University of Nebraska Omaha

COURSE: ISQA 8380 Managing the Distributed Computing Environment - Online
SESSION: Fall 2011
INSTRUCTOR: Dr. George Royce
OFFICE: Room 367/ Room 260 on Saturdays
CONNECT ROOM: Connect to me and ask questions via adobe connect meeting room during my office hours: http://unoconnect.adobeconnect.com/georoyce
Please give your name as a guest when entering this online meeting.
OFFICE HOURS: Before or after class by appointment and regularly my hours are 5:30 to 6:30 PM on Wednesday and 5-6 PM on Friday afternoons and 9-11:30 AM Saturday mornings (my website http://roycesite.com/george for any changes in these office hours).
E-Mail george.royce@gmail.com
PHONE and IM: Home: 402-216-0414 leave a voice message if I am not there. Cell phone is 402-312-7929 if urgent. You can also connect with 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. For email, please use my gmail account.

Course Description:

This course is designed to give students grounding in the concepts, issues, and tools needed to manage distributed computing & Internet-based environments. It focuses on the technologies underlying distributed computing and Internet-based systems; the issues faced in developing, integrating, migrating to, and managing such systems; and the strategic relationship between business processes and the information systems architecture. The goal of the course is to equip students to make the architecture and infrastructure-related decisions needed for successful development and use of contemporary client/server and Internet-based systems.

Prerequisites:

ISQA 8310 - Business Data Communications or ISQA 3400 - Business Data Communications or equivalent, AND ISQA 3310 - Managing the Database Environment or ISQA 8050 - Data Organization and Storage or equivalent. Work experience in either of these areas may satisfy the requirement.

Objectives:

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

- Understand the strategic potential of distributed computing systems for business processes.
- Provide and understand a framework for classifying distributed computing architectures and distributed applications.
- Map out an information systems architecture and assess the fit between existing and needed architectures.
- Classify and evaluate the numerous flavors of middleware in order to make decisions about middleware acquisition.
- Understand the role of the transaction processing, object-oriented, and Internet-based technologies in distributed enterprise computing and make decisions about how and when to apply them.
- Understand the factors that contribute to the performance of client/server systems and incorporate this understanding in the design of client/server systems.
- Understand the many issues, tradeoffs, and decision points in developing, integration, and managing distributed applications.

- Understand the impact of web services and their standards on distributed computing development and systems integration.

Text:

Enterprise Architectures and Integration with SOA – Concepts, Methodoly and a Toolset.
Amjad Umar, NGE Solutions, Inc. January, 2010. ISBN: 0-9727414-002. Available at the bookstore and on Amazon.

Grading:

Activity	Points	Date Due
Participation activities and integration problems based on the materials covered in the lectures and the book.	120	Graded weekly
Assignment 1 – Integration Case Study and Middleware Review	60	September 19th
Assignment 2 – PHP web application that consumes a web service connects to a Microsoft SharePoint Server	160	Part 1 – October 14th Part 2 – November 7th
Assignment 3 – Cloud based process design using the BPMN standard	50	November 14th
Assignment 4 – Cloud based workflow application integration	60	November 21st
Assignment 5 – EFS Systems Integration Group Project	170	December 12th
1st Exam	180	Oct 10th to Oct 15th
2nd Exam	200	Dec 12th to Dec 17th
Total	1,000	

.

Points	*Grade*
97-100%	A+
93-96%	A
90-92%	A-
87-89%	B+
83-86%	B
80-82%	B-
77-79%	C+
73-76%	C
70-72%	C-
67-69%	D+
63-66%	D
60-62%	D-

Final Grade: Your final grade in this course is based on the percentage of points that you receive out of the total maximum 1000 possible points for the course. The grade scale is shown in the above scale.

Best Practices for Online Class

Every online class is a little different just like the differences you experience in traditional classes. So even if you have taken other online classes, you need to know about my expectations and format.

