Enterprise Application Integration

- 1. Course number and name: 020IAEES5 Enterprise Application Integration
- 2. Credits and contact hours: 4 ECTS credits, 35 contact hours (lectures + labs)
- 3. Instructor's or course coordinator's name: Rima Kilany

4. Text book:

a. Other supplemental materials:

Handouts and course material posted on the Web

5. Specific course information

a. Catalog description:

This course details the constraints and challenges of different integration techniques and methodologies. It covers Microsoft integration technology with Microsoft Biztalk Integration Server. It explains the SOA concepts and the implementation of a business process integrating several applications using an Enterprise Service Bus with Glassfish-ESB from Oracle. This course explains the difference between data, interface and process integration, as well as the difference between SOAP extended web services and REST web services in the context of web integration.

b. Prerequisites or co-requisites:

c. Required: Elective for CCE students; required for CCE software engineering option students

6. Specific goals for the course

a. The student will be able to:

- Evaluate the benefits, constraints and challenges of the different integration techniques and methodologies.
- Develop a transactional business process integrating multiple applications using the Miscrosoft Biztalk integration server.
- Develop a transactional business process that integrates multiple applications using the Oracle Glassfish-ESB integration server
- Choose between data, interface or process integration, and evaluate the use of extended SOAP web services with respect to REST web services.

b. KPI:

KPI	a2	c2	e3	g1	g2	j1	k2	k3
Covered	X	X	X	X	X	X	X	X
Assessed	X	X	X	X	X	X	X	X

7. Brief list of topics to be covered

Lectures	Description
1-2	Evolution of enterprise application integration
3-4	Biztalk Server Message Flow
5-6	Biztalk Artifacts (adapters, pipelines, maps)
7-8	Creating Biztalk Orchestrations
9-10	Automating Business Processes
11-12	Implementation of content-based routing with Microsoft Biztalk
13-14	Transactional Business Processes - Integrating business rules
15-16	Implementation of a transactional application with Miscrosoft
	Biztalk
17-18	Microsoft BizTalk Integration Server: Lab
19-20-21	SOA, BPEL, Open ESB, JBI (Java Business Integration)
22-23-24	Implementation of an integration application with Glassfish ESB
25-26	Glassfish –ESB- JBI: Lab
27-28	REST Web SERVICES – RSS Feeds and APIs MASHUPS