

Bachelor of Science in Management Information Systems

Suggested sequence of classes required for the major

Year	Semester 1	Semester 2
First	ENGL 1150 Composition I CMST 1110 Public Speaking CIST 1300 Intro to Web Development MATH 1930 Calculus for Managerial Life & Social Sciences	ENGL 1160 Composition II CIST 1400 Intro to Computer Programming CIST 2100 Organizations, Applications and Technology
Second	ACCT 2010 Principles of Accounting I MATH 2030 Discrete Math CSCI 1620 Computer Science II CIST 3000 Advanced Composition for IS&T	ACCT 2020 Principles of Accounting II ECON 2200 Microeconomics ISQA 3300 File Structures CIST 2500 Statistics for IS&T ISQA 3310 Managing the Database Environment
Third	ECON 2220 Macroeconomics ISQA 3420 Managing in the Digital World CIST 3110 IT Ethics	ISQA 3910 Project Management ISQA 3400 Business Data Communications
Fourth	ISQA 4110 Information Systems Analysis	ISQA 4120 Information Systems Design and Implementation

Overview of Courses Required for the Major

ACCT 2010

1. Course number and name

ACCT 2010 Principles of Accounting I

2. Credits and contact hours

3

3. Instructor's or course coordinator's name

Susan Eldridge

4. Text book, title, author, and year

The textbook for this course shall be selected by the Department of Accounting from among the current editions of financial accounting textbooks such as Financial Accounting: Tools for Business Decision Making, Fourth Edition, by Kimmel, Weygandt, & Kieso (Wiley, 2007).

5. Specific course information

- a. brief description of the content of the course (catalog description)

Basic concepts and assumptions underlying financial accounting; basic structure of accounting; the accounting cycle; external financial statements of the enterprise with emphasis on the corporation; income determination; accounting for and reporting of assets, liabilities and owners' equity; analysis and reporting of cash flows; financial statement analysis.

- b. prerequisites or co-requisites

18 hours earned credits; MATH 1310

- c. indicate whether a required, elective, or selected elective (as per Table 5-1) course in the program

Required

6. Specific goals for the course

- a. specific outcomes of instruction, ex. The student will be able to explain the significance of current research about a particular topic.

- recognize definitions or descriptions of key accounting terms and concepts,
- analyze and properly record economic transactions and prepare a classified balance sheet, multiple-step income statement, and statement of retained earnings linking the first two statements,

- identify the typical types of information in a company's annual report to shareholders and can calculate the following key financial ratios using financial statements: gross profit percentage, profit margin, inventory turnover, accounts receivable turnover, current ratio, and debt-to-assets ratio,
- understand how income is determined using accrual accounting and how accrual accounting provides more useful financial information than cash accounting does, and
- understand how the following balance sheet items are measured or valued, identify the income statement accounts related to each of these balance sheet items, and identify and apply method choices: inventory, accounts receivable, long-lived assets, and bonds payable.

b. explicitly indicate which of the student outcomes listed in Criterion 3 or any other outcomes are addressed by the course.

- Information Systems Environment (IS Criterion)

7. Brief list of topics to be covered

Basic financial statements (including the classified balance sheet) and the environment in which accounting takes place, the accounting information system and accounting cycle, accrual accounting concepts and adjusting and closing entries, merchandising operations and the multiple-step income statement, reporting and analyzing inventory, bank reconciliations and cash management, reporting and analyzing receivables, reporting and analyzing long-lived assets, reporting and analyzing liabilities (including bonds payable and time value of money concepts), reporting and analyzing stockholders' equity, and the statement of cash flows.

ACCT 2020

1. Course number and name

ACCT 2020 Principles of Accounting II

2. Credits and contact hours

3

3. Instructor's or course coordinator's name

Susan Eldridge

4. Text book, title, author, and year

The textbook for this course shall be selected by the Department of Accounting from among the current editions of financial accounting textbooks such as Cornerstones of Managerial Accounting, 5th Edition, 2013 by Mowen & Hansen.

5. Specific course information

a. brief description of the content of the course (catalog description)

A study of techniques and concepts affecting internal accounting in a business organization. These include budgeting in general, costing systems, variance analysis and generating reports for management decision-making. Special topics include segment reporting, control of decentralized operations, capital budgeting, and service department cost allocations.

b. prerequisites or co-requisites

ACCT 2010

c. indicate whether a required, elective, or selected elective (as per Table 5-1) course in the program

Required

6. Specific goals for the course

a. specific outcomes of instruction, ex. The student will be able to explain the significance of current research about a particular topic.

- differentiate between managerial and financial accounting.
- understand cost terms, concepts and classifications.
- understand the need for and objectives of product and service costing, including a basic job order cost system.
- understand and be able to identify and forecast cost behavior patterns.

