together on building a written argument, but each group member needs to submit an argument, whether the same as the others or different, and only those who submit a regrade email on their own will be regraded, thus possibly moving up, or down (!), in points).

As to grades (and what is made public and what is not), each student gets his or her own grade on each project and quiz (and of course I assume and expect that you will keep each given-back item/grade), and through BlackBoard he or she will see some information about the overall class performance on those items, and at the end of the course he or she will receive his or her course grade either from the registrar or from me. However, I in general do not give out grade or grade-distribution or grade-range-cutoffs info beyond that, though of course if a student wishes to share with some classmate his or her grades on some items or the course, that is up to him or her.

Exams: We will have no exams. That is, there will be no final or midterms.

Quizzes: There will be quizzes (usually surprise, but actually I often so heavily signal them that often the fact that there is a surprise quiz won’t be too surprising). (You should not assume that the number of quizzes will be the same in the second half of the term as in the first half.) On some days, we may have more than one quiz on the same day. You should not at all assume that quizzes will be mechanical playback of information. Some might be, but many will expect you to apply and/or extend and/or demonstrate creativity and insight. That is, some quizzes may be easy and some may be hard. Coming in prepared is always a good idea (and is expected). Some quizzes may be take-home exercises that ask you to do something, such as come to an office hour and chat about some aspect of some guest lecture. *Rules for quizzes:* No makeups; no exceptions (except for religious holidays mentioned to me long in advance¹). The quizzes (except any take-home ones) are

¹To be explicit: You should, no later than January 23, noon, send me an email if any of the class days fall on days where due to observance of a religious holiday you will not be able to attend; in that email, you should please let me know all such days for the entire term. If you have a religious conflict told to me by the above date, I’ll usually for quizzes give you a makeup oral quiz or will simply try to avoid having a quiz on that day. And as to guest lectures and the attendance-grade calculation for those, I’d typically credit you as if you attended on that day even though you didn’t, although please do

closed-book and closed-notes. However, as a bow to sicknesses, broken cars, and other compelling excuses, everyone will have his or her lowest two quizzes dropped before the quizzes are averaged into a 100-point-block grade (for example, if there were 8 quizzes and you got 0% on 4 of them and 100% on 4 of them, your 100-point quiz score would be a 66.67). The only exceptions to this drop-2 rule will be in cases where you bring in an appropriate letter from a convincing Dean who in writing certifies that he or she has read and understands the course's policy that no quizzes beyond two are dropped and feels that your case is so extraordinary that there is a compelling case to not follow this fixed course policy in your case. Pencils (as opposed for example to pens) may not be used for doing quizzes.

By the way, if you see a 0.1% as your grade on a quiz or project, what that means is the following: If you don't submit something, we of course record a 0.0%. But if you can something in and get a zero (or even any grade between 0 and 0.1%), we will often record it as a 0.1%, so that I can see that you did hand it in.

Dropping Grades: As a bow to sicknesses, broken cars, and other compelling excuses, everyone will have his or her lowest two quiz grades dropped and will have his or her first absence from a research guest lecture "charged" at zero points. Absolutely no drops or makeups beyond that will be given or allowed. The only exceptions to this will be in cases where you bring in an appropriate letter from a convincing Dean who in writing certifies that he or she has read and understands the course's policy on no quizzes beyond two are dropped and on absence scoring grade decreases (0, 20, 20, 20, etc.) and feels that your case is so extraordinary that there is a compelling case to not follow this fixed course policy in your case.

Class Attendance: Required.

