Syllabus

Course Number: MSCD 670/MCT 616
Course Title: Middleware Architectures and Business Applications

Course Description:
This course examines middleware implementation of portals using Oracle’s advanced 11gAS platform as an application study. Focuses on middleware design, development and administration of Web-based enterprise portal technology. Explores B2B applications, case studies, and Internet access to the database.

Prerequisite Courses:
MSCD 610 Database Concepts cross-listed as MCT 614

Course Outcomes:
Upon completion of this course, learners should be able to:
1. Support the need for middleware solutions in designing and implementing integrated data systems.
2. Articulate technological antecedents to middleware components as a foundation for the design and use of middleware architecture.
3. Integrate the use of middleware components in Web information system architectures.
4. Critique the efficacy of middleware architecture and technologies in developing integrated data solutions.
5. Recognize and apply the use of SQL APIs in remote data access.
6. Compare and contrast model driven and service oriented architectures as a distributed data system design and implementation methodology.
7. Evaluate and describe the implementation of the following distributed system (middleware layer) attributes: resiliency, scalability, and security.
8. Evaluate the Oracle 10g Application Server as a middleware solution, recognizing the role of additional vendor technologies in creating and implementing information system middleware solutions.

Course Materials:

Required Texts:
**Technology Tools:**

The web-based Citrix technical environment for lab work can be found at this URL:  [http://myregisapp.regis.edu/Citrix/StoreWeb/](http://myregisapp.regis.edu/Citrix/StoreWeb/)

The login ID and password for the Citrix environment are your Regis Net credentials (e.g. Regis InSITE credentials).

Your instructor will provide you with user documentation within your Worldclass online course that will describe how to use the Citrix Lab Environment. Your instructor will also provide you with a database user ID/password or other database login instructions.

**Optional Materials:**


Purdue Online Writing Lab (OWL), [http://owl.english.purdue.edu/owl/resource/560/01/](http://owl.english.purdue.edu/owl/resource/560/01/)


**First Week Assignment:**

1. Read Britton & Bye, Chapter 1.
2. Sign up for an account with the Oracle Technology Network.
3. Visit the Oracle web site and review Portal information on Oracle Technology Network (OTN).
4. Write a short 2-3 page synopsis of the Portal information and resources on the OTN site.

**Course Assignments and Activities:**

<table>
<thead>
<tr>
<th>Readings</th>
<th>Topics</th>
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</thead>
</table>
- Middleware concepts: the role and tasks of middleware  
- Middleware architectures |
- SQL APIs (ODBC, JBDC) |
|   | Britton, C. & Bye, P. (2004). Chapters 4-5 | **Object and component oriented middleware:** architectural model, goals and services  
|   |   | - CORBA  
|   |   | - EJB and J2EE  
|   |   | - Dynamic binding, management of interface information  
|   |   | - Distributed systems technology principles  
|   |   | - Principles of resiliency in distributed systems.  
|   |   | - Principles of performance and scalability in distributed systems.  
|   |   | - Principles of security and systems management in distributed systems.  
|   |   | - Distributed Systems design and implementation  
| 6 | None | ERP Systems concepts and design  
|   |   | **Model Driven Architecture (MDA)**  
| 8 | Completed | **Other component based or object based architectures**  
|   |   | **Development tools**  

**Student Evaluation Grid:**

<table>
<thead>
<tr>
<th>Assignments</th>
<th>Weighted Percentage</th>
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</thead>
<tbody>
<tr>
<td>Participation in the forum discussions</td>
<td>20%</td>
</tr>
<tr>
<td>Assignments 1-3</td>
<td>45%</td>
</tr>
<tr>
<td>Course Project</td>
<td>20%</td>
</tr>
<tr>
<td>Final Exam</td>
<td>15%</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
</tr>
</tbody>
</table>
Participation:

Because of the accelerated nature of the course, class participation is very important. Class participation/effort is important because we can all learn from each other. Your participation points can make a difference in the final grade. If the student doesn't participate during any given week, they will lose the participation points of that week.

