



Course Name	Formal Language and automata
Prerequisite course	Probability and Statistics in Engineering
Corequisite course	Signals and Systems
References	<ol style="list-style-type: none">1. Peter Linz An Introduction to Formal Languages and Automata 6-th Edition 20162. Thomas A.sudkamp Languages and machine: An introduction to theory of computer science 3 th Edition
Course instructor	Dr. Babak Nasersharif
Syllabus	<ol style="list-style-type: none">1. Grammar and Languages definition2. Regular Expression Definition3. Finite Automata – deterministic finite automata (DFA)4. Finite Automata- Non-deterministic finite automata (NDFa)5. Finite Automata –Converting NDFa to DFA6. Finite-State Transducers (FST)7. Regular Expressions and Finite Automata8. Regular Grammars9. Properties of Regular Languages10. Pumping Lemma for regular languages11. Context-free languages and grammars12. Normal forms for context-free languages13. Push-Down Automata (PDA)- Non-deterministic PDA14. Converting NPDA to grammars and vice versa15. Deterministic PDA16. Properties of context-free languages17. Pumping Lemma for context-free languages18. Turing machines19. Other kinds of Turing machines20. Context-sensitive and unrestricted languages