- identify and properly analyze the relevant costs in short-term, non-routine planning decisions.
- understand the structure and interrelationship among the elements of a master operating budget.
- be able to evaluate business decisions using cost-volume-profit relationships.
- understand the use of standard costs and basic variance analysis.
- understand the concepts and techniques used in capital budget analysis, including time value of money.

b. explicitly indicate which of the student outcomes listed in Criterion 3 or any other outcomes are addressed by the course.

- Information Systems Environment (IS Criterion)

7. Brief list of topics to be covered

- Managerial accounting in the business environment.
- Managerial cost concepts and terminology.
- Cost behavior.
- Cost-volume-profit analysis.
- Job costing.
- Master operating budget.
- Standard costing and variance analysis.
- Performance evaluation in decentralized organizations.
- Capital budgeting.
- Short-term operating decisions.
- Allocation of support department costs to operating departments.

CMST 1100

1. Course number and name

CMST 1100 Public Speaking Fundamentals

2. Credits and contact hours

3

3. Instructor's or course coordinator's name

Karen Dwyer

4. Text book, title, author, and year

- Public Speaking: An Audience-Centered Approach, Ninth Edition, by Steven A. Beebe & Susan J. Beebe. Boston: Pearson Education Inc., 2015.
- Public Speaking Student Workbook 2014-2015 by Karen Kangas Dwyer. New York: McGraw-Hill, Inc.

5. Specific course information

a. brief description of the content of the course (catalog description)

Public Speaking Fundamentals helps students become effective public speakers, as well as critical listeners and evaluators of public communication. Students will learn the principles of audience adaptation, topic selection, organization, development of ideas and presentation of speeches. Each student will design and present a minimum of four public speeches. (Special 'Speaking Confidently' sections are available for the students with excessive levels of fear about public communication. Contact the School of Communication for applications.)

b. prerequisites or co-requisites

None

c. indicate whether a required, elective, or selected elective (as per Table 5-1) course in the program

Required

6. Specific goals for the course

a. specific outcomes of instruction, ex. The student will be able to explain the significance of current research about a particular topic.

- Demonstrate knowledge of the basic principles of public speaking;
- Describe and apply public speaking as a two-way communication process instead of a one-way performance;
- Explain and demonstrate the steps in the speechmaking process;
- Manage communication anxiety;
- Select, narrow, and design communication objectives to fit the topic, situation, and audience;
- Adapt messages and language to the needs and expectations of various audiences through the use of audience analysis;

- Develop Information Literacy Skills;
- Collect, analyze, select, and use supporting materials (from the library and other sources) to form informative and persuasive messages;
- Select and effectively use visual aids and presentational software to enhance informative and persuasive messages;
- Organize ideas, supporting material, and evidence into coherent, logical, and interesting messages using a structured outline format;
- Speak in an extemporaneous and conversational delivery style using effective eye contact, gestures, body movement, voice projection, and vocal variety;
- Speak ethically, confidently, and competently in public settings;
- Listen critically and evaluate public communication encountered in daily life.

b. explicitly indicate which of the student outcomes listed in Criterion 3 or any other outcomes are addressed by the course.

- Outcome #4: communicate effectively to a range of audiences through listening and through oral, written, and visual presentation.

7. Brief list of topics to be covered

- Speaking with Confidence and Decreased Anxiety
- The Speech Communication Model
- Speaking Freely and Ethically
- Listening to Speeches with Critical Listening Skills
- Analyzing the Audience
- Developing a Speech
- Selecting a Topic and Purpose
- Organizing and Outlining a Speech
- Introducing and Concluding a Speech
- Using Words Well: Speaker Language and Style
- Using Visual and/or Presentational Aids Effectively
- Researching the Speech Topic
- Developing Information Literacy Skills
- Using Supporting Material and Critical Thinking
- Delivering the Speech
- Organizing and Presenting Informative Speeches
- Organizing and Presenting Persuasive Speeches
- Using Effective Persuasive Strategies
- Organizing and Presenting Ceremonial Speaking

ECON 2200

1. Course number and name

ECON 2200 Principles of Economics (Micro)

2. Credits and contact hours

3

3. Instructor's or course coordinator's name

Christopher Decker

4. Text book, title, author, and year

Microeconomics, R. Glenn Hubbard and Anthony O'Brien: 4th Edition, 2013, Pearson;
Microeconomics, McConnell and Brue: 19th Edition, 2012, McGraw-Hill; or
Principles of Microeconomics Gregory Mankiw,.: 6th Edition, 2012, Southwestern

5. Specific course information

a. brief description of the content of the course (catalog description)

An introduction to economic principles, decision making and policies affecting product and resource markets. Particular emphasis is on price, output and input decisions by individuals and firms under various market conditions. An introduction to the fundamentals of international trade.

b. prerequisites or co-requisites

ENGL 1150, MATH 1310

c. indicate whether a required, elective, or selected elective (as per Table 5-1) course in the program

required

6. Specific goals for the course

a. specific outcomes of instruction, ex. The student will be able to explain the significance of current research about a particular topic.

