

ITC259 : Introduction to Systems Analysis and Design

General Information

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Course Code (CB01) :	ITC259
Course Title (CB02) :	Introduction to Systems Analysis and Design
Department:	Business Information Technolog
Proposal Start:	Spring 2019
TOP Code (CB03) :	(0708.10) Computer Networking
SAM Code (CB09) :	Advanced Occupational
Distance Education Approved:	Yes
Course Control Number (CB00) :	CCC000574153
Curriculum Committee Approval Date:	03/16/2018
Board of Trustees Approval Date:	06/14/2018
External Review Approval Date:	Pending
Course Description:	The course presents a systematic methodology for analyzing a business problem or opportunity, determining what role computer-based technologies can play in addressing the business need, articulating business requirements for the technology solution, specifying alternative approaches to acquiring the technology capabilities needed to address the business requirements, and specifying the requirements for the information systems solution in particular, in-house development, development from third-party providers, or purchased commercial-off-the-shelf packages. Note: This course was formerly CSCI C195.
Submission Type:	Improvement to Program of Study Per program review, change CSCI to IT designation for program clarification and program SLO assessment data. Also, renumbering course to reflect sequence.
Author:	No value

Faculty Minimum Qualifications

Master Discipline Preferred:	<ul style="list-style-type: none">Computer Information Systems (Computer network installation, microcomputer technology, computer applications)Computer Science
Alternate Master Discipline Preferred:	<ul style="list-style-type: none">Computer Information Systems (Computer network installation, microcomputer technology, computer applications)Computer Science
Bachelors or Associates Discipline Preferred:	<ul style="list-style-type: none">Computer Information Systems (Computer network installation, microcomputer technology, computer applications)Computer Service Technology
Additional Bachelors or Associates Discipline Preferred:	<ul style="list-style-type: none">Computer Information Systems (Computer network installation, microcomputer technology, computer applications)

- Computer Science

Course Development Options

Basic Skills Status (CB08)

Course is not a basic skills course.

Allow Students to Gain Credit by Exam/Challenge

Rationale For Credit By Exam/Challenge

No value

Course Support Course Status (CB26)

No value

Course Special Class Status (CB13)

Course is not a special class.

Allowed Number of Retakes

0

Retake Policy Description

Type:|Non-Repeatable Credit

Grade Options

- Letter Grade Methods

Course Prior To College Level (CB21)

Not applicable.

Allow Students To Audit Course

Associated Programs

Course is part of a program (CB24)

Associated Program

Award Type

Active

Cyber Security Technology

A.S. Degree Major

Spring 2018

Cyber Security Technician

Certificate of Achievement

Spring 2018

Transferability & Gen. Ed. Options

Course General Education Status (CB25)

No value

Transferability

Transferable to CSU only

Transferability Status

Approved

Units and Hours

Summary

Minimum Credit Units (CB07) 3

Maximum Credit Units (CB06) 3

Total Course In-Class (Contact) Hours	72
Total Course Out-of-Class Hours	90
Total Student Learning Hours	162
Faculty Load	0

Credit / Non-Credit Options

Course Credit Status (CB04)

Credit - Degree Applicable

Course Non Credit Category (CB22)

Credit Course.

Non-Credit Characteristic

No Value

Course Classification Status (CB11)

Credit Course.

Variable Credit Course

Funding Agency Category (CB23)

Not Applicable.

Cooperative Work Experience Education Status (CB10)

Weekly Student Hours

	In Class	Out of Class
Lecture Hours	2.5	5
Laboratory Hours	1.5	0
Activity Hours	0	0

Course Student Hours

Course Duration (Weeks)	18
Hours per unit divisor	54
Course In-Class (Contact) Hours	
Lecture	45
Laboratory	27
Activity	0
Total	72
Course Out-of-Class Hours	
Lecture	90
Laboratory	0
Activity	0
Total	90

Time Commitment Notes for Students

No value

Faculty Load

Extra Duties: 0

Faculty Load: 0

Units and Hours - Weekly Specialty Hours

Activity Name	Type	In Class	Out of Class
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No Value

No Value

No Value

No Value

Pre-requisites, Co-requisites, Anti-requisites and Advisories

Prerequisite

ITC101 - Introduction to Computer Information Systems

Students need to be able to install their own software and understand what memory is, how to zip and unzip files, how to save and find their files, and how to utilize a computer's operating system (Windows, Apple, and Linux) and application software. This material is covered in the CSCI C101/IT C101 course.