Class Participation: The class participation grade regards only the non-guest-lecture part of the course (for the research guest lectures, you are graded on attendance but are strongly urged to participate and ask questions of the speaker; and of course, there may be take-home quizzes related to these lectures). I expect each student to participate energetically and insightfully in class. So, the best case is that your comments and questions reflect such items as insight, creativity, curiosity, and preparation. Note, however, that if I call on you and you reply "We could not solve that but let me now spend two minutes describing the progress we made and the case analysis we did and the one case that we could not handle and why we could not handle it but what our intuition is as to why it should be true even in this case," that—though that is not as heartwarming as having a blockbuster, breakthrough answer—certainly is far better than giving the answer "I dunno." In fact, this is not a grade on brilliance (although that is always nice to see); rather, I base this grade on having done respectably well regarding effort/preparation/participation. A corollary is that it is possible for each student (or all students) to get 100% on this subgrade, and indeed I hope that each of you will. (A related corollary is: Don't expect to "gain points" against your classmates in the category, since it is quite possible that almost everyone will get 100% on this; of course, actually, thinking along the lines of "gaining points" against one's classmates is in any case not the right way to approach any course, and especially is not the right way to approach a course such as this one that is about collaborative research.) A caveat: This is a course about collaborative problem-solving/research, not a course on how to design and teach a course on collaborative problem-solving/research. Thus please do not ask course-design/course-logistics questions such as "Why

read the slides for the lecture when/if they get posted, and also it is your responsibility to check (within the standard time window for appeals) that I do properly mark in that attendance credit. If a project falls due on a religious holiday, you should take that into account and make sure your group knows to hand it in.

are there so many quizzes?” or “Why can’t I use my computer, the Internet, my full notes, and my supersmart pet dog Fido during quizzes?,” and I typically won’t answer such questions—most especially not during class time.

Work of the Course: The course will involve research guest lectures (mostly on research, and most or completely will be given by URCS faculty members), class discussions, and so on. However, the heart of the course will be the projects. Each project will be done in groups, and we will do them, the first one then the second, spaced throughout the semester.

Rules for Projects: When a project is given, you will be assigned to groups by me or the TAs. We probably will do so by randomly drawing groups. Each group will research the project jointly (i.e., the members of a group work with each other), and will submit one paper (from the entire group) at the end of the project, as a paper (typically as mime-attached pdf) via email, and also you’ll at the same time (also attached through that same one-per-group email pdf, or perhaps as .ppt/.pptx/etc. if you absolutely must, but if you send it as .ppt/.pptx/etc. you *must* also include a pdf export) send in a copy of the slides for your group’s talk on its project (the talk you’ll be giving on one of the two final Presentation days of the project), and perhaps your email will also include a tar archive of code and examples, depending on the project. *If someone in your group does not pull his or her weight (trust me: sooner or later it may happen—in faculty/academic/industrial research it certainly does surprisingly often), you or a groupmate must cover for him or her, as you all get the same grade. Consider it a valuable learning experience of a painful truth.* Also, it is possible that someone(s) in your group will drop the course, in which case your group might become smaller than it started, and in that case the remaining group members still are responsible for turning in an excellent project. You will probably want to meet daily with your groupmates to pursue the project. Most projects will have a class discussion “intermediate” session or more typically two (and each of those will spread over two days, with half the groups speaking at each) in which all groups will share their progress and ideas to date (though some projects might not have such a session, and some might have the initial project-statement session of a project be the same class session as the final session—the presentation of results session—of the previous project). Aside from that, you should discuss your project primarily with your groupmates. (Since in this course the work and the writing are at their core collaborative, this course’s regular work is in general not appropriate for the ULW process.)

Regarding discussions with people in other groups, the following holds. It is allowed to have discussions (person-to-person—not via wiki/newsgroups/Facebook-or-Google-or-etc.-groups) with members of other groups of a relatively detached sort (e.g., “How does one turn on the extended memory feature?”), but in order to correctly simulate what group research is like, you should insofar as possible avoid detailed discussions of problems and solutions with people in other groups (except at the class discussion sessions mentioned above). You of course should not share files or programs, etc., and obviously each group’s write-up must be done completely independently. However, you may use inanimate generally available information sources in a non-proactive way. That is, you may look for information in the library, on the Internet, etc. However, you may not ask people (in person, via email, via wiki/newsgroup/Facebook-or-Google-or-etc.-group postings (not even to any class wiki/newsgroup!), or via any other means) for help, except as mentioned above (and so for example it is cheating to seek project help from previous CSC200/200H students or tutoring center tutors² or graduate students or professors). Remember: The projects are your chance to work closely with your groupmates DOING RESEARCH.