- The student will be introduced to the basic principles of economics and the economic way of thinking.
- The student will be introduced to the economic institutions of the U.S. economy and to be able to explain how these institutions interact in a mixed market economy.
- The student will understand how individuals, firms, and owners of resources make demand and supply decisions using cost-benefit analysis.

- The student will understand how price, output, and input decisions have an impact upon the way in which resources are allocated.
- The student will be able to explain how price, output, and input decisions have an impact upon U.S. domestic and international economic policies.
- The student will understand the fundamentals of international trade.
- The student will be prepared for more advanced coursework in economics and business.

b. explicitly indicate which of the student outcomes listed in Criterion 3 or any other outcomes are addressed by the course.

- Program Criterion (j): An understanding of and an ability to support the use, delivery, and management of information systems within an Information Systems environment.

7. Brief list of topics to be covered

- An introduction to the economizing problem, the economic way of thinking, the economic decision making, the production possibility curve, and comparative advantage
- An overview of the private and public sectors of the U.S. economy
- The theory and mechanics of supply and demand and elasticity
- Consumer theory and utility maximization
- The production function and costs
- Price and output determination: perfect competition
- Price and output determination: imperfect competition
- Market failures: externalities and public choice
- The demand for, supply of, and resultant price and employment of economic resources
- The fundamentals of international trade
- A discussion of current domestic and international problems and policies utilizing economic principles and theories

ECON 2220

1. Course number and name

ECON 2220 Principles of Economics (Macro)

2. Credits and contact hours

3

3. Instructor's or course coordinator's name

Christopher Decker

4. Text book, title, author, and year

A principles of macroeconomics textbook such as:

Macroeconomics, McConnell and Brue, 20th edition, 2012, McGraw-Hill

Principles of Macroeconomics, N. Gregory Mankiew, 6th Edition (2012); Thomson Learning

Macroeconomics Principles and Policy, William J. Baumol and Alan S. Blinder, 12th edition, 2011, Thomson Learning

5. Specific course information

- a. brief description of the content of the course (catalog description)

An introduction to economic principles, decision making and policies on national income and output, employment, growth, money, the price level and the international economy.

- b. prerequisites or co-requisites

MATH 1310; ENGL 1150; ECON 2200

- c. indicate whether a required, elective, or selected elective (as per Table 5-1) course in the program

required

6. Specific goals for the course

- a. specific outcomes of instruction, ex. The student will be able to explain the significance of current research about a particular topic.

- The student will understand the basic principles of economics and the economic way of thinking.

- The student will be aware of the economic institutions of the U.S. economy and how these institutions interact in a mixed market economy.
- The student will understand how national income and output, employment, growth, money, and the price level are measured.
- The student will have a basic understanding of the theories which explain the interrelationships among national income and output, employment, growth, money and the price level, and how economic policy affects these macroeconomic variables.
- The student will understand the principles and policies of international macroeconomics including exchange rates and international trade flows, and be able to discuss the relationship of the U.S. economy to the international economy.
- The student will be prepared for more advanced coursework in economics and business.

b. explicitly indicate which of the student outcomes listed in Criterion 3 or any other outcomes are addressed by the course.

- Program Criterion (j): An understanding of and an ability to support the use, delivery, and management of information systems within an Information Systems environment.

7. Brief list of topics to be covered

- A review of: (1) the economizing problem, the economic way of thinking, the economic way of decision making, and comparative advantage; (2) the private and public sectors of our economy; and (3) the theory and mechanics of supply and demand
- The measuring of national output, national income, and the price level
- Business cycles: unemployment and inflation
- Macroeconomic equilibrium analysis: theories of output, employment, price determination, and growth
- Fiscal policy, budget deficits, and the public debt
- Money and financial institutions
- The Federal Reserve System and monetary policy.
- Alternative views, e.g. monetarism and rational expectations
- International macroeconomics: determination of exchange rates and the impact of international trade on the macroeconomy

ENGL 1150

1. Course number and name

ENGL 1150 English Composition I

2. Credits and contact hours

3

3. Instructor's or course coordinator's name

Nora Bacon

4. Text book, title, author, and year

Bash, Rachel, Maggie Christensen, and Tammie M. Kennedy, eds. From the Heartland: Critical Reading and Writing at UNO. Plymouth, MI: Hayden-McNeil, 2011.

Lunsford, Andrea. The St. Martin's Handbook. Boston: Bedford/St. Martins, 2011.

5. Specific course information

a. brief description of the content of the course (catalog description)

Instruction and practice in academic literacy practices, especially writing summaries, analyses, and critical essays in response to assigned texts. The purpose of Composition I is to introduce students to the writing practices of the academy. The course is designed around a sequence of reading and writing assignments designed to provide practice in critically reading, evaluating, and responding to other writers' texts; developing papers with a clear thesis, logical structure, and cohesive, well-developed paragraphs; writing clear sentences with usage and mechanics conforming to Standard Edited English. The course includes discussion of the purposes and processes of academic writing.

b. prerequisites or co-requisites

Placement by English Placement and Proficiency Exam (EPPE) or ENGL 1050

c. indicate whether a required, elective, or selected elective (as per Table 5-1) course in the program

required

6. Specific goals for the course

a. specific outcomes of instruction, ex. The student will be able to explain the significance of current research about a particular topic.

