**Course plan and syllabus**

**Instructor:** Sandesh Dhawaskar Sathyanarayana [sadh0344@colorado.edu](mailto:sadh0344@colorado.edu)

Monday: 10:45 am to 11:45 am MDT B\_ECCS Eng Ctr Comp Sci 102.

Appointment by Email.

**TA’s**:

Email or office hours

Golnar Gharooni Fard: [Golnar.GharooniFard@colorado.edu](mailto:Golnar.GharooniFard@colorado.edu)

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Si Shen: [Si.Shen@Colorado.EDU](mailto:Si.Shen@Colorado.EDU)

Office hours: Th: 4- 45 pm and F 11 -11.45 AM MDT.

**Graders:**

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| SNO | Course Topics | Reading List | Date |
| 1 | Overview and Bits, Bytes and Integers | 1 and 2.1 | 4th-June |
| 2 | Bits, Bytes and Integers | 2.1 – 2.3 | 5th -June |
| 3 | Bits, Bytes and Integers | 2.1-2.3 | 6th-June |
| 4 | Quiz 1 and Data Lab released |  | 7th -June |
|  | Recitation on Data Lab  **Data Lab is released and due on 18th June** |  | 8th-June |
| 5 | Floating Points | 2.4 | 11th-June |
| 6 | Machine Programming: Basics | 3.1 to 3.5 | 12th-June |
| 7 | Machine Programming: Control | 3.6 | 13th-June |
| 8 | Machine Programming: Procedures and bomb lab released | 3.7 | 14th-June |
|  | **Bomb Lab Recitation**  **Due on 25th June** |  | 15th -June |
| 9 | Machine Programming: Data | 3.8-3.9 | 18-June |
| 10 | Machine Programming: Advanced | 3.10 | 19-June |
| 11 | Code Optimization | 5 | 20-June |
| 12 | Quiz 2 and attack lab will be released | All the reading list above from SNO 1 to SNO 9 | 21st-June |
|  | **Attack Lab recitation**  **Due on 2nd July** |  | 22nd -June |
| 13 | Memory hierarchy | 6.1 to 6.3 | 25th-June |
| 14 | Cache Memory | 6.4 to 6.7 | 26th-June |
| 15 | Linking | 7 | 27th -June |
| 16 | ECF-Signals and Process | 8.1 to 8.4 | 28th-June |
| 17 | Midterm Exam | Till SNO 14 | 29th -June |
|  | Midterm Examination will be held in Friday, **June 29, 2018**  **6:30 PM - 8:00 PM Midterm Exam (Web Request Booked) B\_DLC DLC - 1B65 Murray and 1B70** |  |  |
| 18 | ECF: signals and non-local Jumps | 8.5 to 8.8 | 2nd -July |
| 19 | System Level I/O | 10 | 3rd -July |
| 20 | Virtual Memory-Concepts | 9.1 to 9.6 | 4th -July |
| 21 | Virtual Memory-Systems and Perf lab released | 9.7 to 9.8 | 5th -July |
|  | **Recitation on Perf Lab**  **Due on 16th -July** |  | 6th -July |
| 22 | Dynamic Memory Allocations: Basics | 9.9 | 9th -July |
| 23 | Dynamic Memory Allocations: Advanced | 9.10-9.13 | 10th -July |
| 24 | Network Programming-1 | 11.1 – 11.3 | 11th -July |
| 25 | Network Programming-2 and shell lab released | 11.4 | 12th -July |
|  | **Recitation on Shell lab**  **Due on 23rd July** |  | 13th -July |
| 26 | Quiz 3 | SNO 15 to SNO 25 | 16th -July |
| 27 | Concurrency | 12.1 to 12.3 | 17th -July |
| 28 | Synchronization: Basics | 12.4- 12.5.1-3 | 18th -July |
| 29 | Synchronization: Advanced | 12.5.4-5 and 12.7-8 | 19th-July |
|  | No labs, Recitations will be on Finals review. |  |  |
| 30 | Thread level Parallelism | 12.6 | 23rd -July |
| 31 | Yet to decide |  | 24th -July |
| 32 | Quiz 4 | SNO 18 to 29 | 25th -July |
| 33 | Yet to decide |  | 26th -July |
| 34 | Finals | From SNO 1 to SNO 33 |  |

**Prerequisites:** CSCI 2270

**Quizzes and Exam Accommodation:**

You need to talk to me first if you can’t make it to any Quiz or Exams before they are conducted and take my permission, so you can schedule it with one of the TA’s. If you come after the exams or Quizzes, you will not be accommodated unless there is strong reason with proper proof of absence (Ex: Medical Emergency or family emergency). You are responsible to make sure your grades are correct in Moodle page and if you see you been not graded correctly, talk to corresponding TA or grader and if you still find that you have not received full credits then report it to me. But always talk to TA’s before you come to me.

