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Greensheet

(Our Contract)

Lecture 01

Day 01/31

CS 154

Formal Languages and Computability

Spring 2019

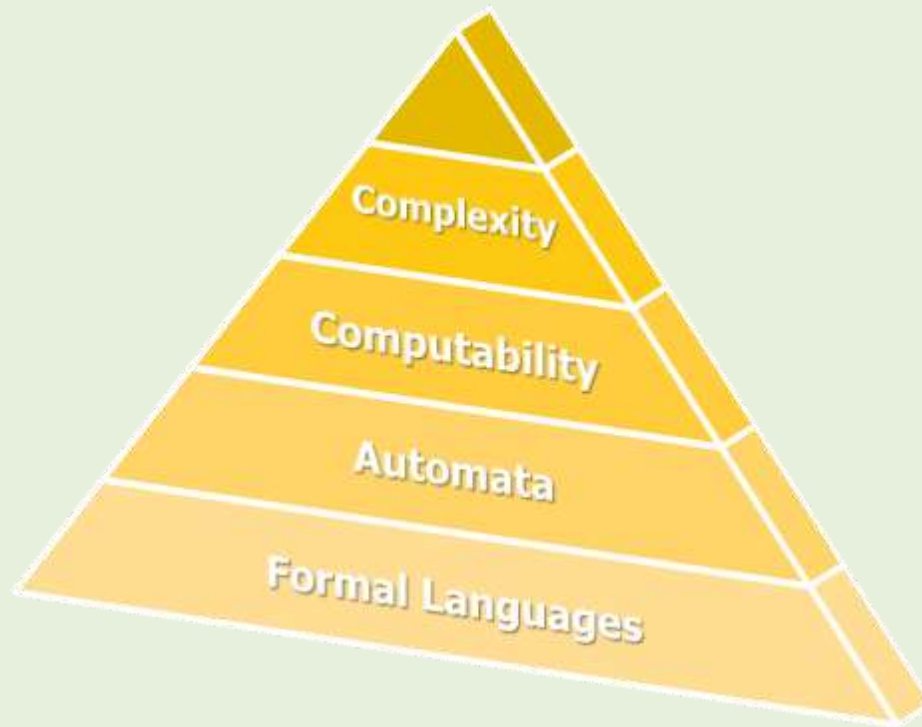
Agenda of Day 01

- Big Picture of the Course
- Detail of the Course!
- About My Teaching Style!
- Enrollment Process for Students in Waiting List
- About Me!
- About You!

Big Picture of the Course

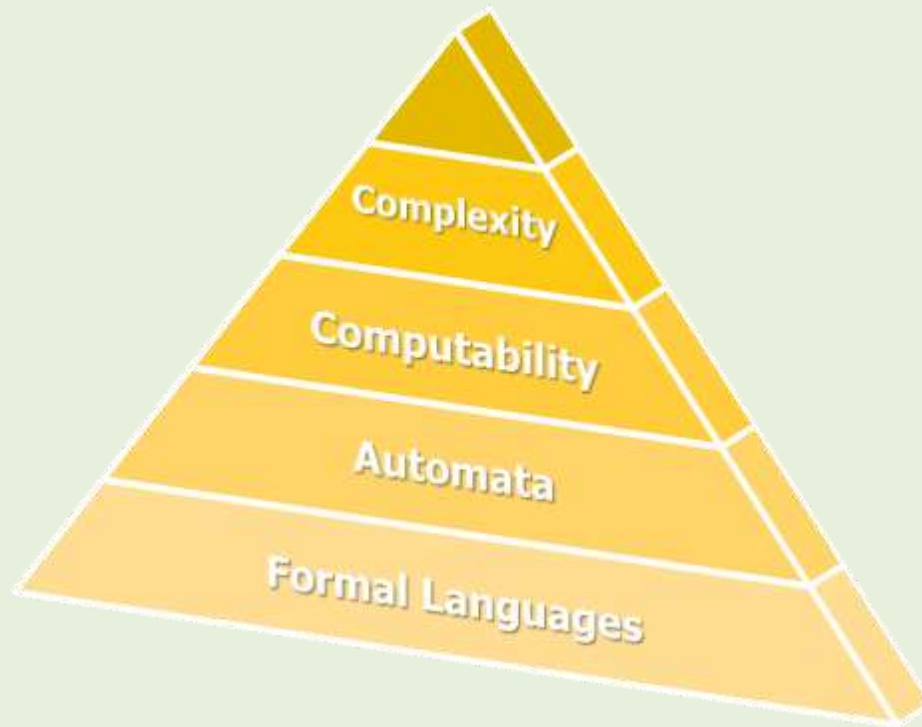
What is Computer Science?