- Improved proficiency in these skills -

- close reading
- active listening
- summarizing a text
- critically interpreting and evaluating texts
- integrating (paraphrasing, quoting, and acknowledging) materials from other texts
- evaluating other writers' drafts, giving appropriate feedback
- sentence-level editing and proofreading

- The ability to write a paper with these characteristics -

- a clear thesis
- a clear, reader-friendly structure
- thorough, honest exploration of ideas
- clear, varied, well-constructed sentences
- inclusion of graphics as appropriate
- usage and mechanics conforming with Standard Edited English
- A generative conception of writing -
- understanding of writing as a complex, recursive process involving prewriting, drafting, substantive revision, and editing
- understanding of writing as a process whereby ideas are developed, explored, and evaluated
- understanding of writing as communication addressed to a particular audience and governed by a particular set of purposes.

- b. explicitly indicate which of the student outcomes listed in Criterion 3 or any other outcomes are addressed by the course.

- Outcome #4: communicate effectively to a range of audiences through listening and through oral, written, and visual presentation.

7. Brief list of topics to be covered

- The writing process
- Reading challenging texts
- Analyzing audience in academic contexts
- Providing constructive feedback
- Writing a summary
- Writing a personal response
- Writing an analysis
- Integrating material from other texts: paraphrase, quotation, citation
- Developing a thesis
- Organizing an essay: introductions, middle paragraphs, conclusions, transitions
- Paragraph development and cohesion
- Sentence structure and style
- Editing common sentence-level errors
- Editing for usage and mechanics

ENGL 1160

1. Course number and name

ENGL 1160 English Composition II

2. Credits and contact hours

3

3. Instructor's or course coordinator's name

Nora Bacon

4. Text book, title, author, and year

Kirszner, Laurie G. and Stephen R. Mandell. Practical Argument: A Text and Anthology. Boston: Bedford/St. Martins, 2011.

Lunsford, Andrea A., John J. Ruszkiewicz, and Keith Walters. Everything's an Argument. Boston: Bedford/St. Martins, 2013.

Ramage, John D., John C. Bean, and June Johnson. Writing Arguments: A Rhetoric with Readings, 9/e. New York: Pearson Education, 2012.

5. Specific course information

- a. brief description of the content of the course (catalog description)

Instruction and practice in academic inquiry, especially researching, analyzing, and writing arguments. The purpose of Composition II is to further develop the writing skills taught in Composition I (reading, evaluating, and responding to other writers' texts; developing papers with a clear thesis, logical structure, and cohesive, well-developed paragraphs; writing clear sentences with usage and mechanics conforming to Standard Edited English). Additionally, Composition II covers information literacy – the effective use of print and digital resources in a university library – and analysis of arguments.

- b. prerequisites or co-requisites

Placement by English Placement and Proficiency Exam (EPPE) or ENGL 1150

- c. indicate whether a required, elective, or selected elective (as per Table 5-1) course in the program

required

6. Specific goals for the course

- a. specific outcomes of instruction, ex. The student will be able to explain the significance of current research about a particular topic.

- The course objectives are to improve students' proficiency as writers, highlighting the writing skills valued in the academy (research and argumentation). Specific objectives are listed below.
- Improved proficiency in these skills –
 - Close reading, summary, and analysis of other writers' texts
 - Navigating the college library
 - Locating and evaluating print and online information sources
 - Evaluating arguments
 - Crafting well-informed, carefully-reasoned arguments
 - Evaluating other writers' drafts, giving feedback in appropriate ways

- Sentence-level editing and proofreading
- The ability to write papers with these characteristics –
- A clear thesis defended by a well-reasoned argument
- Thorough, honest exploration of ideas
- Clear, varied, well-constructed sentences
- Usage and mechanics conforming with standard edited English
- Effective introduction and integration of sources
- Documentation that conforms to MLA or APA guidelines
- A generative conception of writing as –
- a complex, recursive process involving planning, drafting, substantive revision, and editing
- a means to explore, evaluate, and communicate ideas, using one’s own writing to challenge and/or extend the thinking of others
- communication addressed to a particular audience governed by a particular set of purposes and shaped by the conventions of the genre (e.g., position paper, proposal, evaluation)

- b. explicitly indicate which of the student outcomes listed in Criterion 3 or any other outcomes are addressed by the course.

- Outcome #4: communicate effectively to a range of audiences through listening and through oral, written, and visual presentation.