* Exams (50%):
  + Quizzes (20%) - 4 Quizzes each 5 % mainly to prepare you for your exams.
  + midterm (10%) – See course plan – Really hard – Prepare well in advance hence dates are already published.
  + final (20%) – Entire material - Hard
  + If Quizzes and lab assignments are done own well then midterm and finals are cake walk.
* Labs (50%): weighted according to effort
  + Data Lab – 10%
  + Bomb Lab -10%
  + Attack Lab- 10%
  + Buffer Lab- 10%
  + Shell Lab- 10%
  + Malloc Lab – Not sure, if Extra credits

**Textbook:**

*Computer Systems: A Programmer's Perspective*, Randal Bryant and David O'Hallaron, 3rd edition, Addison Wesley, 2010.A rentable electronic version that is much less expensive:

[**https://www.redshelf.com/book/814770/computer-systems-814770-9780134092997-randal-e-bryant-david-r-ohallaron**](https://www.redshelf.com/book/814770/computer-systems-814770-9780134092997-randal-e-bryant-david-r-ohallaron)

**Suggested:**

*The C Programming Language,* Brian Kernighan and Dennis Ritchie, 2nd edition, Prentice Hall, 1988.

[**http://www.intel.com/content/www/us/en/processors/architectures-software-developer-manuals.html**](http://www.intel.com/content/www/us/en/processors/architectures-software-developer-manuals.html)

**Virtual Machine:**

Virtual machine downloads and instructions: [**https://foundation.cs.colorado.edu/vm**](https://foundation.cs.colorado.edu/vm)

**Course Website:**

Please enroll ASAP in the Moodle course web page. Nearly all your class interactions will be available through Moodle. ***The enrollment key is “storage”***

The Moodle site includes two discussion forums. The first is used by the instructors to broadcast to the students. The other is a discussion forum to be used between students. The instructor monitors this forum and will answer questions if a discussion arises.

**Interview Grading for Labs:**

Your primary assignments will be your "Lab Assignments," given every 10 days, each of which will be followed by a grading meeting to review your solution with the TA. The lab assignment could be done in group of 3-4 team people. But everyone are expected to know every detail of lab, you cannot say in grading interview it was implemented or done by other team member, the only reason we allow to work in group is because of time crunch for the assignment as it is summer session. The grade meetings are scheduled on the Moodle site before the assignment is due, and will begin immediately after the due-date of each Lab.

The grades for each lab will be based 50% evaluation of your code submission and 50% upon your explanation of your code/assignment and answering questions about the lab and its concepts. Historically speaking, students that have completed the assignment themselves usually have little problem passing the Q&A portion of the grade.

On the Q&A 50% portion of the grade, you must attend your grading meeting to qualify for Q&A grading points.  If you miss your meeting with the TA (without notifying your TA ahead of time with a suitable reason), this may result in a zero grade for 50% Q&A portion of the assignment.  *It is the responsibility of the student to make sure they get a grading slot!* The TA is under no obligation to reschedule your appointment if you miss your meeting, so write down your meeting times, and don't forget them!

Even if you are unable to submit fully working code/assignment by the deadline, we *strongly encourage you* to keep working at a full solution for the assignment, which should benefit your understanding and ability to answer questions during the Q&A meeting with the TA.

All labs must be written in C and compiled for execution on the class VM, unless otherwise noted.

More information on the grading policy may be posted as needed on the moodle as the semester progresses.

[Plagiarism policy.](https://www.cs.colorado.edu/%7Erhan/CSCI_2400_Fall_2015/plagiarism_policy.htm)

[Disability Policy](https://www.cs.colorado.edu/%7Erhan/CSCI_2400_Fall_2015/disability_policy.htm)

[Religious Observances Policy](https://www.cs.colorado.edu/%7Erhan/CSCI_2400_Fall_2015/religious_observances_policy.htm)

[Discrimination and Sexual Harassment Policy](https://www.cs.colorado.edu/%7Erhan/CSCI_2400_Fall_2015/discrimination_harassment_policy.htm)

[Classroom Behavior Policy](https://www.cs.colorado.edu/%7Erhan/CSCI_2400_Fall_2015/classroom_behavior_policy.htm)