

Course Code	TKIT163105	
Course Name	Interoperability	
Course Instructors	Lukito/Selo	
Course Type	Required	
Course Classification	Engineering Topics	
Credit / Contact Hour per Week	3 / 150 minutes per Week	
Course Description	This course aims to deliver fundamental knowledge on interoperability, on various level, such as data, application, architecture and services level. Furthermore, this course also provide some of up-to-date example of framework that support interoperability.	
Prerequisites Courses	Software Engineering (TKIT162208)	
Covered Student Outcome	Fundamental Engineering Knowledge Development of Engineering Solution Modern Tool Utilization	
Learning Outcome		
		Study Program Student Outcome
No	Learning Outcome	SO (a) – SO (k)
1.	Student are able to explain the concept and theory of interoperability, and to identify interoperability within an organization or issues between organizations.	Fundamental Engineering Knowledge
2.	Student are able to describe important components of interoperable systems and their mechanisms.	Fundamental Engineering Knowledge
3.	Student are able to use available techniques and tools for developing interoperable systems.	Modern Tool Utilization
4.	Students are able to develop a simple interoperability solution for integration and heterogeneity problems.	Development of Engineering Solution
Topic	<ol style="list-style-type: none"> 1. The background of interoperability. 2. Levels of interoperability (hardware, network, data, application, services) 3. Interoperability and system/application integration in organizations 4. Interoperability primitives (IPC-RPC/RMI) 5. Middleware 6. Building blocks of interoperability (object orientation, interface, XML) 7. Technology: CORBA 8. Technology: web services 9. Development of interoperable systems 10. Interoperability frameworks 11. Interoperability blueprintCase study: Identity Metasystem. 	
Direct Assessment	Direct Assessment Plan	
	Engineering Design Assignment	LO3, LO4
	Mid Exam	LO1, LO2, LO3
	Final Exam	LO1, LO2, LO3
Indirect Assessment	Questionnaire (EDOM)	
References	<ol style="list-style-type: none"> [1] Supriya Ghosh. Net Centricity and Technological Interoperability in Organizations: Perspectives and Strategies. IGI Global. © 2010. [2] Yannis Kalfoglou. Cases on Semantic Interoperability for Information Systems Integration: Practices and Applications. IGI Global. © 2010. 	

	<p>[3] Ferraggine, Viviana E., Jorge Horacio Doorn, and Laura C. Rivero (eds). Handbook of Research on Innovations in Database Technologies and Applications: Current and Future Trends. IGI Global. © 2009.</p> <p>[4] Peltzer, Dwight. .NET & J2EE Interoperability. McGraw-Hill/Osborne. © 2004.</p> <p>[5] Troelsen, Andrew. COM and .NET Interoperability. Apress. © 2002.</p> <p>[6] Laudati, Peter, and et al. Application Interoperability: Microsoft .NET and J2EE. Microsoft Press. © 2003.</p> <p>[7] Wyke, R. Allen, Sultan Rahman, and Brad Leupen. XML Programming. Microsoft Press. © 2002.</p> <p>[8] Liang-Jie Zhang. Web Services Research for Emerging Applications: Discoveries and Trends. IGI Global. © 2010.</p> <p>[9] Siegel, Jon. CORBA 3: Fundamentals and Programming, Second Edition. John Wiley & Sons. © 2000.</p> <p>[10] Sosinsky, Barrie. Cloud Computing Bible. John Wiley & Sons. © 2011.</p> <p>[11] Group, Butler. Unified Communications and Collaboration: Laying the Foundations for Business Process Flexibility and Innovation. Butler Group. © 2008.</p> <p>[12] Bertocci, Vittorio. Programming Windows Identity Foundation. Microsoft Press. © 2011</p>
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