7. Brief list of topics to be covered

- Definitions of “argument”
- The logical structure of arguments
- Rhetorical strategies: appeals to ethos, logos, pathos
- Kinds of evidence: personal experience, observation, interview data, survey data, testimony, etc.
- Locating information in the university library
- Evaluating print and online sources
- Integrating material from other texts: summary, paraphrase, quotation, response to counterarguments
- Documentation styles (MLA and/or APA)
- Organizing an extended argument: strategies for introductions, transitions, conclusions
- Paragraph development and cohesion
- Editing common errors in syntax, usage, and mechanics
- Editing for clarity and style

MATH 1930

1. Course number and name

MATH 1930 Calculus for the Managerial, Life, and Social Sciences

2. Credits and contact hours

3

3. Instructor's or course coordinator's name

John Konvalina

4. Text book, title, author, and year

Lial, Margaret L., Raymond N. Greenwell, and Nathan P Ritchey. Calculus with Applications, 10th ed. Boston: Pearson, 2011.

a. other supplemental materials

5. Specific course information

a. brief description of the content of the course (catalog description)

Basic ideas of calculus are surveyed with applications: functions, limits, derivatives, and integrals. Trigonometry is not required. This course is designed for non-physical science majors. All of the basic concepts of MATH 1950, Calculus I, are introduced and applied to various disciplines. The level of technical sophistication, however, is less than MATH 1950.

b. prerequisites or co-requisites

Students must have an ACT Math sub score of at least 25 within the last 5 years, a COMPASS Test score of at least 6 within the last 2 years, or MATH 1320 within the last 2 years with a grade of C- or better.

c. indicate whether a required, elective, or selected elective (as per Table 5-1) course in the program

required

6. Specific goals for the course

a. specific outcomes of instruction, ex. The student will be able to explain the significance of current research about a particular topic.

- Proficient regarding the Derivative
- Proficient regarding calculating the Derivative
- Proficient regarding graphs and the Derivative
- Proficient regarding applications of the Derivative
- Proficient regarding Integration

- b. explicitly indicate which of the student outcomes listed in Criterion 3 or any other outcomes are addressed by the course.

- Outcome #1: apply knowledge of computing and mathematics appropriate to the discipline.

7. Brief list of topics to be covered

- Algebra, Linear Functions, and Nonlinear Functions Review
- The Derivative
- Calculating the Derivative
- Graphs and the Derivative
- Applications of the Derivative
- Integration

MATH 2030

1. Course number and name

MATH 2030 Discrete Mathematics

2. Credits and contact hours

3

3. Instructor's or course coordinator's name

Zhenyuan Wang

4. Text book, title, author, and year

Kenneth H. Rosen, Discrete Mathematics and Its Applications, Seventh Edition, McGraw-Hill, 2011.

5. Specific course information

- a. brief description of the content of the course (catalog description)

A foundations course in discrete mathematics for applied disciplines, including computer science and computer engineering. Topics include: logic, sets, relations, functions, complexity functions and big congruences, induction and recursive definitions, elementary combinatorics, discrete probability, graphs and trees.

- b. prerequisites or co-requisites

MATH 1930 or MATH 1050

- c. indicate whether a required, elective, or selected elective (as per Table 5-1) course in the program

required

6. Specific goals for the course

- a. specific outcomes of instruction, ex. The student will be able to explain the significance of current research about a particular topic.

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- b. explicitly indicate which of the student outcomes listed in Criterion 3 or any other outcomes are addressed by the course.

• Outcome #1: apply knowledge of computing and mathematics appropriate to the discipline.

7. Brief list of topics to be covered

1. Logic
 - a. Propositional calculus
 - b. Quantifier
 - c. Logical inference
 - d. Methods of proof
2. Sets
 - a. Set-operations
 - b. Set-theoretical proof
 - c. Cartesian product
 - d. Integers
 - e. Mathematical induction
3. Functions
 - a. Inverse functions
 - b. Compositions of functions
 - c. Sequences
4. Relations
 - a. Properties of relations
 - b. Combining relations
 - c. Equivalence relations
5. Counting
 - a. Basic counting techniques
 - b. Combinations and permutations
6. Discrete Probability
 - a. Random experiments and events
 - b. Probability and conditional probability
 - c. Independency

CIST 1300

1. Course number and name

CIST 1300 Introduction to Web Development

2. Credits and contact hours

3

3. Instructor's or course coordinator's name

Bob Fulkerson

4. Text book, title, author, and year

Schwartz, R. L., Foy, B. D., & Phoenix, T. (2011). Learning Perl (6th ed). Beijing ; Sebastopol: O'Reilly.
Castro, E., & Hyslop, B. (2014). HTML and CSS: visual quickstart guide (Eight edition). Berkeley, CA: Peachpit Press.

5. Specific course information

a. brief description of the content of the course (catalog description)

This course will provide students with a practical introduction to web development. By learning the basic skills needed to develop an interactive website, students will develop an understanding of the web development task and an appreciation of the importance of the Internet in both business and academic environments. Specific technical topics to be covered include XHTML, CSS, the Unix/Linux operating system, web server software, and a programming language. As part of the class, each student will develop a working website.

b. prerequisites or co-requisites

MATH 1310 (or equivalent)

c. indicate whether a required, elective, or selected elective (as per Table 5-1) course in the program

required

6. Specific goals for the course

a. specific outcomes of instruction, ex. The student will be able to explain the significance of current research about a particular topic.

