

# King Fahd University of Petroleum & Minerals

## Deanship of Educational Services Continuing Education Programs

### Short Course

**Proposed course title in English: Designing Service-Oriented Solutions**

**Proposed course title in Arabic: تصميم حلول الخدمات الموجهة**

Brief description in English		Brief description in Arabic	
This course provides software practitioners with a comprehensive coverage of the concepts of SOA along with the details of the design of an SOA application, from business analysis to service design, including how to derive service design from business process models.		يوفر هذا المساق لممارسي البرمجيات تغطية شاملة لمفاهيم هيكلية الخدمات الموجهة وتصميم تطبيقاتها من التحليل لتصميم الخدمات بالإضافة الى كيفية تصميم الخدمات بناءً على نماذج الاعمال العملية.	
Date and Time – Gregorian		Date and Time – Hijri	
6 – 10 April, 2013		٢٥ – ٢٩ جمادى الأولى ١٤٣٤ هـ	
Department		Language	
Information and Computer Science		English	
Course fee	Course duration	Course location	
7,000 SR	5 Full Days	Building 54	

#### Who should attend?

This course is targeted to benefit software architects, designers, project leaders and managers.

#### Detailed course description:

Service-Oriented Architectures (SOA) package business processes as services, enabling organizations to become more agile by integrating internal and external systems, regardless of their platform. In this course, participants gain the skills necessary to design, model and implement SOA within their organizations by applying methodologies, technologies and standards. The participant learns how to determine what services his organization needs and to derive an SOA design from business requirements.

This course provides answers to the most common questions about SOA design including:

- What makes a good service?
- How to identify services?
- How big should a service be?
- How to structure services to support business process management systems?
- How to expose existing applications as services?

Upon completion of this part, participants will have the ability to:

- Understand the architectural and design considerations that are critical to SOA success

- Evaluate and analyze an organization to map it as a "set of services"
- Understand the relationship between the business and information models and service design
- Develop logical service model designs using the Service-Oriented Modeling Framework (SOMF)
- Designing composite services by applying the optimal composition style
- Convert logical designs into services that can be implemented in any development environment
- Modeling WSDL documents that drive the implementation process
- Integrating brokers into an SOA to provide "services for services"
- Apply SOA industry standards to improve service reliability
- Implement standards, monitor performance and manage SOA throughout the enterprise
- Factor size, scope, ownership and other issues into proper service design

#### **Course outline/topics:**

1. SOA Concept Review
2. Architecture and Design Considerations for SOA Solutions
3. Conceptual Architecture
4. Business Model for SOA
5. Information Model for SOA
6. Identifying Service Candidates
7. Service Interface Design
8. Service Document Design
9. Factoring granularity, scope, ownership, implementation into service types
10. Service Implementation Design
11. Information Transformation Techniques
12. Avoiding Common Problems
13. Managing the SOA Environment
14. Case Study

#### **Name and designation of instructors:**

<b>Name</b>	<b>Designation</b>
1. Dr. Moataz Ahmed	Associate Professor, ICS Department
2. Dr. Mohammad Alshayeb, PMP	Assistant Professor, ICS department
3. Dr. Sajjad Mahmoud	Assistant Professor, ICS department
4. Dr. Mahmoud Elish	Assistant Professor, ICS department
5. Dr. Mohammed El-Attar	Assistant Professor, ICS department
6. Mr. Irfan Ahmed	Lecturer, ICS department

#### **Course special arrangements (if any):**

This course requires the use of Software Engineering lab with Rational Rose or Enterprise Architect.

#### **Coordinator Information**

<b>Name</b>	<b>Contact Tel. Nos.: &amp; Fax No.</b>	<b>E-mail Address</b>
Dr. Moataz Ahmed	Tel: 860-2763 Fax: 860-2174	<a href="mailto:moataz@kfupm.edu.sa">moataz@kfupm.edu.sa</a>