

**Ahmad Yazdankhah**

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# **Greensheet**

## **(Our Contract)**

**Lecture 01**  
**Day 01/31**

**CS 154**  
**Formal Languages and Computability**  
**Spring 2018**

# Agenda of Day 01

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

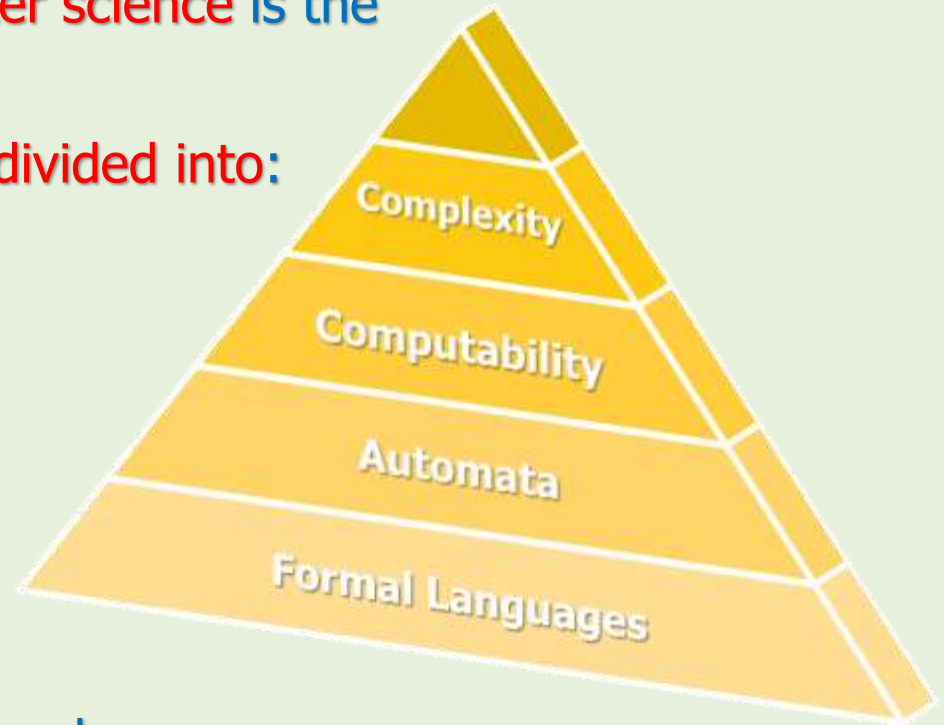
# Big Picture of the Course

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# What is Computer Science?

