



Jordan University of Science and Technology
Faculty of Computer & Information Technology
Computer Science Department

CS282 Theory Of Computing
First Semester 2021-2022

Course Catalog
3 Credit Hours. This course is designed for an introductory course on the theory of computation; formal languages, automata, computability, and related matters.

Text Book	
Title	An Introduction to Formal Languages and Automata
Author(s)	Peter Linz, Jones and Bartlett
Edition	5th Edition
Short Name	Textbook
Other Information	http://eng.uok.ac.ir/daneshfar/IntroductionToFormalLanguages/Peter%20LinzBook%205ed/An%20Introduction%20to%20Formal%20Languages%20and%20Automata%20-%205th%20Edition%20-%20202011.pdf

Course References

Short name	Book name	Author(s)	Edition	Other Information
Ref 1	Introduction to Languages and the Theory of Computation	John Martin	3rd Edition	Mc Graw Hill, 2003
Ref 2	Elements of the Theory of Computation	H. Lewis and C. Papadimitrios	2nd Edition	Prentice Hall, Inc, 1998
Ref 3	Introduction to Computer Theory	Daniel Cohen	2nd Edition	John Wiley & Sons, Inc, 1997
Ref 4	Introduction to Automata Theory, Languages, and Computation	J. Hopcroft, R. Motwani, and J. Ullman	2nd Edition	Addison Wesley Higher Education, 2001.

Instructor	
Name	Prof. Mohammad Al-Towaiq
Office Location	Ph L0
Office Hours	Sun : 10:00 - 12:00 Mon : 12:00 - 13:00 Tue : 10:00 - 12:00 Wed : 12:00 - 13:00
Email	towaiq@just.edu.jo

Class Schedule & Room	
Section 1: Lecture Time: Sun : 08:30 - 10:00 Room: PH2101	
Section 2: Lecture Time: Tue : 08:30 - 10:00 Room: PH2101	

Prerequisites		
Line Number	Course Name	Prerequisite Type
1761120	SE112 Introduction To Object- Oriented Programming	Prerequisite / Study
902411	MATH241 Discrete Mathematics	Prerequisite / Study

Tentative List of Topics Covered		
Weeks	Topic	References
Weeks 1, 2	Review of Mathematical Preliminaries	Chapter 1 From Textbook
Weeks 3, 4	Finite Automata	Chapter 2 From Textbook
Weeks 5, 6	Regular Languages and Regular Grammars	Chapter 3 From Textbook

Weeks 7, 8	Properties of Regular Languages	Chapter 4 From Textbook
Weeks 9, 10	Context-Free Languages (CFL)	Chapter 5 From Textbook
Weeks 11, 12	Simplification of Context-Free Grammars	Chapter 6 From Textbook
Weeks 13, 14	Pushdown Automata & CFL	Chapter 7 From Textbook
Weeks 15, 16	Introduction to Turing Machines and variations	Chapter 9 From Textbook

Mapping of Course Outcomes to Program Student Outcomes	Course Outcome Weight (Out of 100%)	Assessment method
Ability to apply knowledge of computing and mathematics appropriate to the discipline. [3SO1, 5SO2, 7SO6]	15%	
Ability to design, implement, and evaluate a computer-based system, process, component, or program to meet the desired needs. [5SO1, 5SO2, 8SO3, 2SO4, 5SO5, 5SO6]	30%	
Ability to function effectively in teams to accomplish a common goal. [5SO3, 2SO4, 3SO6]	10%	
Ability to use current techniques, skills, and tools necessary for computing practice. [6SO1, 6SO2, 5SO3, 3SO6]	20%	
Ability to apply design and development principles in the construction of complex and noncomplex software systems. [8SO1, 5SO2, 5SO3, 7SO6]	25%	

Relationship to Program Student Outcomes (Out of 100%)					
SO1	SO2	SO3	SO4	SO5	SO6
22	21	23	4	5	25

Evaluation	
Assessment Tool	Weight
Midterm	30%
Final exam	50%
Quizzes	20%

Policy	
Exams	? The format for the exams is generally (but NOT always) as follows: computation, theory, analysis, and design. ? Grades will not be given out via e-mail. ? No unexcused missed exams will be accepted. All exams are closed-book exams. ? The final exam covers all the material in the course.
Makeup Exams	? Let the instructor know about your makeup exam before 3 days prior to the scheduled exam time. ? Makeup exam should not be given unless there is a valid excuse.
Drop Date	? Last day to drop the course according to the university calendar.
Cheating	? Cheating or copying from neighbor on exam, quiz, or homework is an illegal and unethical activity. ? Standard JUST policy will be applied. ? All graded assignments must be your own work (your own words).
Attendance	? Excellent attendance is expected. ? JUST policy requires the faculty member to assign ZERO grade (35) if a student misses 20% of the classes that are not excused. ? Sign-in sheets will be circulated. ? If you miss class, it is your responsibility to find out about any announcements or assignments you may have missed.
Workload	? Average work-load student should expect to spend is 6 hours/week
Graded Exams	? Instructor should return exam papers graded to students during the week after the exam date.
Participation	? Participation in, and contribution to class discussions will affect your final grade positively. Raise your hand if you have any question. ? Making any kind of disruption and (side talks) in the class will affect you negatively.
Finally	? Smoking is prohibited in all in-door places.

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