²Regarding the issue of the tutoring center, when I let the coordinator of the tutoring center know that it would be

Shortly (usually, immediately) after a project is due, we will have two class sessions in which all the groups present their results/solutions/etc. (I myself will also generally not speak with you about projects while they are running, though I'll be delighted to speak with you about them after they are handed in. If you are really desperate, there however is a small loophole: Traditionally, the TAs of this course view themselves as having a bit of freedom in this regard, and I'll unless it is abused follow that pattern too. Traditionally, the TAs use this freedom in a particular way, namely, if a group comes to the TA and is doing great and wants help the TA tells them they are supposed to be doing research themselves and doesn't help them too much, but if a group is totally lost and very worried, the TA may try to give some hints to try to help get them on track—but do keep in mind that you are looking at open issues, and so the TA's hints could be unwise or unproductive or wrong, although of course the TA if the TA gives hints won't on purpose try to steer you wrong. I should also mention, since it potentially goes beyond what I just mentioned, that during projects it is not impossible that I will assign a take-home quiz(zes) whose content is to—either as individuals or as a group, as specified by the quiz—go talk to a TA, or to a TA or me, about the project in some specific way, and of course when doing such a take-home quiz you are acting within the course's rules if you do what the quiz's instructions specify, even if those specify, as they may, more extensive help-getting than what the above rules would seem to allow... in particular, the quiz rules might, for example, have even groups that are doing excellently seek help and feedback from a meeting with a TA.)

Regarding handing in your projects (which you will always do via email), hand them in via mailing them, before the deadline, to (use this EXACT address, in full, every time please, except of course replace “at” with the symbol @) cs200 “at” cs.rochester.edu (only one person from each group should mail in the group's project). *You are required to (1) send a nonblind carbon-copy of that email (that very email, right at the same moment you send it to us!) to yourself and every member of your group, and (2) save a copy of everything you turn in.* Do not forget item (1)—yes, I know you think you'll remember it, but every year people forget. In fact, even after reading the reminder of the previous sentence, people forget; please don't forget.

You should also electronically turn in the slides for the intermediate (“workshop”) talks you give, namely, before the start of the workshop class (so if you speak on Monday then by 2PM Monday and if you speak on Wednesday then by 2PM Wednesday; don't confuse this with the fact that your “conference” slides get turned in before the Conference-Monday start-of-class even if you speak on the Conference Wednesday); turn the slides in similarly to the above, namely, email them as pdf, to cs200 “at” cs.rochester.edu, and with a nonblind carbon-copy of the email going to yourself and every member of your group! In addition to that, at the start of each intermediate day on which you group will be speaking, your group must bring into class four printouts (one for me and one for each of the three TA) of the slides you'll be giving that day and give them to us. You should similarly bring in four such printouts and give them to us, of your “Conference”

against the course rules (and an academic honesty violation) for CSC200 students to get him from the tutoring center on in-progress projects or to seek answers to in-progress take-home quizzes, I mentioned that there was a danger of setting up an “academic honesty trap,” namely, that students would assume that getting such help from the tutoring center was fine, but in fact it was not. He suggested, to avoid such a trap, that he simply removing CSC200 from the list of things covered this term by the tutoring center and that he let the tutors know not to tutor regarding CSC200, and he indeed did so—although since he did this after many of the posters went up, those that went up earlier still list us. Note that the TAs and I provide 5 office hours per week—and it will become 6 per week starting in a week and a half—and that you do have through those hours extensive in-house office hour time (from people who know what projects/quizzes are under way and who have been carefully instructed as to what is and what isn't fine as to what help can be sought/given, and from/by whom, during a project/etc.).

slides (“Conference” refers to the end of project talks), at the start of each class session in which your group is giving a Conference talk. All such start-of-class printouts should be stapled and it is fine (and paper-thrifty) to make all four of them 2-sided and 2-up (2 pages per side of page). Please try to avoid making lots of slides “reverse video” (i.e., black background and white printing), since the TAs and I use these printouts for making notes to yourselves and it is hard to make notes on a slide that is basically all black.