- A working knowledge of a command-line oriented operating system.
- The ability to create a standards-compliant HTML5 web page.
- The ability to create standards-compliant CSS documents.

- The ability to write simple programs in the Perl programming language.

b. explicitly indicate which of the student outcomes listed in Criterion 3 or any other outcomes are addressed by the course.

- Outcome 1: apply knowledge of computing and mathematics appropriate to the discipline.
- Outcome 2: apply traditional and contemporary analysis and design techniques.
- Outcome 3: analyze organizational problems or opportunities and formulate appropriate strategies and solutions using information technologies.
- Outcome 7: design, integrate, implement, and evaluate a computer-based system, process, component, or program to meet desired needs.

7. Brief list of topics to be covered

- Unix
- HTML5
- Cascading Style Sheets (CSS)
- Perl
- HTML5 Forms
- CGI

CIST 1400

1. Course number and name

CIST 1400 Introduction to Computer Programming

2. Credits and contact hours

3

3. Instructor's or course coordinator's name

Bob Fulkerson

4. Text book, title, author, and year

Deitel, P. J., & Deitel, H. M. (2015). Java how to program. Early objects (Tenth edition). Boston: Pearson.

5. Specific course information

a. brief description of the content of the course (catalog description)

An introduction to programming within the context of a high level modern programming language. Coverage of fundamental programming concepts and program design; including arrays, user defined types, and objects.

b. prerequisites or co-requisites

CSCI 1200 or CIST 1300

c. indicate whether a required, elective, or selected elective (as per Table 5-1) course in the program

required

6. Specific goals for the course

a. specific outcomes of instruction, ex. The student will be able to explain the significance of current research about a particular topic.

- The student should be able to write moderately complex programs in the Java language that accomplish moderately difficult tasks.
- The students are prepared for the continuation of their Java studies in CSCI 1620.
- The students should be comfortable working in a Unix-based console environment.

b. explicitly indicate which of the student outcomes listed in Criterion 3 or any other outcomes are addressed by the course.

- Outcome #1: apply knowledge of computing and mathematics appropriate to the discipline.
- Outcome #2: apply traditional and contemporary analysis and design techniques.
- Outcome #7: design, integrate, implement, and evaluate a computer-based system, process, component, or program to meet desired needs.

7. Brief list of topics to be covered

- Overview of programming languages
- Introduction to console-based Java Applications
- Algorithms and Control Structures
- Arithmetic and Primitive Data Types
- Methods
- Arrays, Random Numbers and Strings
- Introduction to Classes and Objects

CIST 2100

1. Course number and name

CIST 2100 Organizations, Applications, and Technology

2. Credits and contact hours

3

3. Instructor's or course coordinator's name

Paul van Vliet

4. Text book, title, author, and year

Laudon, K. C., & Laudon, J. P. (2014). Management information systems: managing the digital firm (13th Edition). Boston: Prentice Hall.

5. Specific course information

a. brief description of the content of the course (catalog description)

This survey course provides an introduction to organizations and the role information and information systems play in supporting operations, decision-making, processes, quality management, and strategic activities of an organization. In addition, the course covers management of the IS function, strategic and regulatory issues of telecommunications, and ethical and legal issues.

b. prerequisites or co-requisites

ENGL 1150 prior to or concurrent with enrollment

c. indicate whether a required, elective, or selected elective (as per Table 5-1) course in the program

required

6. Specific goals for the course

a. specific outcomes of instruction, ex. The student will be able to explain the significance of current research about a particular topic.

- To understand the role of information systems and the subsequent challenges in today's competitive business environment
- Understand the role of information systems, their exciting potential, and the associated challenges in today's competitive and global business environment
- Understand the diversity of information systems and networks in the enterprise
- Understand information systems, organizations and management models, and their impact on the decision making process
- Understand how Internet technology, electronic commerce, and electronic Web-based systems have transformed organizations, business models, supply chains and quality
- Understand ethical and social issues related to information systems
- Understand the technical foundations of information systems, including infrastructure, databases, telecommunications, and security and control
- Have a basic understanding of networks, including the Internet
- Understand the business value of systems and technology
- Understand how organizations can use a variety of systems for managing

- knowledge, enhancing decision making, and collaborating
- Understand the overall process of systems development, including phases and techniques for systems analysis, design, implementation, and project management
- Appreciate the global dimensions of information systems and organizations

b. explicitly indicate which of the student outcomes listed in Criterion 3 or any other outcomes are addressed by the course.