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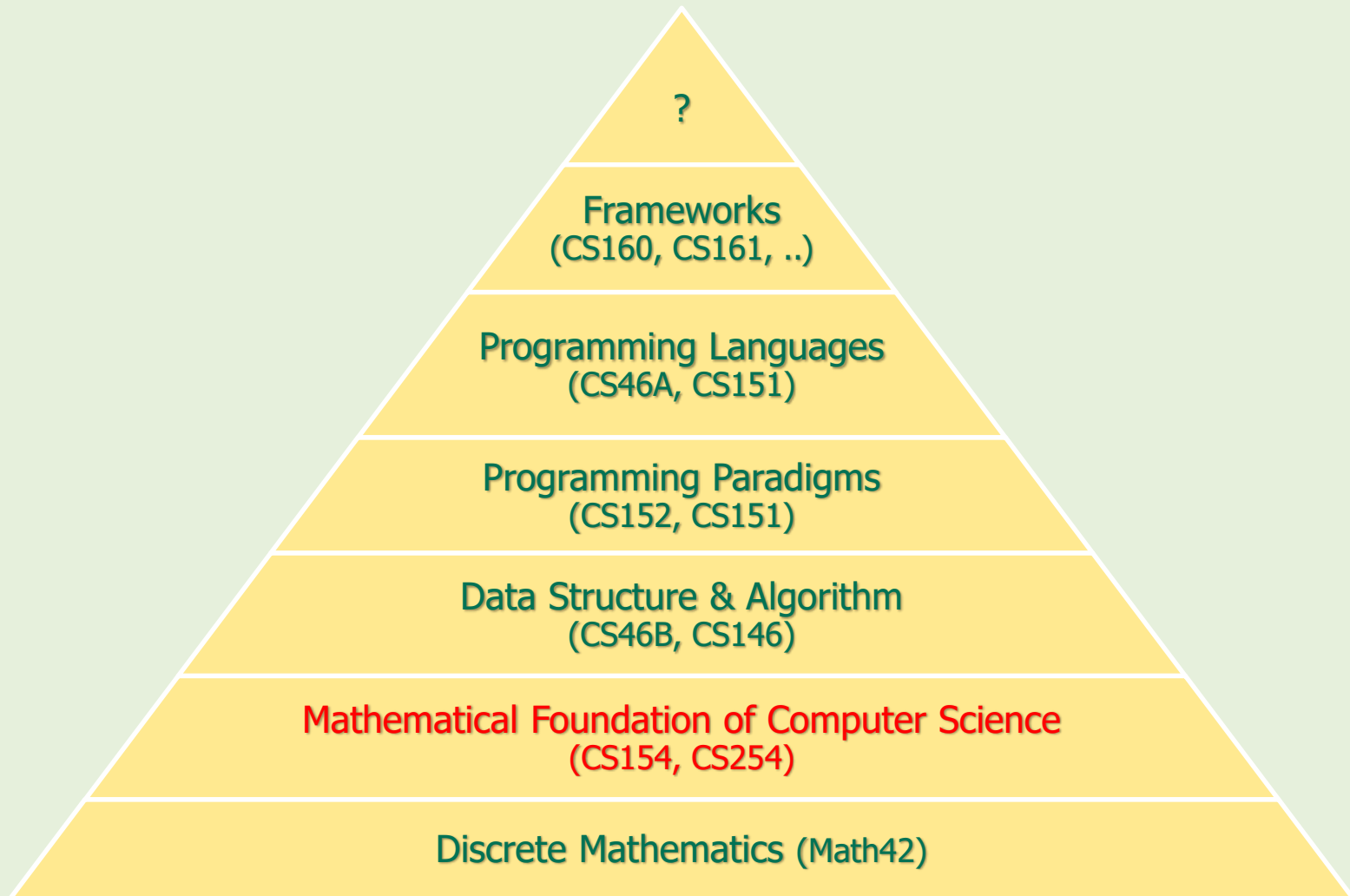
- The foundation of the computer science is the "theory of computation".
- The theory of computation is divided into:



- 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**

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# This Course From **Different Angle**

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- 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?

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- 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:
  - Nobody asked me any question about this course!
  - I don't ask anybody about this course when I am in the interview panel!
- If your job is related to compiler writing or the like, then there might be many questions from this course!

# Detail of the Course!

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# Class Brief Info + Office Hours

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Item	Description
Name	CS 154: Formal Languages and Computability
Section	01
Room	MH 233
Meeting Time	TR 04:30 – 05:45 PM
My Office	MH 213
<b>Office Hours</b>	TR 03:00 – 04:15 PM (with appointment)

# Class Brief Info + Office Hours

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Item	Description
Name	CS 154: Formal Languages and Computability
Section	02
Room	MH 233
Meeting Time	TR 06:00 – 07:15 PM
My Office	MH 213
<b>Office Hours</b>	TR 03:00 – 04:15 PM (with appointment)

# Course Objective

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- The basic concepts and applications of:
  - Formal languages  
(definition, operations, classes, grammars, regular expression, ...)
  - Automata Machines (DFA, NFA, NPDA, Turing machine)
- The concepts of deterministic and nondeterministic
- The basic concepts of computability
- The basic concepts of complexity

# Course Objective

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- We'll review those 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 see what kind of machines can understand what kind of languages.
  - In fact, we'll see the evolution of the machines to understand more complex languages.

# Course Objective

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- We'll define what the computation's concept is?
- We'll classify the languages based on their complexity.
- We'll define what problems can be solved and what problems cannot?

