

Course Topics & Reading Schedule

	Topic	Course Note Chapters	OOAD Chapters	# of lectures
Object-Oriented Analysis and Design with Applications	Introduction <ul style="list-style-type: none"> Course description Software complexity 	1	Chapter 1: All sections	2
	Supplementary papers			
	The Object Model <ul style="list-style-type: none"> Basic and advanced elements of the Object Model 	2-A 2-B	Chapter 2: All sections	3
	Objects and Classes <ul style="list-style-type: none"> Fundamental concepts and life-cycle Basic structural and behavioral modeling in UML Classes and objects 	3-A 3-B 3-C	Chapter 3: All sections	5
	Classification <ul style="list-style-type: none"> Classification categories and Classes, Responsibilities, and Collaborators Basic behavioral modeling, Use-cases 	4-A 4-B	Chapter 4: All sections; Chapter 5, 175-185	2
	UML Specification Languages <ul style="list-style-type: none"> Advanced structural modeling Advanced behavioral modeling 	5.1-A 5.1-B 5.2-A 5.2-B	Chapter 5: 147-175, 192-212, 218-231	7
Design Patterns	Software Design Patterns <ul style="list-style-type: none"> Concepts & methods Creational Behavioral Structural 	1 2 3 4	Lecture Notes	4
Software Architecture in Practice	Architecture Business Cycle <ul style="list-style-type: none"> Background and basic concepts 	1	Chapter 1: All sections; Preface and 1-2	0.5
	Elements of Software Architecture <ul style="list-style-type: none"> Architectural styles, reference models, reference architectures Architectural structures 	2	Chapter 2: All sections	1
	Understanding and Design Quality Attributes <ul style="list-style-type: none"> Functional and non-functional quality attributes Systema and business quality attributes 	3	Chapter 3: All sections	1

OOAD: Object Oriented Analysis and Design with Applications, 3rd Edition, G. Booch, et al., Addison Wesley, 2007.

DP: Design Patterns: Elements of Reusable Object-Oriented Software, E. Gamma, R. Helm, R. Johnson, J. Vlissides, Addison Wesley, 1994.

SAP: Software Architecture in Practice (SAP), 3rd Edition., L. Bass, P. Clements, R. Kazman, Addison Wesley, 2012.