Participation means:

1. Present in every class session (classroom) or present in the forum every week (online)
2. Effectively responds to questions from the facilitator (classroom) or regularly checks forum and posts all required assignments/discussion questions/items by the deadlines (online)
3. Contributes to classroom/forum discussions, etc.

C&IS Grading Scale

<table>
<thead>
<tr>
<th>Letter Grade</th>
<th>Percentage</th>
<th>Grade Point</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>93 to 100</td>
<td>4.00</td>
</tr>
<tr>
<td>A–</td>
<td>90 to less than 93</td>
<td>3.67</td>
</tr>
<tr>
<td>B+</td>
<td>87 to less than 90</td>
<td>3.33</td>
</tr>
<tr>
<td>B</td>
<td>83 to less than 87</td>
<td>3.00</td>
</tr>
<tr>
<td>B–</td>
<td>80 to less than 83</td>
<td>2.67</td>
</tr>
<tr>
<td>C+</td>
<td>77 to less than 80</td>
<td>2.33</td>
</tr>
<tr>
<td>C</td>
<td>73 to less than 77</td>
<td>2.00</td>
</tr>
<tr>
<td>C–</td>
<td>70 to less than 73</td>
<td>1.67</td>
</tr>
<tr>
<td>D+</td>
<td>67 to less than 70</td>
<td>1.33</td>
</tr>
<tr>
<td>D</td>
<td>63 to less than 67</td>
<td>1.00</td>
</tr>
<tr>
<td>D–</td>
<td>60 to less than 63</td>
<td>.67</td>
</tr>
<tr>
<td>F</td>
<td>Less than 60</td>
<td>0</td>
</tr>
</tbody>
</table>

Additional information about grading can be found in the latest edition of the University Catalog, available at [http://www.regis.edu/Academics/Course%20Catalog.aspx](http://www.regis.edu/Academics/Course%20Catalog.aspx).

CC&IS Policies and Procedures

Each of the following CC&IS Policies & Procedures is incorporated here by reference. Students are expected to review this information each term, and agree to the policies and procedures as identified here and specified in the latest edition of the University Catalog, available at [http://www.regis.edu/Academics/Course%20Catalog.aspx](http://www.regis.edu/Academics/Course%20Catalog.aspx) or at the link provided.

• The CC&IS Academic Integrity Policy.
• The Student Honor Code and Student Standards of Conduct.
• Incomplete Grade Policy, Pass / No Pass Grades, Grade Reports.

• The Information Privacy policy and FERPA. For more information regarding FERPA, visit the [U.S. Department of Education](http://www.ed.gov/). The complete Regis University HIPAA Privacy & Security policy can be found here: [http://www.regis.edu/About-Regis-University/University-Offices-and-Services/Auxiliary-Business/HIPAA.aspx](http://www.regis.edu/About-Regis-University/University-Offices-and-Services/Auxiliary-Business/HIPAA.aspx).

• The HIPAA policies for protected health information. The complete Regis University HIPAA Privacy & Security policy can be found here: [http://www.regis.edu/About-Regis-University/University-Offices-and-Services/Auxiliary-Business/HIPAA.aspx](http://www.regis.edu/About-Regis-University/University-Offices-and-Services/Auxiliary-Business/HIPAA.aspx).


The CC&IS Policies & Procedures Syllabus Addendum summarizes additional important policies including, Diversity, Equal Access, Disability Services, and Attendance & Participation that apply to every course offered by the College of Computer & Information Sciences at Regis University. A copy of the CC&IS Policies & Procedures Syllabus Addendum can be found here: [https://in2.regis.edu/sites/ccis/policies/Repository/CCIS%20Syllabus%20Addendum.docx](https://in2.regis.edu/sites/ccis/policies/Repository/CCIS%20Syllabus%20Addendum.docx).