SAULT COLLEGE OF APPLIED ARTS AND TECHNOLOGY

SAULT STE. MARIE, ONTARIO

CICE COURSE OUTLINE

COURSE TITLE: Systems Analysis & Design

CODE NO. : CSD202   **SEMESTER:** Fall
MODIFIED CODE: CSD0202

PROGRAM: Computer Programmer

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MODIFIED BY: Amanda Burns, Learning Specialist CICE Program

DATE: Sept 2013   **PREVIOUS OUTLINE DATED:** Sept 2012

APPROVED: "Angelique Lemay"   Sept 2013

Dean, School of Community Services   **DATE**
and Interdisciplinary Studies

TOTAL CREDITS: 5

PREREQUISITE(S): N/A

HOURS/WEEK: 4

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I.   COURSE DESCRIPTION:
The CICE student, with assistance from a learning specialist will be introduced to modern techniques of systems analysis and design. Techniques of modelling both processes and data will be developed, and a CASE tool used in the analysis and modelling of a complete system.

II.   LEARNING OUTCOMES AND ELEMENTS OF THE PERFORMANCE:

Upon successful completion of this course, the CICE student along with the assistance of a Learning Specialist, will demonstrate the basic ability to:

1.   Basically discuss the elements of Systems Analysis and Design
      Potential Elements of the Performance:
      - Describe the Impact of Information Technology
      - Describe Components that make up an information system
      - Describe the impact of Internet technologies
      - Explain the breakdown of users and their needs
      - Describe tools used for systems development
      - Describe methods used for systems development.
      - Describe Guidelines for Systems Development
      - Describe what is required to be a Systems Analyst.

2.   Basically analyzing a basic business case.

      Potential Elements of the Performance:
      - Describe and review Strategic Planning
      - Describe factors that affect the Systems Project.
      - Describe how to evaluate system requests
      - Describe the different types of feasibility studies
      - Identify factors that affect Priorities
      - Explain how to perform the Preliminary Investigation.

3.   Basically describe the various tools and techniques that relate to Managing The Systems Project

      Potential Elements of the Performance:
      - Identify the tasks for Project Planning
      - Describe tools for Project Scheduling
      - Describe and use Gantt/Pert Charts
      - Describe Risk Management
      - Explain monitoring and control techniques
      - Understand how to use Project Management Software
      - Explain the key factors to project success

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4.   Basically describe the Systems Analysis Phase – Requirements
      Modeling

      Potential Elements of the Performance:

- The systems analysis phase overview
- Explain Joint Applications Development
- Explain Rapid Applications Development
- Explain Agile methods of development
- Describe Modeling tools such as Data Flow Diagrams
- Produce a checklist for your project
- Explain the Fact finding and Interview process

5.   Basically describe the Data and Process Modeling Phase

      Potential Elements of the Performance:

- Explain how to use DFD's (Data Flow Diagrams)
- Explain the different types of DFD symbols
- Explain how to use the Data Dictionary
- Describe Process Description tools
- Explain the difference between Logical and Physical Models

6.   Understand basic concepts of Object Modeling

      Potential Elements of the Performance:

- Describe Object-Oriented Analysis
- Understand terms and concepts
- Describe objects, attributes, methods, messages, classes
- Understand how to complete a simple diagram

7   Understand basically how to Develop Strategies

      Potential Elements of the Performance:

- Explain the Impact of the Internet
- Outsourcing
- Explain Software Development Options
- Explain how to Analyze Cost and Benefits
- Explain the Acquisition Process
- Describe the System Design Guidelines

- Explain and show examples of Prototyping

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Potential Elements of the Performance:

- Describe Human Interaction and User Involvement
- Explain how to Create Input Designs
- Describe Some Data Design Concepts
- DBMS components
- Web-Based Database Design
- Explain Entity-Relationship diagrams
- Explain Normalization with examples

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Potential Elements of the Performance

- Define a System Architecture
- Explain how to create a checklist
- Planning the Architecture
- Client/Server /Internet/Wireless Networks based architectures
- Processing Methods
- Explain the Acquisition Process
- Completing the Systems Design

10   Basically manage and Support System
       Potential Elements of the Performance:

- Describe Testing The System
- Provide the proper reports and documentation
- Getting Management Approval
- Installation and Evaluation
- Operation and Test Environments
- Training
- Changeover Options
- Explain User Support and Training
- Maintenance Tasks and Performance Management
- Security Issues
- Backup and Recovery