AND

Advisory

CSCIC146 - Introduction to Information Systems Security

Students need an understanding of network security and risk management including processes, communications and the application of policies and procedures for securing computers and networks. This material is covered in CSCI C146/IT C146.

AND

Advisory

ITC143 - Computer Network Fundamentals

Students need a basic understanding of networking terminology, network structure to transfer that knowledge to network security. This material is covered in the CSCI C43/IT C143 course.

Entrance Skills

Entrance Skills

Description

No value

No value

Limitations on Enrollment

Limitations on Enrollment

Description

No value

No value

Specifications

Methods of Instruction

Methods of Instruction

Outside reading

Rationale	Textbook and Electronic Readings
Methods of Instruction	Other
Rationale	Other Methods: A. Textbook and Electronic Readings B. Pre-recorded Training Videos C. Simulation Scenarios Other Methods: A. Textbook and Electronic Readings B. Pre-recorded Training Videos C. Simulation Scenarios Demonstration
Methods of Instruction	Project-based learning
Rationale	No value
Methods of Instruction	Demonstration
Rationale	No value
Methods of Instruction	Discussion
Rationale	No value
Methods of Instruction	Laboratory
Rationale	No value
Methods of Instruction	Lecture
Rationale	No value
Methods of Instruction	Audiovisual
Rationale	B. Pre-recorded Training Videos,. Simulation Scenarios
Assignments	
A. Chapter reading (Example: Reading the assigned chapters from the textbook based on the topics for the week). B. Research and analysis projects (Example: Analyze a problem in a scenario and develop a plan for its remediation).	
Methods of Evaluation	Rationale
Other	Comprehensive Exam: A comprehensive exam in a will evaluate a student's comprehension of the text and preparedness to design and implement technology solutions in an enterprise environment.
Participation	Discussions: Students will participate in discussions to critically explore concepts and compare elements of the text. For example, discuss common problems encountered during technology project execution.

Tests
Homework

Objective Exams: Objective exams will evaluate the student's comprehension of text material.
Written Assignments: Activities will reinforce the practical application of theories presented in the text. These assignments will also provide insight and training into real world tasks for Information Technology (IT) Professionals.

Equipment

No Value

Textbooks

Author	Title	Publisher	Date	ISBN
Rosenblatt	System Analysis + Design	Cengage	2017	9781305494602

Other Instructional Materials

No Value

Materials Fee

No

Learning Outcomes and Objectives

Course Objectives

Articulate the types of business needs that can be addressed using information technology-based solutions.

Initiate, specify, and prioritize information systems projects and to determine various aspects of feasibility of these projects.

Clearly define problems, opportunities, or mandates that initiate projects.

Use at least one specific methodology for analyzing a business situation (a problem or opportunity), modeling it using a formal technique, and specifying requirements for a system that enables a productive change in a way the business is conducted.

Within the context of the methodologies they learn, write clear and concise business requirements documents and convert them into technical specifications.

Communicate effectively with various organizational stakeholders to collect information using a variety of techniques and to convey proposed solution characteristics to them.

Manage information systems projects using formal project management methods.

Articulate various systems acquisition alternatives, including the use of packaged systems (such as Enterprise Resource Planning [ERP], Customer Relationship Management [CRM], Supply Chain Management [SCM], etc.) and outsourced design and development resources.

Use contemporary Computer-Aided Software Engineering (CASE) tools for the use in process and data modeling.

Compare the acquisition alternatives systematically.

Incorporate principles leading to high levels of security and user experience from the beginning of the systems development process.

Design high-level logical system characteristics (user interface design, design of data and information requirements).

Analyze and articulate ethical, cultural, and legal issues and their feasibilities among alternative solutions.