- The foundation of the computer science is called:
"Theory of Computation".
- This theory is divided into four branches:

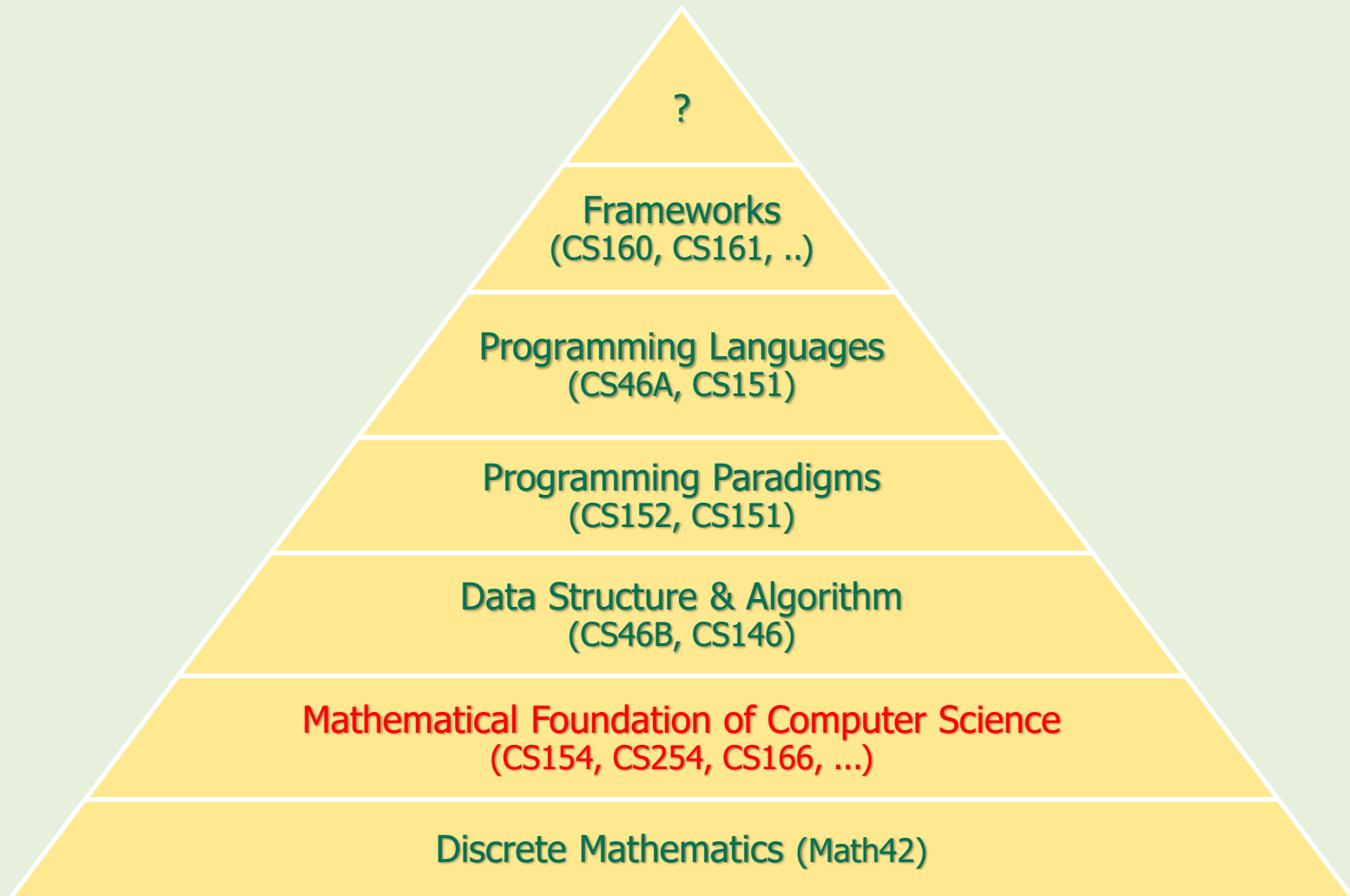


What is Computer Science?

- The first three from the bottom show:
 "What can be done with computers?"
- The forth one, **complexity**, shows:
 "What can be done in practice?"



Computer Science **Ingredients**



This Course From **Different Angle**

- So far, whatever you have learned was:

Macro-Computing!

- Now we want to have a journey to:

Micro-Computing"!

- We want to discover the "**atoms**" and "**molecules**" of computing.
 - The smallest devices that can compute.

What is the role of this course in your career?

- This course gives you a taste of the theory of computation.
- The role of this course for computer scientists is:
The same role as of Newton's laws for mechanical engineers.
- In my job interviews:
 - As interviewee, nobody asked me any question about this course!
 - As interviewer, I don't ask anybody about this course!
- If your job is related to compiler writing or the like, then there might be many questions from this course!

Detail of the Course!