III.   TOPICS:

1.   Introduction to Systems Analysis & Design
2.   Analyzing a basic business case

3. Tools and Techniques to manage the project
4. The Systems Analysis Phase
5. Data Modeling Phase
6. Basic Concepts of Object Modeling
7. Developing Strategies
8. The User Interface and Data Design
9. Understanding System Architectures
10. Manage and Support systems Implementation

IV.   REQUIRED RESOURCES/TEXTS/MATERIALS:

Systems Analysis and Design 9th edition
Shelly-Rosenblatt (Shelly Cashman Series)
ISBN-10: 0538481617 ISBN-13: 9780538481618

a) Instructor's handouts, guidance, and material as it relates to the individual topics
b) Additional reference material will be provided to students, placed in the library for the student use, or referenced from the Internet

V.   EVALUATION PROCESS/GRADING SYSTEM:

The mark for this course will be arrived at as follows:

1 Written Tests @ 30% each	30%
Practical Lab Assignments (8)	40%
Final Projects (2) @ 15	30%
Total	100%

The following semester grades will be assigned to students:

Grade	Definition	Grade Point Equivalent
A+	90 – 100%	4.00
A	80 – 89%	
B	70 - 79%	3.00
C	60 - 69%	2.00
D	50 – 59%	1.00
F (Fail)	49% and below	0.00

CR (Credit)	Credit for diploma requirements has been awarded.
S	Satisfactory achievement in field /clinical placement or non-graded subject area.
U	Unsatisfactory achievement in field/clinical placement or non-graded subject area.
X	A temporary grade limited to situations

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> with extenuating circumstances giving a
> student additional time to complete the
> requirements for a course.

NR   Grade not reported to Registrar's office.
W   Student has withdrawn from the course
            without academic penalty.

VI.   SPECIAL NOTES:

Attendance:
Sault College is committed to student success. There is a direct correlation
between academic performance and class attendance; therefore, for the benefit
of all its constituents, all students are encouraged to attend all of their scheduled
learning and evaluation sessions. This implies arriving on time and remaining for
the duration of the scheduled session. It is the departmental policy that once the
classroom door has been closed, the learning process has begun. Late arrivers
will not be granted admission to the room.>

Absenteeism will affect a student's ability to succeed in this course.
Absences due to medical or other unavoidable circumstances should be
discussed with the professor. Students are required to be in class on time and
attendance will be taken within the first five minutes of class. A missed class will
result in a penalty in your marks unless you have discussed your absence with
the professor as described above. The penalty depends on course hours and will
be applied as follows:

Course Hours	Deduction
5 hrs/week (75 hrs)	1% per hour
4 hrs/week (60 hrs)	1.5% per hour
3 hrs/week (45 hrs)	2% per hour
2 hrs/week (30 hrs)	3% per hour

VII.   COURSE OUTLINE ADDENDUM:

1.   Course Outline Amendments:
      The professor reserves the right to change the information contained in
      this course outline depending on the needs of the learner and the
      availability of resources.

2.   Retention of Course Outlines:
      It is the responsibility of the student to retain all course outlines for possible
      future use in acquiring advanced standing at other postsecondary
      institutions.

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3.   Prior Learning Assessment:
        Students who wish to apply for advance credit transfer (advanced
        standing) should obtain an Application for Advance Credit from the
        program coordinator (or the course coordinator regarding a general
        education transfer request) or academic assistant. Students will be
        required to provide an unofficial transcript and course outline related to the
        course in question. Please refer to the Student Academic
        Calendar of Events for the deadline date by which application must be
        made for advance standing.

        Credit for prior learning will also be given upon successful completion of a
        challenge exam or portfolio.

        Substitute course information is available in the Registrar's office.

4.   Accessibility Services:
        If you are a student with a disability (e.g. physical limitations, visual
        impairments, hearing impairments, or learning disabilities), you are
        encouraged to discuss required accommodations with your professor
        and/or the Accessibility Services office. Visit Room E1101 or call
        Extension 2703 so that support services can be arranged for you.