- Outcome #1: apply knowledge of computing and mathematics appropriate to the discipline.
- Outcome #2: apply traditional and contemporary analysis and design techniques.
- Outcome #3: analyze organizational problems or opportunities and formulate appropriate strategies and solutions using information technologies.
- Outcome #4: communicate effectively to a range of audiences through listening and through oral, written, and visual presentation.
- Outcome #5: work effectively in a team environment and collaborate with others to accomplish a common goal.
- Outcome #8: Apply relevant project management techniques and processes

7. Brief list of topics to be covered

- Information systems in global business today.
- Global E-Business and collaboration
- Information systems, organizations, and strategy
- Ethical and social issues in information systems
- IT infrastructure and emerging technologies
- Foundations of business intelligence: databases and information management
- Telecommunications, the Internet, and wireless technology
- Securing information systems
- Achieving operational excellence and customer intimacy: enterprise applications
- E-Commerce: digital markets, digital goods
- Managing knowledge
- Enhancing decision making
- Building information systems
- Managing projects
- Managing global systems

CIST 2500

1. Course number and name

CIST 2500 Introduction to Applied Statistics for IS&T

2. Credits and contact hours

3

3. Instructor's or course coordinator's name

Lotfollah Najjar

4. Text book, title, author, and year

Anderson, D., Sweeney, D., & Williams, T. (2012). Essentials of Modern Business Statistics, 5th ed. Mason, OH: South-Western Publishing.

5. Specific course information

a. brief description of the content of the course (catalog description)

The course emphasizes the function of statistics in information science and technology including topics such as descriptive statistical measures, probability discrete probability, sampling, estimation analysis, hypothesis testing, regression, and analysis of variance. A well-known computer package will be used to support the problem-solving process.

b. prerequisites or co-requisites

MATH 2030 or MATH 2040

c. indicate whether a required, elective, or selected elective (as per Table 5-1) course in the program

required

6. Specific goals for the course

a. specific outcomes of instruction, ex. The student will be able to explain the significance of current research about a particular topic.

- The broad objective of this course is to enable you to gain an overview of the functions of statistics in modern business. This course will facilitate your understanding of the concepts and your development of the skills needed to apply statistics to the business decision-making process. This course will also enable you to extend your understanding and use of computer-based statistical tools and provide opportunities to use them to analyze business problems.

- b. explicitly indicate which of the student outcomes listed in Criterion 3 or any other outcomes are addressed by the course.

- Outcome #1: Apply knowledge of computing and mathematics appropriate to the discipline.

7. Brief list of topics to be covered

- Data and Statistics
- Descriptive Statistics I: Tabular and Graphical Methods
- Descriptive Statistics II: Numerical Methods
- Continuous Probability Distributions
- Sampling and Sampling Distributions
- Interval Estimation
- Hypothesis Testing
- Statistical Inference about Means with Two Populations
- Analysis of Variance
- Regression Analysis
- Interpretation of Statistics for Technology Professionals

CIST 3000

1. Course number and name

CIST 3000 Advanced Composition for IS&T

2. Credits and contact hours

3

3. Instructor's or course coordinator's name

Ilze Zigurs

4. Text book, title, author, and year

Lannon, J. M., & Gurak, L. J. (2014) Technical communication. New York, NY. Pearson Longman.

5. Specific course information

a. brief description of the content of the course (catalog description)

Advanced Composition for IS & T provides students with instruction and practice in academic writing for the technical sciences. The course focuses on principles of rhetoric and composition, advanced library-based research techniques, academic modes of writing suited to the technical sciences, style, grammar, and punctuation, all with attention to adapting writing to suit the needs of various academic and professional audiences.

b. prerequisites or co-requisites

ENGL 1160

c. indicate whether a required, elective, or selected elective (as per Table 5-1) course in the program

required

6. Specific goals for the course

a. specific outcomes of instruction, ex. The student will be able to explain the significance of current research about a particular topic.

- The student will develop:
- an understanding of various writing strategies and genres
- an ability to apply field-related, advanced research skills
- an understanding of grammar and language issues
- a developed proficiency in appropriate language for audiences
- an understanding of the writing process

- an understanding of writing functions
- an awareness of audience

b. explicitly indicate which of the student outcomes listed in Criterion 3 or any other outcomes are addressed by the course.

- Outcome #4: communicate effectively to a range of audiences through listening and through oral, written, and visual presentation.

7. Brief list of topics to be covered

- Introduction to technical communications
- Overview of the technical writing process
- Memos
- Thinking critically about the research process
- Meeting the needs of specific audiences
- Evaluating and interpreting information primary research
- Weighing the ethical issues
- Summarizing research findings
- Formal analytical reports
- Social media
- Organizing for readers
- Proposals
- Workplace letters
- Executive summaries
- Technical definitions, specifications
- Informal reports
- Editing for a professional tone and style
- Designing pages and documents
- Designing and testing documents for usability
- Designing visual information
- Transmittal letters
- Email and instant messaging

CIST 3110

1. Course number and name

CIST 3110 Information Technology Ethics

2. Credits and contact hours

3

3. Instructor's or course coordinator's name

Leah Pietron

4. Text book, title, author, and year

Sara Baase, A Gift of Fire, Fourth Edition, Pearson, 2013
Richard A. Spinello, Cyberethics, Morality and Law in Cyberspace, Fifth Edition, Jones and Bartlett, 2014

5. Specific course information

a. brief description of the content of the course (catalog description)

The course will cover the development and need for issues regarding privacy and the application of computer ethics to information technology.

b. prerequisites or co-requisites

none

c. indicate whether a required, elective, or selected elective (as per Table 5-1) course in the program

required

6. Specific goals for the course

a. specific outcomes of instruction, ex. The student will be able to explain the significance of current research about a particular topic.