Course Objective

- We'll review some topics from Math42 that we would need in this course.
- We'll define precisely what a formal language is?
 - A language that is defined based on mathematics.
- We'll construct some machines that understand those languages.
- We'll investigate what kind of machines can understand what kind of languages.
- In fact, we'll see the evolution of the machines while the languages become more complex.

Course Objective

- We'll define the concept of computation.
- We'll classify the languages based on their complexity.
- We'll discover what problems can be solved by computers, and what problems cannot?
- We'll talk about grammars, regular expressions.
- And more ...!

Prerequisites

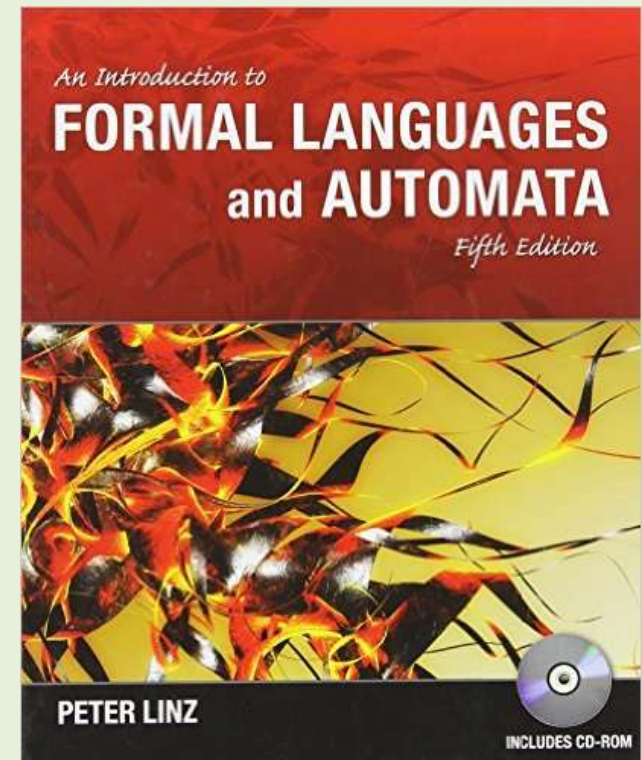
- Math 42: Discrete Mathematics
- CS 46B: Introduction to Data Structure
- To take this course, you'd need a grade C- or better
- Those of you who enrolled, I assume the software has already checked these prerequisites.
- Those who will get add-code from me are required to prove me they have passed these courses.

Optional Textbook (My Lecture Notes are Enough)

- Peter Linz, "An Introduction to Formal Languages and Automata," 5th edition, Jones & Bartlett Learning
 - ISBN-13: 978-1449615529

Further Reading

- The references at the end of each lecture note.
- The criteria is my lecture notes.
- If you refer to some websites about something, it is not acceptable unless you can convince me.



My Office and Office Hours

| Item | Description |
|---------------------|--|
| My Office | MH 413 |
| Office Hours | TR 07:15 – 09:15 PM (with appointment) |

- We might have some online office hours during the semester.

Assessments

How I assess you?

- I believe:

"Assessment is a continuous process, not just couple of tasks."

- I spanned the assessment over the semester.
- We'll have 10 quizzes, assignments, official exams, and term project to assess you.
- You'll need at least 6 to 10 hours per week to dedicate to this course.
- So, be hard worker during the semester if you want good grade!

Assignments

- There would be some individual assignments.
- It is worth 10% of your final grade.

Late Penalty

- To practice time management, late assignments will lose 20% of points and an additional 20% for each 24 hours after the due date.

Term Project

- There would be an individual or team-based term project.
- It is worth 15% of your final grade.
- I'll announce it in the middle of the semester.
 - Because we need some initial knowledge to understand it.
- You'll have 6 weeks to finish it.

Examinations

- Every Thursday, we'll have a short quiz.
 - 10 quizzes, 3% each (= 30%).
- There would be two midterms (10% + 15%) and one final (20%).
 - Please refer to my greensheet for their schedule.
- All examinations cover all materials from the beginning of the semester!
- All examinations are closed book.
 - Because they are about the concepts.

Grading in a Glance

| Item | Percent |
|--------------|-------------|
| Project | 15% |
| Assignments | 10% |
| Quizzes | 30% |
| Midterm #1 | 10% |
| Midterm #2 | 15% |
| Final | 20% |
| Total | 100% |

| From | To | Grade |
|-----------|--------------|-----------|
| 97 | 100 | A+ |
| 92 | 96.99 | A |
| 90 | 91.99 | A- |
| 88 | 89.99 | B+ |
| 82 | 87.99 | B |
| 80 | 81.99 | B- |
| 78 | 79.99 | C+ |
| 72 | 77.99 | C |
| 70 | 71.99 | C- |
| 68 | 69.99 | D+ |
| 62 | 67.99 | D |
| 60 | 61.99 | D- |
| 0 | 59.99 | F |

Grading Policy

- Your final grade might be adjusted depending on:
Your level and "quality of participation" in the class activities
- If the FINAL GRADES are NOT normal (I doubt!), then I might curve them.
 - But so far, I've never curved!
- I do NOT have any policy like "dropping the worst grade" or the like.

