

Certificate in

# Cloud Computing & Emerging Technologies

PROFESSIONAL DEVELOPMENT

## PREPARE FOR A WAVE OF INNOVATION

The Certificate in Cloud Computing and Emerging Technologies was developed to create awareness and the opportunity to learn about a fantastic wave of innovation sweeping through the field of information technology. Among the most exciting are Cloud Computing, Software-as-a-Service (SaaS), Virtualization, Web-Oriented Architecture (WOA), and Enterprise Mashup.

The application of these technologies can mean a fundamental change in the way businesses design their infrastructures. They allow agility in large organizations, while also enabling smaller businesses to create a sophisticated infrastructure rivaling that of their larger counterparts.



## PROGRAM GOALS

The Certificate in Cloud Computing and Emerging Technologies is designed with three goals: awareness, literacy, and guidance. Each class in the certificate addresses a unique topic area, while highlighting the complimentary nature of these topics. The information in this program will benefit:

- Organizations seeking informed decisions about the best path to pursue
- Programmers who wish to develop broader architectural knowledge
- Architects who wish to add to their library of best practices

## CERTIFICATE GRADUATES WILL BE ABLE TO:

Articulate the characteristics of Cloud Computing

- Understand the concepts surrounding the implementation of practices such as Utility and Grid Computing
- Be familiar with and discuss the functions of Web-Oriented Architecture (WOA) as well as the business value of WOA
- Explain and apply principles to the incorporation of virtualization and virtual machines in business processes
- Implement basic enterprise-level mashup through the comprehension of mashup protocols

## WHO SHOULD ATTEND?

- Small and mid-size business owners
- Enterprise architects
- Systems and database administrators
- Web administrators
- Programmers

Register today at [www.csufextension.org](http://www.csufextension.org) or 657.278.2611

For more information, contact Kristyn Hursh: 657.278.7427, [khursh@fullerton.edu](mailto:khursh@fullerton.edu)

## THE CLASSES

The Certificate in Cloud Computing and Emerging Technologies consists of four required courses totaling 33 hours of lecture and discussion. 3.3 Continuing Education Units will be awarded to the certificate graduate.

### **CLOUD COMPUTING – UTILITY AND GRID IN AIR**

**(12 hours/1.2 CEUs)**

*Prerequisite: none.* Cloud Computing is an architectural approach that allows access to resources from “the cloud” (internet based services). Cloud Computing is poised to be a major disruption in the IT industry. Organizations with limited resources and expertise in technology infrastructure may rely on “Cloud Computing” to dynamically adjust the resources available to them by tapping into vendors in the cloud to meet changing needs. Utility and grid computing, and software-as-a-service (SaaS), will be addressed in the overview of the architectural requirements to access “the cloud.” You will analyze the business value of tapping into “the cloud,” as well identify practices that contribute to successful implementation.

### **WEB-ORIENTED ARCHITECTURE (WOA)**

**(3 hours/0.3 CEUs)**

*Prerequisite: none.* Web-Oriented Architecture (WOA) is a web-based architectural approach that aims to better integrate business processes and technology. It mirrors Service-Oriented Architecture (SOA) in function and structure, but focuses on integrating user-interface to complement SOA. This class is ideal for anyone who is considering adopting this “lite” version of enterprise process integration. You will develop an overview of the concept and discuss the major issues involved with the implementation of WOA.

### **VIRTUALIZATION IN REALITY**

**(9 hours/0.9 CEUs)**

*Prerequisite: none.* Virtual machine (VM) can take the form of an entire operating system or a single software application, eliminating many software compatibility issues while maximizing resources. The challenges are with the tracking of the VMs, possible compromise of VM performance, and the risk involved with massive failure. By exploring the viability of adopting VMs, you will become better informed of the possible pitfalls of relying on virtualization. You will look at various ways to apply VMs and strategies to overcome the challenges through real-life scenarios.

### **ENTERPRISE MASHUP – THE GOURMET SALAD-BAR APPROACH**

**(9 hours/0.9 CEUs)**

*Prerequisite: Web Design for the 2.0 Environment.* Enterprise Mashup is an integral part of all business and information technology integration. Through mashup at the architectural level, Service-Oriented (SOA) and Web-Oriented (WOA) Architectures are able to deliver services in a cohesive manner. Mashup at the application level, on the other hand, allows for more personalized and immediate delivery of information. The value of mashup lies with its potential to allow new services to be created by simply engaging two existing components. You will learn about the various tools available to enable mashup, and will experience mashup through hands-on exercises.

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