Our course is accessible through the Blackboard (BB) site and all documents are posted to blackboard. You will submit assignments; check for announcements and post on discussions boards at Blackboard. You will also listen to the lectures via links posted on Blackboard. The course syllabus lays out the course schedule and what is due each week. It also provides readings that you need to accomplish each week.

Try to set aside a regular time for working on this class each week. Start by checking the course schedule to see what is required for the week. Read the required readings, listen to the lectures and then prepare the homework for each week. You have two kinds of assignments. These are weekly participation assignments and four assignments that will be described in the first two sessions of the class. The deadlines for all assignments is in the schedule. Refer to the schedule often! There is something due every week. Check out the "Submit" directions in the schedule.

All deliverables must be submitted on time. One key benefit of an online class is the flexibility. You can set your own schedule. You will know what's coming up and you can work anytime during the week. But you cannot miss the deadlines. Since there are no class sessions to attend, it is your responsibility to view the online lectures, read the textbook chapters, and do the weekly problems and assignments. Don't underestimate the work, and don't underestimate the importance of keeping yourself motivated and on schedule.

Course Policies and Reminders

Late Assignments: 10% deduction per day late. Assignments will not be accepted after a week late unless you have been given permission to do so by the instructor.

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.

Sources of Information: You must always give the source of your information. It may be information you find on the web, in a book or even in your work life. You must always cite the source!

Disabilities: ADA Notice – Accommodations are provided for students with verified disabilities. For more information, contact Services for Students with disABILITIES. In EAB 117 or 554-2872, TTY 554-3799.

Course Schedule:

You are responsible for any schedule changes posted in Blackboard (BB) Announcements. All lectures are accessible via the Web at the URL posted in the BB site each week.

Date	Topics and Lectures	Assignments Due
Week 1 August 22th	**Course Introduction** 1.1 Introducing 8380 course, teacher and students 1.2Introduction to Distributed Technology and Systems and Business Value 1.3 Introduction to the Internet and PHP 1.4 Sign Up for Amazon Web Services	**Due by end of first week of semester:** **Read:** Course Syllabus (posted in Blackboard Course Documents) **Watch:** Lectures 1.1, 1.2, 1.3, and 1.4 **Before August 29th:** Be sure to check out your ID and password at the vulcan site and register for Amazon Web Services for your PHP web services assignment. **Before Noon August 29 th:** Be sure to sign up for a topic for Assignment 1 – Middleware Review and Case Study
Week 2 August 29th	**Overview of Distributed Systems** 2.1 PHP development and Overview of Assignment 2 2.2 Introduction to XML 2.3 Distributed Systems Generations 1 to 5.	**During this week:** **Read:** Umar pp 1-5 to 1-20, 6-9 to 6-47 **Watch:** Lectures 2.1, 2.2, and 2.3 **Submit:** Participation Activity 2. See detailed requirements in BB Assignments. **Due by Noon September 6th**
Week 3 September 5th	**Middleware** 3.1 Introduction to Middleware 3.2 Introduction to Web Services 3.3 Distributed Web Security	**During this week:** **Read:** Umar pp 7-15 to 7:46 **Watch:** Lectures 3.1, 3.2 and 3.3 **Submit:** Participation Activity 3. See detailed requirements in BB Assignments. **Due by Noon September 12th**
Week 4 September 12st	**Web Services** 4.1 Web Services, PHP and the ESB 4.2 Business to Business Systems Integration	**During this week:** **Read:** Umar pp 11-2 to 11-25 **Watch:** Lectures 4.1 and 4.2 **Submit:** Assignment 1 – Middleware Review and Case Study. **Due by Noon September 19th**
Week 5 September 19th	**Business Process Management/Workflow and SOA** 5.1 BPM/Workflow 5.2 Call/Contact Center Integration	**During this week:** **Read:** Umar pp 2-23 to 2.52 **Watch:** Lecture 5.1 and 5.2 **Submit:** Participation Activity 4. See detailed requirements in BB Assignments. **Due by Noon September 26th**
Week 6 September 26th	**Portal Technology for Integration** 6.1 Discuss using Portals to integrate systems 6.2 SharePoint and Portal and Web Services 6.3 Overview of **Assignment 2 Part 2**	**During this week:** **Read:** Umar pp 4-5 to 4-16 **Watch:** Lecture 6.1, 6.2 and 6.3 **Submit:** Participation Activity 5. See detailed requirements in BB Assignments. **Due by Noon October 3rd**
Week 7 October 3rd	**Service Oriented Architecture (SOA)** 7.1 Service Oriented Architecture and BPM 7.2 Externalizing Business Rules in BR Management Systems	**During this week:** **Read:** Umar pp 9-2 to 9-38 **Watch:** Lecture 7.1 and 7.2 **Submit:** Participation Activity 6. See detailed requirements in BB Assignments. **Due by Noon October 10th**
Week 8 October 10th	**Enterprise Reuse** 8.1 Objects, Components and Services in Distributed Systems 8.2 Enterprise Reuse Example 8.3 Overview of **Assignment 5** **First Test this week – Sign up for a time!**	**During this week:** **Read:** Umar pp 9-21 to 9-26 **Watch:** Lecture 8.1, 8.2 and 8.3 **Submit:** Assignment 2 – Part 1 PHP Web Application that consumes REST and SOAP based web services . **Due by 11PM 14th** **Must complete final exam by December 15th**
October 17th	**Fall Break Week – No Assignments**	**Enjoy the break!**