5.   Communication:
        The College considers **Desire2Learn (D2L)** as the primary channel of
        communication for each course. Regularly checking this software platform
        is critical as it will keep you directly connected with faculty and current
        course information. Success in this course may be directly related to your
        willingness to take advantage of this Learning Management System (LMS)
        communication tool.

6.   Plagiarism:
        Students should refer to the definition of "academic dishonesty" in *Student
        Code of Conduct*. Students who engage in academic dishonesty will
        receive an automatic failure for that submission and/or such other penalty,
        up to and including expulsion from the course/program, as may be decided
        by the professor/dean. In order to protect students from inadvertent
        plagiarism, to protect the copyright of the material referenced, and to credit
        the author of the material, it is the policy of the department to employ a
        documentation format for referencing source material.

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7. Tuition Default:
    Students who have defaulted on the payment of tuition (tuition has not
    been paid in full, payments were not deferred or payment plan not
    honoured) as of the first week of November will be removed from
    placement and clinical activities due to liability issues. This may result in
    loss of mandatory hours or incomplete course work. Sault College will not
    be responsible for incomplete hours or outcomes that are not achieved or
    any other academic requirement not met as of the result of tuition default.
    Students are encouraged to communicate with Financial Services with
    regard to the status of their tuition prior to this deadline to ensure that their
    financial status does not interfere with academic progress.

8. Student Portal:
    The Sault College portal allows you to view all your student information in
    one place. **mysaultcollege**gives you personalized access to online
    resources seven days a week from your home or school computer. Single
    log-in access allows you to see your personal and financial information,
    timetable, grades, records of achievement, unofficial transcript, and
    outstanding obligations, in addition to announcements, news, academic
    calendar of events, class cancellations,your learning management system
    (LMS), and much more. Go to https://my.saultcollege.ca.

9. Electronic Devices in the Classroom:Students who wish to use electronic
    devices in the classroom will seek permission of the faculty member before
    proceeding to record instruction. With the exception of issues related to
    accommodations of disability, the decision to approve or refuse the request
    is the responsibility of the faculty member. Recorded classroom instruction
    will be used only for personal use and will not be used for any other
    purpose. Recorded classroom instruction will be destroyed at the end of
    the course. To ensure this, the student is required to return all copies of
    recorded material to the faculty member by the last day of class in the
    semester. Where the use of an electronic device has been approved, the
    student agrees that materials recorded are for his/her use only, are not for
    distribution, and are the sole property of the College.

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CICE Modifications:
Preparation and Participation

1. A Learning Specialist will attend class with the student(s) to assist with inclusion in the class and to take notes.
2. Students will receive support in and outside of the classroom (i.e. tutoring, assistance with homework and assignments, preparation for exams, tests and quizzes.)
3. Study notes will be geared to test content and style which will match with modified learning outcomes.
4. Although the Learning Specialist may not attend all classes with the student(s), support will always be available. When the Learning Specialist does attend classes he/she will remain as inconspicuous as possible.

A. Tests may be modified in the following ways:

1. Tests, which require essay answers, may be modified to short answers.
2. Short answer questions may be changed to multiple choice or the question may be simplified so the answer will reflect a basic understanding.
3. Tests, which use fill in the blank format, may be modified to include a few choices for each question, or a list of choices for all questions. This will allow the student to match or use visual clues.
4. Tests in the T/F or multiple choice format may be modified by rewording or clarifying statements into layman's or simplified terms. Multiple choice questions may have a reduced number of choices.

B. Tests will be written in CICE office with assistance from a Learning Specialist.

The Learning Specialist may:

1. Read the test question to the student.
2. Paraphrase the test question without revealing any key words or definitions.
3. Transcribe the student's verbal answer.
4. Test length may be reduced and time allowed to complete test may be increased.

C. Assignments may be modified in the following ways:

1. Assignments may be modified by reducing the amount of information required while maintaining general concepts.
2. Some assignments may be eliminated depending on the number of assignments required in the particular course.

The Learning Specialist may:

1. Use a question/answer format instead of essay/research format
2. Propose a reduction in the number of references required for an assignment
3. Assist with groups to ensure that student comprehends his/her role within the group
4. Require an extension on due dates due to the fact that some students may require additional time to process information
5. Formally summarize articles and assigned readings to isolate main points for the student
6. Use questioning techniques and paraphrasing to assist in student comprehension of an assignment

D. Evaluation:

Is reflective of modified learning outcomes.