Research papers often build on earlier work and, ideally, inspire new directions and extensions. Many of the most thrilling advances in computer science came from long chains of papers, each building on the earlier ones, and moving the field’s knowledge forward. For example, the proof of Mahaney’s Theorem (which says that there is no sparse NP-complete set unless $P=NP$) built on Fortune’s Theorem, which itself built on Berman’s Theorem. To model the fact that papers often build on top of earlier work, we might in future years want to ask classes to pick up where you left off on a particular challenge, and to seek new, stronger insights or results, or perhaps to look at the problem in a more general setting (i.e., we might look at a multidimensional analog of a problem done this year in one dimension, or we might enrich a parameterization), and if so, it would be great to be able to make your projects available to those classes, as part of the “existing literature” on the problem. Of course, any future classes that used earlier work in any way (whether the work was from the real-world literature or from a paper that had been done by an earlier CSC200 group) would be ethically obligated to cite/attribute/credit the earlier work. On the other hand, I certainly don’t want to make your work available to (hypothetical) future classes unless that is fine with you (and of course, this has no effect on your grade either way). So, I’ll do this: If on a project a group does not want its project to be made available in the (actually not wildly likely) case that some future class does a project closely related to that project, then at the very start of your email submitting it and also as a footnote to the paper’s title please make absolutely sure to include a sentence saying, “Please do not make this project available to any future classes.” And that way, if I come back in future years and look at what groups’ projects can and cannot be shared with that year’s class if there is a closely related project, I’ll be able to easily see that.

If you got some great idea from another group by hearing it at an intermediate workshop, and you mention or use it in your paper/project, for goodness’s sake, do remember to explicitly credit the group that you got the idea from. For example, “At the February 9 workshop, House Arryn mentioned the great idea of using the data structure of binomial trees in the required foobie-woobie computations, and we have adopted that approach, which vastly improved computation speeds relative to the linked lists we previously were using.” If another group talked on a nice idea at their talk, and you already really, truly, crisply had the same idea, but by bad luck your talk came 2 days before theirs since each workshop is on two adjacent classes, then it is ok to make clear that you had the idea yourselves, but you should also mention that the other group had it independently at the same workshop day-pair.

On the projects and indeed in all aspects of the course, it is very important to follow appropriate norms of academic honesty and professional conduct, most importantly including those regarding plagiarism; do not plagiarize. And do not violate the rules for collaboration discussed and presented above, as those are an important part of the academic honesty policy of this course. The course web site provides you with a link to the school-level academic honesty web site.

The Special Project(s) for CSC200H Students: CSC200 students do not do this paper. However, students who are taking this course as CSC200H (honors) have to (in addition to all the work CSC200 students do) write a special project, which is worth 100 points, and that will be on a topic

assigned by me. I will assign the project(s) (and different groups will typically have different honors projects) and the groups for this special project when I give out the assignment to each given group. Not all honors groups will necessarily be doing their honors projects at the same time, so a first-to-go honors group may already have finished its project before some other honors students have started their project. You will have a specified time period from when you are given the project to the day the special project is due (each group hands in one paper/project for the whole group, and the entire group gets the same grade on the project); I'll let you know that time period when I give you your project, but it will be 2–4 weeks, and most typically is 3 weeks. Note that doing this special project does not excuse you from any of the other expectations and requirements of the course; it is rather something that is an additional requirement (though I expect you'll also learn from doing the special project, so I don't mean "requirement" in a bad sense) to be done by the CSC200H (though not the CSC200) students.

