

<b>Course Name</b>	<b>SYSTEM INTEGRATION AND ARCHITECTURE</b>		<b>Course Code</b>	<b>ITEC426</b>		
<b>Credit Hours</b>	3		<b>Contact Hours</b>	Lec	Lab	Total
				2	2	4
<b>Offered as</b>	<input type="checkbox"/> University Requirement <input type="checkbox"/> College Requirement <input checked="" type="checkbox"/> Program Requirement <input checked="" type="checkbox"/> Core <input type="checkbox"/> Elective <input checked="" type="checkbox"/> ITEC <input type="checkbox"/> COMP <input type="checkbox"/> CNET					
<b>Level</b>	8		<b>Prerequisite</b>	<b>ITEC322</b>		
<b>Course Description:</b> This course is designed to provide students with an understanding of Systems Integration (SI) process, approaches, drivers, tools and techniques required for successful SI, critical success factors, and best practices. The course focuses on how a proposed system will be integrated with other existing or planned systems. It addresses the System Integration problem using architectures as the basis and then addresses the evaluation of the architectures in terms of the capabilities they provide. Case studies and examples from the Information Technology (IT), energy, and financial services industry will be used to illustrate the concepts discussed. The students will learn the theory and practice of business process integration, legacy integration, new systems integration, business-to-business integration, integration of commercial-off-the-shelf (COTS) products, interface control and management, testing, integrated program management, integrated Business Continuity Planning (BCP). Specific focus will be given to issues of interface integration and interoperability of systems.						
<b>On completion of this course, the students will be able to:</b> <ul style="list-style-type: none"> <li>◆ Develop the students' ability to learn, create, develop and integrate complex system architectures.</li> <li>◆ Understand the role of system architects and relationship to systems engineering and integration.</li> <li>◆ Apply the system architecture concepts to define an enterprise baseline.</li> <li>◆ Create an architectural blue print for transforming the enterprise.</li> <li>◆ Identify capability gaps as well as redundancies.</li> <li>◆ Perform effective systems integration.</li> </ul>						
<b>Assessment Methods</b>	<input checked="" type="checkbox"/> Mid-Exam	15%	<input checked="" type="checkbox"/> Assignment-1	10%	<input checked="" type="checkbox"/> Assignment-2	15%
	<input checked="" type="checkbox"/> Attendance	-	<input checked="" type="checkbox"/> Lab Exam	20%	<input checked="" type="checkbox"/> Final Exam	40%
<b>Text Book:</b> <ul style="list-style-type: none"> <li>◆ Sage, A. P. and Rouse, W. B. (Eds.), Handbook of Systems Engineering and Management, John Wiley and Sons, New York, Second Edition, 2009.</li> </ul>						
<b>References:</b> <ul style="list-style-type: none"> <li>◆ Benjamin S. Blanchard and Wolter J. Fabrycky, Systems Engineering and Analysis, 5/E, ©2011 Prentice Hall, ISBN-13: 9780132217354</li> </ul>						