CIS 220 Enterprise Architecture

Instructor: Eva Smith **Phone**: (425) 296-2982 or (425) 640-1171 **E-mail**: esmith@edcc.edu (preferred contact) **Office Location**: Alderwood Hall, 234-A. Please contact me for meetings by appointment. **Office Hours:** *Tuesdays*, 4:00 – 5:00 pm, ALD 234-A *Saturdays*, 12:15 – 1:00 pm SNH 124 (after class)	**Quarter**: **Winter 2011** **Course**: CIS 220, Section A **Location**: SNH 124 **Meeting Time**: Saturdays, 9:30 am to 12:10 pm. 1/08/11 through 3/12/11 **Credits**: 5

COURSE DESCRIPTION
Introduction to enterprise systems architectures from various perspectives; covers conceptual frameworks and considerations for managing enterprise application integration projects, relationships between components of systems, and research of emerging technologies. Prerequisite: Completion of one of the following courses with a minimum grade of 2.5: CIS 116 or CIS 125.

COURSE OBJECTIVES

ENTERPRISE APPLICATION PERSPECTIVE:
- ❏ Understand business forces that motivate enterprise systems integration and architecture choices
- ❏ Understand and explain the different approaches to enterprise application integration
- ❏ Work through the decision process of planning an enterprise information systems architecture
- ❏ Understand and explain the logistics of enterprise systems development and deployment
- ❏ Define the roles of business and IT management in application integration projects
- ❏ Use a top-down conceptual framework to analyze existing enterprise systems and plan for integration of new technologies• Define architecture & describe different types of information systems architectures

DATA PERSPECTIVE
- ❏ Describe issues surrounding enterprise application integration & data management
- ❏ Explain the role of XML, EDI and other data transport methods in enterprise data integration
- ❏ Explain the role of data warehousing in enterprise data integration • Describe the challenges and benefits of distributed data • Describe the role and purpose of the enterprise data model and metadata repository

NETWORK PERSPECTIVE:
- ❏ Describe the relationships between major components of enterprise systems architectures
- ❏ Describe the conceptual role of layered models (such as OSI and TCP/IP) in networked systems architectures
- ❏ Define and explain enterprise implementations of computer-enhanced communication such as groupware, and current trends regarding its use
- ❏ Define and explain the different types of middleware & their roles in enterprise system integration
- ❏ Explain the role of the internet, intranets, and Web-based technology in enterprise systems
- ❏ Understand the role of the network infrastructure in supporting enterprise systems

TECHNOLOGY PERSPECTIVE:

- ❏ Explain relationships & issues between multi-tier application architectures & distributed computing
- ❏ Describe service-oriented architectures (SOA) and their potential use within the enterprise
- ❏ Define security issues affecting distributed information systems including virus protection, firewalls, authentication, and encryption
- ❏ Research emerging enterprise systems technologies and describe their roles within a top-down conceptual framework.

REQUIRED TEXTBOOKS

There are no required textbooks for this class. All resources for the course will be available electronically on Blackboard or through the EdCC Library (Books 24x7) as pdf files and web links.

RECOMMENDED SUPPLIES

You will need **Microsoft Visio** (can be obtained from Misty Cline, CIS Program Assistant) or other drawing software for creating architecture diagrams. It can be Visio 2007 or above.

To obtain Microsoft Visio, contact Misty Cline, CIS Program Manager to download this software for free through our Microsoft alliance. *EMAIL mcline@edcc.edu with a copy of your schedule to get into the MSDNAA system*

ACCESS TO COURSE MATERIAL

Successful completion of student responsibilities in this class requires access to BlackBoard via an Internet browser. A Blackboard classroom is set up on the Web for this class and you will also need to have an EdMail account to access Google Apps (see links to instructions below if you don't already have one). You are expected to login to the BlackBoard classroom and/or other specified online resources (including your email) *at least* 3 to 4 times per week.

Blackboard will be the central repository for all course assignments, announcements, discussions, grades and course materials. Links to all tools and sites used in this course will be available from our Blackboard classroom. You are responsible for checking Blackboard regularly for announcements and other information. More information and instructions for setting up and accessing your Blackboard account will be provided during the first week of class.

Instructions for access to **Blackboard** may be located online at the following address: http://online.edcc.edu/study/Bb_login.html. Toll-free technical support (24/7 service) is available at http://blackboard.edcc.edu (click on the HELP button).

Google Apps: Some course materials will be made available in Google Apps, and you will use Google's collaborative tools for your team assignments. More information will be provided during the first class session.

Instructions for setting up or accessing **EdMail** are at: http://www.edcc.edu/edmail/

COURSE DELIVERABLES

Course deliverables are intended to:

1) provide hands-on practice
2) encourage you to seek related knowledge on your own
3) assess your understanding of the concepts covered in this course.