WARNING: *The honors projects are **extremely** demanding.* I choose and assign the projects, and they will vary by group. Here are some examples, which might or might not capture what projects I'll assign this year. As an example, it is possible that I'll assign a group of honor students to take, after a class project, all the papers of the entire class, and then build a single paper of the highest possible quality, reflecting the best insights of all the groups' work and papers and of all the class discussions; such a paper, if done extremely well, might become a technical report, authored (after proofreading by all) by the entire class, the TA, and myself, at [arXiv.org](https://arxiv.org). Another type of project that I might possibly assign one or more or all groups is that I might require your group to master extremely advanced material that might (or might not be) new to you, and then to critique (and often utterly shatter and refute) existing research publications (I'd sometimes tell you which publications are the ones your group is assigned, or I might require you to find flawed material in a certain conference proceedings or some other domain) on that topic, and then for your group to: write your critique/refutation up as a paper suitable for publication and hand it in by the (usually three-week limit), and then (if I judge this to be appropriate for the paper) to immediately (I'd include the precise time deadline along with the feedback) revise the paper to include any feedback from me or the TAs and then to make your work available to the research community via the venue I point out (such as technical report at [arXiv.org](https://arxiv.org)). (The honors projects will typically not have a class presentation.)

I'll typically assign an honors project's grade only after that entire process of that group completes (e.g., if I decide it should become an [arXiv.org](https://arxiv.org) technical report, then after the technical report has appeared), and each group absolutely must meet all the time frames. If the number of honors students is quite small, it could be the case that all the honors students will be in one group for this project.

Lateness (Basically) Not Allowed: *Late projects will not be accepted...* is the rule we formerly followed. However, remarkably, even with that rule in place, some groups turn things in late, and assigning a group a 0% on a project for being two seconds late would just be too harsh. So here is the lateness policy regarding project turn-ins. You lose one point for each minute or fraction thereof that your project turn-in is late (except you can never get lower than a 0% grade). That is, if your project arrives at cs200 "at" cs.rochester.edu 10.5 minutes after the due time, and I rate it a 95%, then I'll take off 11 points due to the lateness, and so your group's grade is an 84%. So if you're 20 seconds late, well, you won't be killed by being given a 0% as you would under a pure no-lateness policy. But as the minutes build up, your points are disappearing one per minute, which is almost certainly faster than you could possibly be adding points as you do frantic last-minute beyond-the-

deadline work on your project. And if you are 99.00001 or more minutes late, you'll get a 0%. *So it is crucial that you always submit your projects on time. Hint: Start early... meet daily... try to complete them with a few days or at least hours to spare. Again: late turn-ins incur the penalty scheme above, so the wise thing to do is to be sure never to be late—instead turn in your project on time.* (And, just to be clear, we take the turn-in time as the time the email arrives at “cs200,” not the time it is sent. So send it with a decent amount of time to spare, and check that the nonblind carbon to yourself gets to you and that your email did not bounce. Ideally, in fact, send a carbon to yourself at your URCS account address if you have one, so you can see that it got there, since if your mail had connectivity to get to you at a URCS account then it probably got about equally quickly to the class account of “cs200” at cs.rochester.edu. By the way, do remember to use “cs200” rather than “csc200”; the account name, for reasons lost in the sands of time, is cs200.)

Texts:

- Required Texts: None.
- Although there are no required textbooks, I've when possible put the books below, or similar books, on reserve in the library so you can use such books there if you like and so can save some money if you choose... however, you certainly will want to own good books (or perhaps some good online reference if you find one that you love) on LaTeX, C++, and Java if you don't already have such, and these are strong choices if you don't already have that bill filled.
 - *More Math Into LaTeX*, 4th Edition, George Grätzer, ISBN-10: 0387322892, ISBN-13: 978-0387322896, Springer. A well-liked resource for L^AT_EX, which is what research computer scientists (and many, many others) use for their papers; L^AT_EX handles math very well.
 - *C++ programming language*, Bjarne Stroustrup, 4th edition, ISBN: 0321563840. This is getting C++ from the horse's mouth! If you already own a great C++ book you don't need to buy this one. Note: You'll quite probably want to use C++ or Java for some or all of your programs (although this will depend on what the projects are of course, and what languages their statements require/allow you to use, and your own taste), so you'll probably want to know at least one of these two languages, and in fact, to be able to work with all your fellow students, you'll I suspect want to know both.
 - *Java, How to Program (Early Objects)*, Deitel and Deitel, 10th edition, ISBN (Prentice Hall) 0133807800. NOTE: please do not confuse with their many other similar books. A good (though not at all short—it is 1248 pages!) Java book and reference (fyi, some people love it and some people hate it). If you already own an (up-to-date) Java book you're happy with, you don't need to buy this one. Note: See the note attached to the previous book.

