Systems Analysis and Design
Cs 3610 - Fall 2006
UT 3 (3-0-2) – 13 Weeks
Course Outline

Instructor : Franco Carlacci B.Sc. (Honours) , MCsc (Concordia)
Office : C422
Phone : 539 2091
Prerequisite : CS1140
URL : *http://franco.carlacci.com*

Transfer Agreement

The transfer agreements set out for this course can be found by visiting the Alberta Council on Admission and Transfer (http://www.acat.gov.ab.ca/) web site

Calendar Description

The calendar description for this course can be found at the GPRC (www.gprc.ab.ca) website and is reproduced below:

Formerly CT 3610
By means of lectures and CASE studies you will be introduced to the methods used by Systems Analysts in determining the information needs of an organization. A systems development life cycle will be discussed in detail.

Course Description

By means of lectures and CASE studies you will be introduced to the methods used by Systems Analysts in determining the information needs of an organization. A systems development life cycle will be discussed in detail. Students will also be introduced to object-oriented development using the Unified Modelling Language (UML).

Detailed Outline

INTRODUCTION TO SYSTEMS ANALYSIS AND DESIGN.

The Systems Development Life Cycle.
Systems Development Methodologies.
Project Team Skills and Roles.

PROJECT INITIATION.

Project Identification.
Feasibility Analysis.
Project Selection.

PROJECT MANAGEMENT.

Identifying Project Size.
Creating and Managing the Workplan.
Staffing the Project.
Coordinating Project Activities.

REQUIREMENTS DETERMINATION.

Requirements Determination.
Requirements Analysis Techniques.
Requirements-Gathering Techniques.

USE CASE ANALYSIS.

Use Cases.

PROCESS MODELING.

Data Flow Diagrams.
Creating Data Flow Diagrams.

DATA MODELING.

The Entity Relationship Diagram.
Creating an Entity Relationship Diagram.
Validating and ERD.

DESIGN.

Transition from Requirements to Design.
System Acquisition Strategies.
Influence on Acquisition Strategy.
Selecting an Acquisition Strategy.

ARCHITECTURE DESIGN.

Elements of an Architecture Design.

Creating an Architecture Design.
Hardware and Software Specification.

USER INTERFACE DESIGN.

Principles for User Interface Design.
User Interface Design Process.
Navigation Design.
Input Design.
Output Design.
Applying the Concepts at CD Selection.

PROGRAM DESIGN.

Moving from Logical to Physical Process Models.
Designing Programs.
Structure Chart.
Program Specification.

DATA STORAGE DESIGN.

Data Storage Formats.
Moving from Logical to Physical Data Models.
Optimizing Data Storage.

MOVING INTO IMPLEMENTATION.

Managing the Programming Phase.
Testing.
Developing Documentation.

TRANSITION TO THE NEW SYSTEM.

Making the Transition to the New System.
The Migration Plan.
Postimplementation Activities.

THE MOVEMENT TO OBJECTS.

Basic Characteristics of Object-Oriented Systems.
Object-Oriented Systems Analysis and Design.
Unified Modeling Language Version 2.0.
Use Case Diagram.

Class Diagram.
Sequence Diagram.
Behavioral State Machine Diagram.

Evaluation

Assignments (Lab and takehome)	: 45%
Midterm 1	: 15%
Midterm 2	: 15%
Final	: 25%

The text for this course is *Systems Analysis & Design third edition by Alan Dennis, Barbara Haley Wixom, Roberta Roth*