Weekly Discussion Assignments: There will be 10 weekly online activities related to the assigned course materials, in lieu of having a textbook. These are worth a total of **10%** of your grade. To get full credit for each week's activity, you must also participate in active online discussion by reading and responding to other posts.

Exams: There will be **2 (two) online** exams during the quarter, worth **20%** of your grade. *NO MAKEUP EXAMS WILL BE GIVEN!*

Research Projects: There are **four (4) team-based** research projects assigned (worth **40%** of your grade), addressing each of the four course objective areas: Enterprise Application Architecture, Data Architecture, Network Architecture and Technology Architecture. The findings of your team's research will be presented orally to the class during the Saturday class sessions. You will also be expected to actively participate during other teams' presentations and will receive points for this as well. Specific instructions for each project will be provided.

Case Studies: **One (1) individual-based** research topic or case study paper (worth **20%** of your grade). The deliverables for these will be submitted in a formal report style, and will include an analysis of the case study or research topic according to the Top Down framework, a diagram of the architectural framework, a critical assessment of the solution, a list of new terms, and a bibliography of resources. Specific details for these assignments will be provided.

Attendance: 5% of your grade is based on class attendance, regular online presence **AND** active participation in class activities**,** research projects and case studies. If you miss a class session, it is YOUR responsibility to get the lecture or activity notes from one of your teammates. I do not typically provide written copies of my lectures or class notes, except those posted on Blackboard prior to class.
Instructor's Discretion: A total of 95% of your grade is based on completion and evaluation of assigned activities. I reserve up to 5% of the total possible points to be awarded based on "instructor discretion." These discretionary points are applied at the end of the quarter, and are awarded based on my subjective observations regarding your team participation and demonstrated integration of the course learning objectives throughout the quarter. Extra credit may or may not be offered, but will also contribute to discretionary points. I reserve the right to decide on the meritocracy of extra credit on a class-by-class basis.

The following are some ground-rules regarding deliverables:

Deliverables will be submitted on the class Google site and/or Blackboard (as specified in the assignment) and will be due by the beginning of the class session on Saturday morning unless otherwise specified.

Late Deliverables: Deliverables received after the specified due date will be accepted only at the discretion of the instructor, and I cannot guarantee that you will receive instructor comments or feedback on any deliverable received late. Up to *50% may be deducted* from the total assigned points for late deliverables.

Team activities: all participants will receive the same grade for the *content* portion of the activity. *Points for participation will be awarded on an individual basis.* However, if a team member chooses not to contribute to the activity or deliverable, they will receive **ZERO (0)** points for that deliverable or activity.

ASSIGNMENTS AND GRADING
Grading will be weighted based on the assignment categories below. Your final grade is calculated by dividing your total points *earned* by the total *possible* points for each category to get your *percentage earned* by category. The result is multiplied by the weight for that category to get a *weighted score* for the category. Your *total weighted percentage earned* (total of weighted scores for all categories) will equate to a grade on the grading table that follows.*

Number/Category		% of Grade
10	Weekly Online Activities (Individual)	10%
2	Exams (Individual)	20%
1	Case Studies (Individual)	20%
4	Research Presentations (Team)	40%
1	Class Participation/Attendance	5%
1	Instructor Discretionary Points	5%
Total		**100%**

***** I reserve the right to change deliverables and breakdown of percentages listed above, and will notify the class accordingly.

GRADING TABLES
Grade Points for Percentage of Points earned
Letter Grade Equivalency

4.0=95%	2.9=84%	1.8=73%	A = 4.0 - 3.9
3.9=94%	2.8=83%	1.7=72%	A- = 3.8 - 3.5
3.8=93%	2.7=82%	1.6=71%	B+ = 3.4 - 3.2
3.7=92%	2.6=81%	1.5=70%	B = 3.1 - 2.9
3.6=91%	2.5=80%	1.4=69%	B- = 2.8 - 2.5
3.5=90%	2.4=79%	1.4=68%	C+ = 2.4 - 2.2
3.4=89%	2.3=78%	1.4=67%	C = 2.1 - 1.9
3.3=88%	2.2=77%	1.3=66%	C- = 1.8 - 1.5
3.2=87%	2.1=76%	1.2=65%	D+ = 1.4 - 1.2
3.1=86%	2.0=75%	1.1=64%	D = 1.1 - 0.9
3.0=85%	1.9=74%	1.0=63%	D- = 0.8 - 0.7

A SPECIAL NOTE ABOUT GRADING:
My grading philosophy may be slightly different than you have encountered in other courses. I am assessing the quality of your work (from an employer's point of view), not just your effort or ability to complete the work. The following describes my expectations for each grade, and how you will be evaluated:

4.0 = Exemplary (Above and beyond). A 4.0 indicates that a student consistently produced exemplary work of perfect or near-perfect quality on all deliverables, attended class sessions and was an active participant in class activities. The student not only demonstrated understanding of material, but also stretched his or her learning experiences beyond what was covered in class, either by doing research or helping other students. I would be proud to show off this student's work to other instructors or employers or write a recommendation letter on the student's behalf.