Library Reserves: Carlson Library has been asked to put most of the above books—and a large number of others that are relevant or just plain interesting—on reserve. (Some may be in strange states. For example, for Deitel and Deitel they have the 9th edition, and just as an ebook and web resource, when last I checked; but the 9th edition should be fine. Indeed, more generally, sometimes the library has an earlier edition or has multiple editions on reserve—in that case a earlier edition is usually fine, although do poke around the library catalog in case somehow a more recent edition is available on the shelves or electronically or etc. Also, fyi, as of when I'm writing this, the library hasn't yet processed my reserve request, but I trust they will very soon.)

Newsgroup: We will not use a course newsgroup or the discussion features of BlackBoard.

Blackboard Announcements: Most day-to-day announcements, if any, will be transmitted using the Blackboard “Announcements” feature. You can see these announcements within Blackboard. By default, Blackboard will *not* send you these by email. But you can, by changing your settings in Blackboard, arrange for it to do so (although the UR Blackboard administrator warns you that that option is not necessarily reliable; and so you even if you have it turned on you should very frequently peek at the course’s Announcements area within Blackboard). *You definitely should do so; I assume that you have, and that you thus are quickly getting all late-breaking updates!*

So, how do you turn on email notification of Announcements? Here is how, thanks to the UR Blackboard Administrator:

In your main BlackBoard screen, click on the caret or “V” near your name in the upper-right, then choose Settings, then choose Edit Notification Settings. Fixing your general settings won’t save you; the course ones override it in a bad way. So under Edit Individual Course Settings, select this course, and then check the Email box at the top of the email column, *and then make sure to click on Submit*. Again, though, be warned: Even the BB Administrator here warns that, to give her exact words, “Notifications are updated hourly. In the past, there have been issues with notification reliability. While Blackboard reports this fixed in the current version, please be sure to also check directly.”

Fun with Numbers: Although the course is both CSC200 and CSC200H, depending on which you are registered under, I’ll often just refer to it by one or the other of the numbers (or sometimes as CSC200/200H). As noted above, the CSC200H students have a very demanding extra paper/project that the CSC200 students do not have.

Email: ALL course-related email must be sent to cs200 “at” cs.rochester.edu (yes, the account name is cs200, not csc200). When sending a binary file, make sure to carefully, safely attach it, and when sending a large number of files, you’ll probably want to turn them into a single file with zip or tar and then carefully, safely attach that single, binary file. If the attachments would make your email insanely large then you had best submit the given assignment by making a single zip archive containing all those attachments, and email (with your archived not to be changed after your email of course—this path is not intended as a loophole around the due date/time) to the above address the URL from which we can copy that zip archive (and please make SURE it is readable, so that we can copy it!); however, these days, quite large emails can be sent without problems (unless some mailer along the way gets grumpy; note: so it is best and safest to send your submission from the cs or csug network if you are sending a large submission, and *then wait a few minutes to see if it bounced due to size*; fyi, I have received turn-ins sent from URCS addresses to the course address that were 20MB or even 25MB in size, although your turn-ins typically will be far smaller than that).

Web: The course web page is www.cs.rochester.edu/courses/200/spring2015/, and you can find the most up-to-date version of this course information document/syllabus and some helpful links here, and a heads-up on what is coming during the next few classes.

Please make sure to set your browser’s preferences so that it does not cache old pages/files, or at least that it checks up-to-dateness every time, as not doing so could lead to your not seeing the most recent revisions of course documents.

A Final Comment: Research is very demanding and challenging. Most lines of research attack fail, though some failures themselves lead to new partial results. So don’t be discouraged to find that research can be amazingly difficult. And don’t be surprised if you find some small sense of

satisfaction, at some time during the course, over discovering that some failed research line that you've followed does yield some partial result. So follow the rules (of the course), be creative (in research), and (I hope you will) enjoy (the lectures on doing research, and even more so, doing research yourselves)!