

# Course Specifications

<b>Course Title:</b>	<b>Information System Applications Design and Development</b>
<b>Course Code:</b>	<b>CPIS352</b>
<b>Program:</b>	<b>Bachelor of Science in Information Systems</b>
<b>Department:</b>	<b>Information Systems</b>
<b>College:</b>	<b>Faculty of Computing and Information Technology</b>
<b>Institution:</b>	<b>Northern Border University, Rafha</b>

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## A. Course Identification

<b>1. Credit hours:</b> 3			
<b>2. Course type</b>			
a.	University <input type="checkbox"/>	College <input type="checkbox"/>	Department <input checked="" type="checkbox"/>
b.	Required <input checked="" type="checkbox"/>	Elective <input type="checkbox"/>	Others <input type="checkbox"/>
<b>3. Level/year at which this course is offered:</b> Level 8/ Year 4			
<b>4. Pre-requisites for this course (if any):</b> CPIS351 – Information System Analysis and Architecture Design			
<b>5. Co-requisites for this course (if any):</b> Nil			

## 6. Mode of Instruction (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	60	100%
2	Blended		
3	E-learning		
4	Correspondence		
5	Other		

## 7. Actual Learning Hours (based on academic semester)

No	Activity	Learning Hours
<b>Contact Hours</b>		
1	Lecture	45
2	Laboratory/Studio	15
3	Tutorial	
4	Others (specify)	
	<b>Total</b>	60
<b>Other Learning Hours*</b>		
1	Study	45
2	Assignments	10
3	Library	5
4	Projects/Research Essays/Theses	
5	Others (specify)	
	<b>Total</b>	60

\* The length of time that a learner takes to complete learning activities that lead to achievement of course learning outcomes, such as study time, homework assignments, projects, preparing presentations, library times

## B. Course Objectives and Learning Outcomes

### 1. Course Description

This course is designed to explore the design, selection, implementation, and management of Enterprise IT solutions. The focus is on applications and infrastructure and their fit with the business. Topics include frameworks and strategies for infrastructure management, system administration, data/information architecture, content management, distributed computing, middleware, legacy system integration, system consolidation, and software selection, total cost

of ownership calculation, IT investment analysis, and emerging technologies. These topics are addressed both within and beyond the organization, with attention paid to managing risk and security within audit and compliance standards. Students also hone their ability to communicate technology architecture strategies concisely to a general business.

## 2. Course Main Objective

Students will read and analyze the frameworks and approaches for infrastructure management and system administration, along with emerging IT technologies within and beyond the corporation.

## 3. Course Learning Outcomes

CLOs		Aligned PLOs
1	<b>Knowledge:</b>	
2	<b>Skills :</b>	
2.1	Compare contemporary Enterprise Architecture frameworks: TOGAF, Zachman.	S1, S2
2.2	Explain views, viewpoints, stakeholders, etc. in Information systems and ADM and their role in communication.	S1
2.3	Summarize the project work in the form of a written document as well as present it clearly in front of audience.	S4
2.4	Apply the UML modeling models: in Class, Object, Sequence, and Use Case Diagrams.	S2, S3
2.5	Illustrate the foundational elements of Enterprise Architectures i.e. Enterprise Continuum, Building Blocks, Artifacts, Deliverables	S5
3	<b>Competence:</b>	
3.1	Justify how each of the ADM phases contributes to the success of enterprise architecture.	C2, C3

## C. Course Content

No	List of Topics	Contact Hours
1	Introduction : Explanation of What is, Why do I need an Enterprise, Architecture Framework	3
2	EA and Other Governance Instruments, Trends in Enterprise Architecture and Data Center Environments adoptive to businesses	6
3	Methods and Frameworks	6
4	What are Deliverables, Artifacts, Building Blocks, Enterprise Continuum and Repository all about, Description Languages	6
5	Dimensions of Architectural Modeling	6
6	Viewpoints and Visualization	6
7	The Architecture Development Method (ADM)	6
8	Architecture Alignment and IS Architecture	6
Laboratory Works		
1	Introduction to UML modeling models	2
2	Learn how to use case diagram to model interaction	2
3	Learn how to use class diagrams to model interaction	2

4	Learn how to use sequence diagrams to model interaction	2
5	Learn how to model using components diagrams	3
6	Learn how to use deployment diagrams to model network	2
7	Learn how to use communication diagram	2
<b>Total</b>		<b>60</b>