3.5 – 3.9 = Excellent. (This is still an "A" grade!) Most deliverables were perfect or near perfect, but perhaps could have been a little more polished to be exemplary. May have missed some points due to late deliverables, a low exam score, attendance, etc. It demonstrates high quality work and a strong understanding of the material presented during the quarter.

3.0 – 3.4 = Good. (Strong "B" grade.) Most deliverables were very good, but the quality was not consistent, or needed more attention to quality and detail to be excellent. Met all of the objectives of the class, and demonstrated a solid understanding of the material. May have missed some points due to late deliverables, missing or low quiz scores, attendance, etc.

2.0 – 2.9 = Average. Met all of the objectives of the class, but no more. Demonstrated understanding of most of the material, but may have missed some important concepts. Missed a

fair number of points due to lack of participation in team activities, late or missing deliverables, etc., or the student's deliverables did not demonstrate evidence of a solid understanding of the course material.
Below 2.0 = Below Average Work. Did not meet expectations or objectives of the class. Did not demonstrate understanding of the material or missed a significant amount of points due to lack of participation in team activities, late deliverables, missing or low quiz scores, attendance, etc.

NOTE*:* I do not consider "I" (Incomplete) or "V" (Instructor Withdrawal) grades acceptable, and will consider granting them only under *extraordinarily unique and extenuating circumstances*.

BASIC EDUCATION REQUIREMENTS (COLLEGE WIDE ABILITIES)
This course supports the College-wide standards and general education requirements of Communicate, Act, Reason and Explore as described on the Edmonds Community College Website: http://www.edcc.edu/cwa/

ATTENDANCE POLICIES
Students are expected to attend each class meeting. Up to 5% of your final grade may be based upon attendance and participation in class (or online). I believe that *attendance is vital to your success in this class.* It has been proven that students who attend every class session better position themselves to not only comprehend and master the course material, but also receive a higher overall course grade.

CLASSROOM CONDUCT IN THE LABS
Classrooms are shared environments where each individual pays dearly to hear all of the information presented. A few courtesies are required for everyone to have a quality experience.
- ❏ PLEASE TURN CELL PHONES and PAGERS OFF while in the classroom and especially when others are presenting.
- ❏ Please be respectful of others during class and presentations. Please avoid side discussions with your neighbors unless instructed to do so, as they are highly distracting for others around you.
- ❏ If you surf the web during class, PLEASE MAKE IT RELEVANT TO THE TOPICS BEING PRESENTED! I won't prohibit this, but if the computers become too big a distraction, I may ask that you turn them completely off until needed.

EXPECTATIONS
This course involves a high level of independent problem solving and analytical thinking. Since this is a 50% hybrid course, it is expected that you will spend at least 3 hours outside of scheduled face-to-face class time each week participating in online discussions and other collaborative online activities as part of your learning experience.

Note that this is in addition to the estimated 5 to 9 hours per week that would typically be spent outside of class completing homework such as reading and other assigned activities. Class time will be spent in team activities, hands-on practice and discussion.

I expect you will to your best to:
- ❏ assume an active role in your own learning process
- ❏ take responsibility for understanding what each deliverable entails
- ❏ complete reading/discussion/assignment deliverables on time and be prepared for in-class discussion
- ❏ share information freely with others and actively participate in team projects
- ❏ not distract others (see the Classroom Conduct section above)
- ❏ deliver high quality work that is correctly spelled, neat, and readable
- ❏ independently learn necessary tools and seek out relevant resources

My role is to be your guide through this material, and therefore you can expect that *I will do my best to*:

- ❏ plan relevant "real-world" learning activities to meet course objectives
- ❏ clearly define expectations and deliverables
- ❏ adjust the pace and schedule as needed to assure understanding
- ❏ explain difficult concepts in a manner that allows you to understand them
- ❏ give you meaningful feedback to help with your learning process
- ❏ assign grades in a fair and consistent manner

POLICY ON CHEATING

Discussing the course topics with your classmates is encouraged. Helping your classmates solve problems is also encouraged. However, all quizzes, exams, and individual lab and project work turned in for a grade must be done independently unless otherwise specified for the assignment. No points will be awarded for individual deliverables found to contain work directly copied from others without attribution.

*****Plagiarism and/or cheating are totally unacceptable and will be dealt with severely and on an individual basis.*****

SPECIAL ACCOMMODATIONS

If you require an accommodation for a disability, please contact Services for Students with Disabilities, MLT 159, (425) 640-1320, ssdmail@edcc.edu

EMERGENCY CLOSURE:

Because this is a weekend class, it's important that you check Blackboard Announcements each week before coming to class on Saturday morning. Whenever possible, emergency class cancellations will be posted by 7:30 am.

In case of inclement weather, please access the following web site for information: http://www.schoolreport.org/ and or call this phone number: 425-640-1459.