About my Teaching Style!

About my Teaching Style!

- In each session, I'd like to move the **WHOLE CLASS** one step forward!
- That's why all sessions are:
 - Very interactive
 - Full of Questions and Answers
 - Brain storming

The Veto Right

- Half + 1 of class can vote for ...
 1. Assignments due date and move it to the next session!
 2. Extending exams time!
- I'll let you know in advance if you cannot veto something.

Etiquette: Classroom Protocol

- Please be on time!
- Participate in the class activities as much as you can.
- Ask good questions (in class or Canvas discussion) as much as you can and get extra credit!
- Be patient about strange and easy questions from students or me!
- Attendance is highly recommended, but it is not mandatory, except for exams.

Etiquette: Classroom Protocol

Using Cell Phone

- It should be in silent mode.
- It should be kept in your pocket or backpack,
- It should NOT be used AT ALL in my class.
 - So, if I see a cell phone on your desk, I have the right to take it!!!
- This is me when I see someone is using cell phone in my class!
- Laptops should remain closed unless you use them for taking notes.
 - Any other usage of laptops are strictly forbidden!



Enrollment Process for Waiting List Student

Enrollment Process for **Waiting List Student**

- I **WILL NOT** enroll more than 30 students in this class.
 - Because it affects the quality of my teaching and the quality of students' learning.
- If someone drops the course, then I'll give add-code based on the priorities.
- Let's see what are the enrollment priorities?

Waiting List Enrollment Priorities

University Policy

- Priority 1: graduating seniors with senior cards from the Records Office (the color of this card changes from semester to semester.)
- Priority 2: international students with visa issues, students with verifiable issues or scholarships, and conditionally admitted graduate students who can prove that passing your class is one of their conditions.
- Priority 3: seniors and grad students
- Priority 4: all other CS majors
- Priority 5: all other majors
- Priority 6: students who are repeating the class
- Priority 7: open university students

About Me!

Personal Info and Education

- My name is **Ahmad Yazdankhah**.
 - You can call me: **Ahmad** or **Professor**
 - In previous semesters some students invented new names for me such as: "**Yazi**", "**Mr. Y**"!
- I am married (25 years) and I have a son of 23.
- I have a **bachelor** in **EE**, and a **bachelor** in **CS**,
- And my **master** is in **CS** from SJSU.

My Job Experiences

- I have 12 years teaching experience
- I have been in business and industry for more than 20 years.
- The job roles I had so far:
 - Application programmer
 - Software architect
 - Database designer
 - IT manager
- Currently, I am a senior information developer in Perspecta (former HP).

My Interests

Science

- Logic, Math, Computer Science, Philosophy

Game

- Backgammon, Sudoku, Chess, and any kind of puzzle solving games!

Sport

- Soccer, paragliding, basketball, table tennis, hiking, swimming

Misc.

- Making lecture notes is my hobby!

- I hate politics!!!

How to Communicate with Me?

- The best way to communicate with me about your personal and private questions is email.
- My email: ahmad.yazdankhah@sjsu.edu
- For questions about the course, assignments, exams, quizzes, and ..., please open a discussion in the Canvas.
 - The more Questions/Answers, the more extra credit!
- If you know the answer of a question, go ahead and answer it.
- Don't wait for me to respond.

How to Communicate with Me?

BAD Email

Subject: CS 154 for Spring Semester

Good morning professor Yazdankhah,

My name is XX YY (international student) and I am a computer science major here at SJSU.

I am currently in your CS154, Tu Th 4:30 – 5:45 class and my student ID is 00123456.

My mother-in-law is going to visit us next Thursday, Feb 23th, 2017 and I have to pick her up from airport.

So, I have to miss the quiz and I am wondering whether there is any way to make it up?

Sincerely yours,

XX YY

Good Email

Subject: CS154-01: Missing next quiz

Hi Ahmad, (or just Hi)

I have to miss next quiz due to a family emergency. Is there any way to make it up?

XX YY

Notes

- Never reveal your student ID
- Be as concise as you can

About You!



About You!

Assignment #00

- I'll ask you to upload a **portrait of yourself** in your Canvas profile.
 - Of course, if you don't already have it.

Assignment #0

- I'll post a form into Canvas **this weekend**.
- I'll need some information about you to handle this semester better.
- Please fill it out and submit before the due date.

Notes

- All assignments would be mandatory when I post them in Canvas.
- For millions of reasons, Canvas may or may not send you notifications.
- As a student, it is your job to check whether you have any assignment or not.

Any Question?