

0. Class Meeting Times/Places and Physical Class-Attendance Arrangement

1. Lecture: Monday/Wednesday/Friday 11:30 - 12:15; Physical Science, Room 110
2. Current enrollment: 25; seating capacity: at least 25
For our physical class-attendance arrangement, we are partitioned into multiple groups (if necessary) based on family names in alphabetical order:
 - (a) range of students' family names: [Baker, . . . , Welch] — allowed to attend Monday, Wednesday, and Friday classes (all weeks).

Read below on “Course Website, Lecture Notes, Conference Videos and Recordings”.

1. General Information

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|-----------------------------|---|---|
| | <u>Instructor: H. K. Dai</u> | <u>Teaching Assistant: Habib Boloorch Tabrizi</u> |
| Office Location: | Mathematics, Statistics, and Computer Science Building Room 209 | |
| Office Hours: | through email | through email |
| Office Phone: | 744-7207 | |
| email Address: | dai@cs.okstate.edu | hboloor@okstate.edu |
| Universal Resource Locator: | http://www.cs.okstate.edu/~dai/ | |

2. Course Description in Current University Catalog

CS 3613: Theoretical Foundations of Computing. Prerequisites: CS 2133 (Computer Science II) and CS 3653 (Discrete Mathematics for Computer Science). Introduction to the classical theory of computer science. Sequential machines and their applications to devices, processes and programming. Models of computation: finite-state automata, push-down automata, Turing machines. The role of non-determinism. Limits of digital computation. Computability and unsolvability. The Church-Turing Thesis.

3. Course Goals

The goal of CS 3613 is to give students an ability to develop and rigorously reason about abstract formal models of computations, and to learn the powers and limitations of such formalism. “Classical” models, such as finite automata / regular expressions, pushdown automata / context-free grammars, and Turing machines will be studied in depth.

4. Course Materials/References

1. Text: [Sip12] M. Sipser. *Introduction to the Theory of Computation*. Cengage Learning, Recent Edition (3rd edition, 2012).
2. Reference: [Mar10] J. A. Martin. *Introduction to Languages and the Theory of Computation*. McGraw-Hill, Recent Edition (2010).

5. Course Website, Class-Streaming, Recording-Videos, and Lecture Notes

Our course Website is maintained on the campus-wide online learning system Canvas, which can be accessed through “<https://my.okstate.edu>”.

Since the information in our class pages will be constantly updated, please check in Canvas regularly (Announcements, Assignments, Conferences, Modules, etc.).

General notes:

1. Our regular classes (Monday/Wednesday/Friday 11:30 - 12:15) will be live-streamed via Canvas Conferences program, and their recording-videos will be available in Canvas Conference and/or Canvas Module.
2. All class materials (announcements, lecture notes, assignments, etc.) will be disseminated on Canvas.

6. Homework and Examinations

There will be about six homework assignments, one test, and one final examination. The formats and details of the test/examination will be announced.

7. Course Grade

The course grade is based on the homework (40%), test (25%), and final examination (35%). The passing letter-grade is determined by the following partition of the course grades:

D : [50, 60); C : [60, 70); B : [70, 85); and A : [85, 100]

8. Miscellaneous

1. **Lectures:** Lectures are not mandatory, but historically, students with active attendance/coursework have done significantly better on examinations than their less frequently attending classmates.
2. **Homework:** Problem sets form an important part of the learning in the course, and thus, you are required to do them in order to pass.
3. **Collaboration and Sharing:** You are encouraged to discuss approaches with other students on solutions of assigned coursework, but you must write up solutions on your own **independently** and acknowledge your source in the write-up for each problem. If you obtain a solution with help (e.g., through library or publicly available work, or academic work by other students — whether in this or previous semesters), acknowledge your source, and write up the solution on your own.

Notes: Read relevant documents/guidelines about academic integrity at Oklahoma State University in Academic Integrity Resources at the following URL:

<https://academicintegrity.okstate.edu/>

9. Student Disability Services

Student Disability Services and other Student Services are committed to providing support services to students with physical and learning disabilities. Please advise the instructor of desired academic accommodations, and notify Student Disability Services.

10. Academic Dishonesty or Misconduct

Refer to the section in “University Academic Regulations” in current “University Catalog” (<http://registrar.okstate.edu/>)

11. Adding/Dropping/Withdrawing, Important Dates, and Syllabus Attachment

1. **Test and Final Examination:** Tentative date for the test is October 7 (Wednesday), 2020.
The exact format and details of the final examination will be announced. The examination will be scheduled on the same date stated in the university’s “Fall 2020 Final Exam Schedule”: 10:00 – 11:50 am, December 11 (Friday), 2020.
Refer to the section in “Fall 2020 Final Exams”:
<http://registrar.okstate.edu/Exams>
2. **Adding/Dropping/Withdrawing and Important Dates:** Refer to the section in “Current Syllabus Attachment”:
<http://registrar.okstate.edu/>
3. **Syllabus Attachment:** Refer to:
<http://academicaffairs.okstate.edu/content/resources-students>