CSLOs

Propose Information Technology (IT)-based solutions for business needs, including planning for prioritized implementation using formal project management methods. Expected SLO Performance: 70.0

Design solutions to fill a business need which addresses systematic acquisition, system development, and the business's resulting productive change. Expected SLO Performance: 70.0

Use Computer-Aided Software Engineering tools for use in process and data modeling. Expected SLO Performance: 70.0

Apply principles leading to high-level logical system characteristics (security, user interface design and experience, design of data and information requirements) while addressing potential ethical, cultural, and legal issues involved. Expected SLO Performance: 70.0

Evaluate the requirements and challenges of solution implementation to include alternative packaged solutions. Expected SLO Performance: 70.0

Outline

Course Outline

1. Introduction to System Developments
 - a. Identification of opportunities for IT-enabled organizational change
2. Business process management
3. Systems Analysis Activities
 - a. Analysis of business requirements

- b. Analysis and specification of system requirements
- 4. System Development and Project Management
 - a. Structuring of Information Technology (IT)-based opportunities into projects
 - b. Project specification
 - c. Project prioritization
 - d. Analysis of project feasibility
 - e. Fundamentals of Information Systems (IS) project management in the global context
- 5. Using globally distributed communication and collaboration platforms
- 6. Methods for comparing systems implementation approaches
- 7. Design and Deployment Concepts
 - a. Organizational implementation of a new information system
 - b. Different approaches to implementing information systems to support business requirements
 - c. Specifying implementation alternatives for a specific system
 - d. Impact of implementation alternatives on system requirements specification
- 8. Different approaches to systems analysis & design: structured Software Development Life Cycle (SDLC), unified process/Unified Modeling Language (UML), agile methods

Lab Outline

Labs will follow the Systems Analysis and Design timelines and will utilize a theoretical business throughout the semester.

Lab requirements include but are not limited to:

1. Establishing a business profile
2. Managing a project timeline
3. Conducting a business analysis
4. Generating system requirements
5. Developing a logical model
6. Presenting a system view
7. Evaluating development strategies
8. Initial system design
9. Prototyping the system design
10. Selecting system architecture
11. Implementing your system
12. System sustainment critical thinking

Delivery Methods and Distance Education

Delivery Method: Please list all that apply -Face to face -Online (purely online no face-to-face contact) -Online with some required face-to-face meetings ("Hybrid") -Online course with on ground testing -iTV – Interactive video = Face to face course with significant required activities in a distance modality -Other

Face 2 Face
 Online
 Hybrid
 Interactive

Rigor Statement: Assignments and evaluations should be of the same rigor as those used in the on-ground course. If they are not the same as those noted in the COR on the Methods of Evaluation and out-of-class assignments pages, indicate what the differences are

and why they are being used. For instance, if labs, field trips, or site visits are required in the face to face section of this course, how will these requirements be met with the same rigor in the Distance Education section?

All assignments in distance education courses (online, hybrid and iTV) of IT C259 are of the same rigor as those in the on-ground course, except that students in purely online sections will submit all of their assignments virtually. The use of industry-standard software and a simulation manual instructs students to complete a series of tasks and provides detailed documentation of their results to the instructor. The instructor reviews the student's results and provides feedback to the students on skill development and selection of the correct methods. The instructor can view students' step-by-step actions to provide feedback and guide their learning. The instructor does provide detailed feedback to students to guide their learning. Instructor evaluation of student work in distance education courses is the same as in the on-ground course, except that evaluation of student work in online is presented virtually. Instead of on-site lectures, hybrid and online courses use a variety of methods including, but not limited to videos, interactive simulations, and written lecture notes.

Effective Student-Instructor Contact: Good practice requires both asynchronous and synchronous contact for effective contact. List the methods expected of all instructors teaching the course. -Learning Management System -Discussion Forums -Moodle Message -Other Contact -Chat/Instant Messaging -E-mail -Face-to-face meeting(s) -Newsgroup/Discussion Board -Proctored Exam -Telephone -iTV -Interactive Video -Other (specify)

email
face2face
discussion
itv

Software and Equipment: What additional software or hardware, if any, is required for this course purely because of its delivery mode? How is technical support to be provided?

No Value

Accessibility: Section 508 of the Rehabilitation Act requires access to the Federal government's electronic and information technology. The law covers all types of electronic and information technology in the Federal sector and is not limited to assistive technologies used by people with disabilities. It applies to all Federal agencies when they develop, procure, maintain, or use such technology. Federal agencies must ensure that this technology is accessible to employees and the public to the extent it does not pose an "undue burden". I am using -iTV—Interactive Video only -Learning management system -Publisher course with learning management system interface.

itv
publisher

Class Size: Good practice is that section size should be no greater in distance ed modes than in regular face-to-face versions of the course. Will the recommended section size be lower than in on-ground sections? If so, explain why.

No Value