## D. Teaching and Assessment

### 1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
<b>1.0</b>	<b>Knowledge</b>		
<b>2.0</b>	<b>Skills</b>		
2.1	Compare contemporary Enterprise Architecture frameworks: TOGAF, Zachman.	-Problem Solving, -Generative learning	Writing, Performance Observation
2.2	Explain views, viewpoints, stakeholders, etc. in Information systems and ADM and their role in communication.	-Problem Solving, -Generative learning	Writing, Performance Observation
2.3	Justify how each of the ADM phases contributes to the success of enterprise architecture.	-Problem Solving, -Generative learning	Writing, Performance Observation
2.4	Apply the UML modeling models: in Class, Object, Sequence, and Use Case Diagrams.	-Problem Solving, -Lab-based Learning, -Generative learning	Writing, Performance Observation
2.5	Illustrate the foundational elements of Enterprise Architectures i.e. Enterprise Continuum, Building Blocks, Artifacts, Deliverables	-Problem Solving, -Generative learning	Writing, Performance Observation
<b>3.0</b>	<b>Competence</b>		
3.1	Summarize the project work in the form of a written document as well as present it clearly in front of audience.	-Team work, -Case Studies	Performance Observation

### 2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Quiz-1	3	2
2	Quiz-2	7	3
3	Assignment-1	5	5
4	Assignment-2	10	5
5	Oral questions	1 – 15	5
6	Lab tasks	1 – 14	16
7	Midterm exam	8/9	20
8	Lab exam	15	4
9	Final exam	16/17	40

\*Assessment task (i.e., written test, oral test, oral presentation, group project, essay, etc.)

## E. Student Academic Counseling and Support

**Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice :**

Every instructor has an announced office hours schedule. All students are encouraged to visit the concerned teacher according to the schedule. Students can also use Email address or Blackboard System to seek help or book an appointment.

## F. Learning Resources and Facilities

### 1. Learning Resources

<b>Required Textbooks</b>	Marc Lankhorst et al., "Enterprise Architectures at Work - Modeling, Communication and Analysis", 4 <sup>th</sup> edition, 2017, Springer-Verlag Berlin Heidelberg.
<b>Essential References Materials</b>	1. Doug Rosenberg and Matt Stephens, "Use Case Driven Object Modeling with UML, Theory and Practice", 2009.
<b>Electronic Materials</b>	1. Blackboard System: <a href="https://lms.nbu.edu.sa/">https://lms.nbu.edu.sa/</a> 2. Northern Border University Electronic Library: <a href="https://www.nbu.edu.sa/AR/Deanships/Library_Issues">https://www.nbu.edu.sa/AR/Deanships/Library_Issues</a> 3. Saudi Digital Library (SDL): <a href="https://portal.sdl.edu.sa/english/">https://portal.sdl.edu.sa/english/</a>
<b>Other Learning Materials</b>	Nil

### 2. Facilities Required

Item	Resources
<b>Accommodation</b> (Classrooms, laboratories, demonstration rooms/labs, etc.)	<ul style="list-style-type: none"><li>Classroom</li><li>Laboratory</li></ul>
<b>Technology Resources</b> (AV, data show, Smart Board, software, etc.)	<ul style="list-style-type: none"><li>Data Show (Projectors) in Classroom.</li><li>Data Show (Projectors) in Classroom and Laboratory.</li><li>Desktop computers</li><li>OS: Windows 10</li><li>Software: Rational Rose/Software Idea Modeler/ Microsoft Visio.</li></ul>
<b>Other Resources</b> (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	<ul style="list-style-type: none"><li>Nil</li></ul>

## G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Effectiveness of teaching and assessment.	Students	Indirect
Quality of learning resources	Students	Indirect
Extent of achievement of	Faculty	Direct

Evaluation Areas/Issues	Evaluators	Evaluation Methods
course learning outcomes		

**Evaluation areas** (e.g., Effectiveness of teaching and assessment, Extent of achievement of course learning outcomes, Quality of learning resources, etc.)

**Evaluators** (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify))

**Assessment Methods** (Direct, Indirect)

## H. Specification Approval Data

Council / Committee	Information Systems Department Council
Reference No.	
Date	