Creighton University

COURSE: ITM733/MBA779 Systems Integration and Cloud Computing - Online
INSTRUCTOR: Dr. George Royce
OFFICE HOURS: I will be available to take chat/IM and calls on Monday from 5:30 to 6:30 CST, Friday from 5:00 to 6:00 CST and Saturday from 9 to 10 AM CST (check my website http://roycesite.com/george for any changes in these hours). You can also email me and we can set up a time to discuss any questions you have.
PHONE and IM: Cell phone is 402-312-7929. You can also connect with Oovoo: groyce, Skype: gkroyce, and gtalk or my gmail. I also use Microsoft IM (george.royce@live.com). I prefer IM over email if you are comfortable with IM but email is acceptable.
E-Mail **georgeroyce@creighton.com or george.royce@gmail.com**

Course Description:

More and more companies have a variety of mission critical distributed systems running in their data centers (on-premise) and a growing number of distributed systems that are running in third party data centers and in the cloud. Companies are looking for professionals that can work with and integrate both on-premise and cloud based distributed business systems. This course introduces students to cloud computing and how to integrate both cloud and on premise computing. Students will work with systems that are running on premise and in both the private and public clouds. Students will gain hands on experience with cloud based services and will integrate these services with on premise systems. Course topics include distributed systems architecture, middleware, Internet-based systems development, security and performance in a mixed cloud and on-premise environment.

Objectives:

After taking this course you will, among other things, be able to

1. Understand the strategic potential of distributed computing systems for business processes.
2. Provide and understand a framework for classifying distributed computing architectures and distributed applications.
3. Map out information systems architecture and assess the fit between existing and needed architectures.
4. Classify and evaluate the numerous flavors of middleware in order to make decisions about middleware acquisition.
5.
6. Understand the factors that contribute to the performance of client/server systems and incorporate this understanding in the design of client/server systems.
7. Understand the impact of web services and their standards on distributed computing development and systems integration.
8. Understand the economics of on-premise, application service provider solutions and cloud based solutions.
9. Develop a simple workflow capability in the cloud based facility called Force.com (No programming knowledge needed. If you can develop a simple macro in Excel, you can do this).
10. Develop a cloud based Microsoft SharePoint Site that will consume web services from other sites (no programming knowledge needed for this).

Prerequisites:

ITM 731

Text:

Cloud Computing and SOA Convergence in Your Enterprise, David S Linthicum, Pearson Education Inc. June 2011. ISBN 13: 978-0-13-600922-1.

Additional References (not required):

Enterprise Architectures and Integration with SOA – Concepts, Methodology and a Toolset. Amjad Umar, NGE Solutions, Inc. January, 2010. ISBN: 0-9727414-002.

Grading:

Activity	Points
Class Discussion – responses to questions raised and questions you post for me and the class to answer each week.	100
Weekly Activities – these are class activities which help you learn the concepts we cover each week in class.	340
Assignment 1 – Cloud Based Workflow Assignment (Force.com)	100
Assignment 2 – Configuring and Integrating Cloud and on Premise Service with Microsoft SharePoint 2010	140
`Assignment 3 – Paper and Presentation on the Systems Integration /Cloud Computing Problem including the Technical requirements portion of an RFP associated with this project.	180
Test – Week 6 you will be given 48 hours to complete your first test on system integration and cloud computing. This is over concepts and integration problems.	140
Total	**1000**

Class Policies:

Late Assignments: 10% deduction per day late. Assignments will not be accepted after a week late.

Cheating – If you copy another person's work in whole or in part, you will receive no credit for the assignment. If you allow your work to be copied by another person, you will receive no credit for the assignment. Two such incidents can result in a failing grade for the course.

Course Access:

Students gain access to the course on Friday, June 22nd.

Course Schedule

Week	Title	Description
Week 01	**Getting Acquainted & Introduction to Systems Integration and Distributed Architecture**	**Read: none** **Watch and Review Slides from:** • **Welcome and Class Overview** • **Business Value of Distributed Systems** • **Introduction to XML** • **Distributed systems generation 1-5** • **Distributed architecture** **Submit by midnight Sunday July 1st:** • Answers to Week 1 blog questions • Activity - XML • Activity - Distributed Systems Styles • Activity - Tiers of Computing
Week 02	**Distributed Security, Web Services and Middleware**	**Read: Linthicum Chapter 1** **Watch and Review Slides from:** • **Introduction to middleware, part 1** • **Introduction to middleware, part 2** • **Introduction to Web Services** • **Distributed Security** • **ESB's and introduction to integration problems** **Submit by midnight Sunday July 8th:** • Answers to Week 2 blog questions • Activity – Distributed Security • Activity - Integration Problems for Week 2
Week 03	**Introduction to BPM/SOA and Cloud Computing**	**Read: Linthicum Chapter 2** **Watch and Review Slides from:** • **Introduction to cloud computing – part 1** • **Introduction to cloud computing – part 2** • **Introduction to Workflow and SOA** • **More on BPM and SOA** **Submit by midnight Sunday July 15th:** • Answers to Week 3 blog questions • Activity - Integration Problems for Week 3
Week 04	**Portal Integration and Contact Center Integration**	**Read: Linthicum Chapter 3** **Watch and Review Slides from:** • **Portal Integration** • **SharePoint Portal for Integration** • **Contact Center Integration** **Submit by midnight Sunday July 22nd:** • Answers to Week 4 blog questions • Integration problems for Week 4 • Assignment 1 is Due

Week 05	**Distributed Data and Mobile Integration**	**Read: Linthicum Chapter 4 and 5** **Watch and Review Slides from:** • **Distributed Data Integration** • **Mobile Integration** • **Technical Portion of an RFP** **Submit by midnight Sunday July 29th:** • Answers to Week 5 blog questions • Activity - Integration problems for week 5
Week 06	**Integrating Cloud and On Premise Solutions and Distributed Transactions**	**Read: Linthicum Chapter 6 and 7** **Watch and Review Slides from:** • **Integrating Cloud and On Premise Systems** • **Distributed Transaction Processing** • **Business Rule Management Systems** **Submit by midnight Sunday August 5th:** • Answers to Week 6 blog questions • Test is Due
Week 07	**B2B Integration and Distributed Systems Performance Challenges**	**Read: Linthicum Chapter 8** **Watch and Review Slides from:** • **B2B Integration** • **Performance Challenges in Distributed Systems – part 1** • **Performance Challenges in Distributed Systems – part 2** **Submit by midnight Sunday August 12th:** • Assignment 2 • Assign 3 – Milestone 1
Week 08	**Present Assignment 3 and take Test 2**	**Read:** none **Watch and Review Slides from:** • None **Submit by midnight Sunday August 19th:** • Assign 3 – Cloud Integration Presentation Project Due. **(Schedule your Presentation Time)**