Date	Topics and Lectures	Assignments Due
Week 9 October 24th	**Data Integration** 9.1Distributed Data Integration 9.2 Operational Data Stores and Data Warehouses	**During this week:** **Read:** Umar pp 12-25 to 12-38 **Watch:** Lecture 9.1 and 9.2 **Submit:** Participation Activity 7. See detailed requirements in BB Assignments. **Due by Noon October 31st**
Week 10 October 31st	**Agile/SCROUM in Systems Integration Projects** 10.1 Agile/Scrum 10.2 Human Change Management	**During this week:** **Read:** None **Watch:** Lecture 10.1 and 10.2 **Submit:** Assignment 2 – Part 2 Create a web service on your PHP Server and consume it on a Microsoft SharePoint Server. **Due by Noon November 7th**
Week 11 November 7th	**Introduction to Could Computing** 11.1 Introduction to Cloud Computing 11.2 Introduction to Salesforce and Force.com and **Assignment 3**	**During this week:** **Read:** None **Watch:** Lecture 11.1 and 11.2 **Submit:** Assignment 3 Cloud based process design using the BPMN standard **Due by Noon November 14th**
Week 12 November 14th	**Software as a Service** 12.1 Integrating Software as a Service Systems with Corporate, On Premise Systems.	**During this week:** **Read:** None **Watch:** Lecture 12.1 **Submit:** Assignment 4 – Cloud based workflow application **Due by Noon November 21th** Assignment 5 Milestone 1 **Due by Noon November 21th**
Week 13 November 21st	**Mobile Applications** 13.1 Mobile Application Development – Return to Client Server!	**During this week:** **Read:** Umar pp 13-1 to 13-22 and 13-38 to 13-45 **Watch:** Lecture 13.1 **Submit:** Assignment 5 Milestone 2 **Due by Noon November 28th**
Week 14 November 28th	**Distributed Transaction Processing** 14.1 Distributed Transaction Processing	**During this week:** **Read:** Umar pp 5-37 to 5-48 **Watch:** Lecture 14.1 **Submit:** Assignment 5 Milestone 3 **Due by Noon December 5th**
Week 15 December 5th	**Performance in Distributed Systems** 15.1 Performance Challenges in Distributed Systems 15.2 Discuss Final Exam	**During this week:** **Read:** None **Watch:** Lecture 15.1 and 15.2 **Submit:** Assignment 5 Milestone Systems Integration Project Final Deliverable **Due by Noon December 12th**
Exam Week December 12th	**Final Exam this week. Sign up for a time!**	**Must complete final exam by December 17th**