# Prerequisites

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- Math 42: Discrete Mathematics
- CS 46B: Introduction to Data Structure
- To take this course, you'd need a grade C- or better

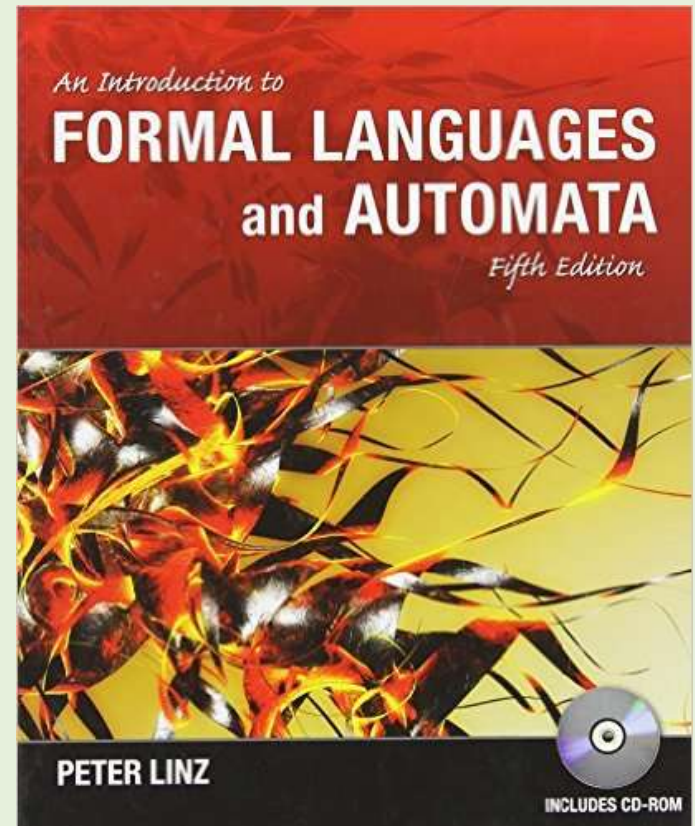
# Required Text

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- 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.



# Assessments

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# How I assess you

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- I believe:
  - "Assessment is a continuous process, not just couple of tasks."
- I spanned the assessment over the semester.
- We'll have several 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

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- There would be some individual assignments (10%).

## 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

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- 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

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- 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 the exams times.
- 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%
<b>Total</b>	<b>100%</b>

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
<b>70</b>	<b>71.99</b>	<b>C-</b>
68	69.99	D+
62	67.99	D
60	61.99	D-
0	59.99	F

# Grading Policy

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- Your final grade can 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!

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# About my Teaching Style!

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- 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 **veto** assignments due date and move it to the next session!
- I'll let you know in advance if you cannot veto something.



# Etiquette: Classroom Protocol

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

# Etiquette: Classroom Protocol

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## 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 are using them for taking notes.
  - Any other usage of laptops are strictly forbidden!

# **Enrollment Process for Waiting List Student**

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# Enrollment Process for **Waiting List Student**

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- Use CS department website (<http://www.sjsu.edu/cs/>) to request a permission code at:

<https://goo.gl/forms/ZMRnfxsK6llvxZoi2>

- 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

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## 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!

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# Personal Info and Education

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- My name is **Ahmad Yazdankhah**.
  - You can call me: **Ahmad** or **Professor**
  - In previous semesters some students called me "**Yazi**", "**Mr. Y**"!
- I am married (24 years) and I have a son of 22.
- I have a **bachelor** in **EE**, and a **bachelor** in **CS**,
- And my **master** is also in **CS** from SJSU.

# My Job Experiences

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- I have 11 years academic teaching experience
- I was also in business and industry 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 DXC.technologies (former HP).



# My Interests

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## Science

- Logic, Math, Philosophy, Computer Science

## Game

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

## Sport

- Soccer, paragliding, basketball, table tennis, hiking

## Other

- Making lecture notes is my hobby!

- I hate politics!!!

# How to Communicate with Me?

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- The best way to communicate with me about your personal and private questions is email.
- My email: [ahmad.yazdankhah@sjsu.edu](mailto:ahmad.yazdankhah@sjsu.edu)
- For any other questions about the course, assignments, exams, quizzes, and ..., please open a discussion in the Canvas.
  - The more questions, the more extra credit!
- Anybody who knows the answer can respond.
- In other words, don't wait until I respond.
  - The more responses to the questions, the more extra credit!

# 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!

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# About You!

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## 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.

**Any Question?**

# References

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- You can find the actual greensheet online at:
- <http://www.sjsu.edu/cs/practicalities/syllabi/fall-2017/CS154-Sections1-2-F17.pdf>
- I copied it in the Canvas as well. Here is the location:
- Files\Greensheet\S18-Ahmad Y-CS154-Greensheet-Sec01-02.pdf