



Al-AI Bayt University
Prince Hussein bin Abdullah Faculty of Information Technology
Computer Science Department

Course Syllabus

Course Title	Object Oriented Software Development	Course Code	901710
Coordinator	Dr. Najah Al-shanableh	Prerequisite(s)	
E-mail	Najah2746@aabu.edu.jo	Credit Hours	3
Office Hours	Monday, Tuesday, and Wednesday 11:00 am – 12:00 pm		
Course Is	<input checked="" type="checkbox"/> Required		<input type="checkbox"/> Elective

Course Description:

Principles of object-oriented programming. Methods and tools used in the development and testing of software: architectural design, component design, interface specification, and data and algorithm specification and design. Object-oriented design using current tools (e.g., UML). Distributed object architectures. Specification and design project. The focus of the course is on achieving advanced knowledge of the Object-Oriented Programming paradigm and the Object-Oriented Software .Development

Course Learning Outcomes (CLO):

To have solid knowledge of methods and techniques in Object Oriented Programming
To explain and apply object-oriented modeling principles and their purpose (e.g., abstraction, .(encapsulation, decomposition, generalization
To apply design guidelines for modularity, separation of concerns, information hiding, and conceptual .integrity to create a flexible, reusable, maintainable design
To understand the fundamental OOP concepts of Objects and their usage, Class design, Interfaces, .Relationships between Classes, Inheritance, Polymorphism
.To demonstrate skill in OO design to propose and communicate solutions
.To exploit the acquired knowledge and abilities to solve problems in a larger variety of contexts
.To demonstrate the capacity for reading and understand other texts on related topics
To explain the tradeoff between cohesion and coupling.

Textbook(s)

Object-Oriented Software Engineering: Practical Software Development using UML and Java, Second Edition Timothy C. Lethbridge and Robert Laganière, McGraw-Hill Education, 2005
 Applying UML and Patterns: An Introduction to Object-Oriented Analysis and Design and the Unified Process, 2nd ed., Craig Larman, , Prentice Hall, 2001
 Grady Booch, James Rumbaugh, Ivar Jacobson, “The Unified Modeling Language User Guide”, Addison Wesley, 1999

Readings

Instead of a textbook, required reading will consist of a carefully selected set of historically important and foundational papers as well as more current ones reflecting the latest thoughts. Some papers will be technical while others will be opinions or essays.

Week #	Date	Lecture	Assignments/Readings after class
1	22/9/2019	Introduction	Perharr, K., Liolland, I., Riel, A., & Ma, B. (1988). Object-Oriented Programming : An Objective Sense of Style. <i>OOPSIA '88 Proceedings</i> , (1), 323–334.
2	29/9/2019	object-oriented modeling principles and their purpose.	Aggarwal, Yogesh Singh, A. K. and R. M. (2006). Software Design Metrics for Object- Oriented Software. <i>JOURNAL OF OBJECT TECHNOLOGY Online</i> , 6(1), 121–138.
3	6/10/2019	Basic Concepts of Object Orientation	r, I., Kaur, N., Ummat, A., Kaur, J., & Kaur, N. (2016). Research Paper on Object Oriented Software Engineering. <i>International Journal of Computer Science & Technology</i> , 8491(4), 36–38.
4	13/10/2019	object oriented software development life cycle(SDLC	
5	20/10/2019	UML review	
6	27/10/2019	Object Oriented Analysis and Design	
7	3/11/2019	Midterm Exam	
8	10/11/2019	Object-Oriented Design Patterns	sbaum, J. (2003). Object Oriented Programming And Design Patterns Using OOP as a System. <i>Interactive Multimedia Sheridan College</i> , (March).
9	17/11/2019	Methods and tools used in the development of Object Oriented	hwareshe, A. (2016). Object-Oriented Programming and its Concepts. <i>International Journal of Innovation and Scientific Research</i> , 26(1), 1–6.

		Software	
10	24/11/2019	Methods and tools used in the testing of Object Oriented Software	er, J., Plösch, R., Saft, M., & Körner, C. (2018). Measuring object-oriented design principles : The results of focus group-based research. <i>The Journal of Systems and Software, 140</i> , 74–90. https://doi.org/10.1016/j.jss.2018.03.002
11	1/12/2019	Coupling and Cohesion in detail	ve, V. S., & Khare, A. (2012). Simplified Coupling Metrics for Object-Oriented Software. <i>International Journal of Computer Science and Information Technologies, 3(2)</i> , 3839–3842. ralampidou, S., Ampatzoglou, A., & Avgeriou, P. (2015). Size and cohesion metrics as indicators of the long method bad smell : An empirical study. <i>PROMISE</i> . https://doi.org//dx.doi.org/10.1145/2810146.2810155
12	8/12/2019	Recent research in Object Oriented	iva, J. D. A. G., França, M. S. De, Soares, S. C. B., Filho, F. J. C. L., & Souza, R. M. C. R. De. (2015). Classifying metrics for assessing Object-Oriented Software Maintainability: A family of metrics' catalogs. <i>The Journal of Systems and Software, 103</i> , 85–101. https://doi.org/10.1016/j.jss.2015.01.014
13	15/12/2019	Recent research in Object Oriented	
14	22/12/2019	Review for Final exam	

Evaluation	
Assessment Tool	Marks
- Mid-term Exam*	30
- Assignments (Reports, Quiz, Seminar, Tutorial, etc.) - Discipline, presence and participation	30
- Final Examination	40

Academic Misconduct

The Student Code of Conduct defines academic misconduct, non-academic misconduct and the consequences or penalties for each. The Student Code of Conduct is available in the AABU Student Handbook online: <https://www.aabu.edu.jo/student/current.jsp>

Academic misconduct is explained here:

https://www.aabu.edu.jo/legalaffairs/special_law/law19.doc

Plagiarism

Plagiarism, the passing off of others' words or ideas as your own, is unacceptable in this course and at this university. While it may be naive, I tend to think that most people end up plagiarizing because they are unfamiliar with APA or other formatting guidelines for citations and references. This course emphasizes using citations and references in the APA format to avoid plagiarism.