- Be able to determine the impact of the privacy laws on information security policies.
- Understand the issues related to intellectual freedom, intellectual property, and copyright law as they relate to electronic publishing.
- Be able to determine and identify ethical procedures and behaviors in the organization related to information security.
- Be able to identify issues of professional conduct in information technology case studies.

- Be able to apply University standards of ethical conduct in preparing assignments for all coursework.
- Learn the areas most impacted by ethical decisions by professionals in the computing field and gain skills in making such decisions.
- Identify key ethical concerns of information technology specialists.
- Apply theories of ethics to case situations in the context of organizational use of information technology.
- Appreciate how rapid changes in technology might affect ethical issues and changing norms of behavior.
- Understand the issues related to privacy and confidentiality as they relate to information technology.
- Understand the ethical issues associated with gathering, storing and accessing genetic information in databases.
- Recognize the differences in ethical codes of conduct in different cultures and countries.
- Understand the ethical issues that arise from findings in genomic and bioinformatics analyses.

b. explicitly indicate which of the student outcomes listed in Criterion 3 or any other outcomes are addressed by the course.

- Enabled student characteristic (e): An understanding of professional, ethical, legal, security and social issues and responsibilities
- Outcome #3: analyze organizational problems or opportunities and formulate appropriate strategies and solutions using information technologies
- Outcome #4: communicate effectively to a range of audiences through listening and through oral, written, and visual presentation

7. Brief list of topics to be covered

- Frameworks for Ethical and Policy Analysis
- Unwrapping the Gift
- Privacy
- Freedom of Speech
- Intellectual Property
- Computer Crime
- Work
- Evaluating and Controlling Technology
- Errors, Failures, and Risk
- Professional Ethics and Responsibilities
- Ethical Cases in Social, Legal, Privacy and Ethics

CSCI 1620

1. Course number and name

CSCI 1620 Introduction to Computer Science II

2. Credits and contact hours

3

3. Instructor's or course coordinator's name

Patrick Cavanaugh

4. Text book, title, author, and year

Deitel, P. J., & Deitel, H. M. (2015). Java how to program. Late objects version (Tenth Edition). Boston: Dietel/Pearson.

5. Specific course information

a. brief description of the content of the course (catalog description)

Advanced topics in programming; topics in data representation and manipulation, data structures, problem solving and algorithm design. This is the follow up course to CIST 1400 Intro to Computer Programming. This course will focus more on the object oriented aspect of programming using the Java programming language. The basics of algorithms, including basic sorting techniques and Big O notation will be discussed, as well as introduction to data structures and file I/O.

b. prerequisites or co-requisites

CSCI 1610 or CIST 1400

c. indicate whether a required, elective, or selected elective (as per Table 5-1) course in the program

required

6. Specific goals for the course

a. specific outcomes of instruction, ex. The student will be able to explain the significance of current research about a particular topic.

- To fluently create and use Java classes
- Understand and utilize basic sorting techniques
- Develop algorithms and determine their efficiency
- Create and use basic data structures
- Perform file I/O in Java

- b. explicitly indicate which of the student outcomes listed in Criterion 3 or any other outcomes are addressed by the course.

- Outcome #1: apply knowledge of computing and mathematics appropriate to the discipline
- Outcome #7: design, integrate, implement, and evaluate a computer-based system, process, component, or program to meet desired needs.

7. Brief list of topics to be covered

- Overview of programming languages
- Introduction to console-based Java Applications
- Algorithms and Control Structures
- Arithmetic and Primitive Data Types
- Methods
- Arrays, Random Numbers and Strings
- Introduction to Classes and Objects

ISQA 3300

1. Course number and name

ISQA 3300 File Structures for Information Systems

2. Credits and contact hours

3

3. Instructor's or course coordinator's name

Dwight Haworth

4. Text book, title, author, and year

Dr. Haworth's Internet site with File Structures online textbook at
<http://www.isqa.unomaha.edu/HAWORTH/isqa3300/fs001.htm>

5. Specific course information

- a. brief description of the content of the course (catalog description)

The purpose of this course is to introduce the student to computer file organizations and access methods. A fundamental understanding of the performance implications of each file organization is developed to allow the students to make information systems design choices that will optimize the performance of business information systems.

- b. prerequisites or co-requisites

CSCI 1620

- c. indicate whether a required, elective, or selected elective (as per Table 5-1) course in the program

required

6. Specific goals for the course

- a. specific outcomes of instruction, ex. The student will be able to explain the significance of current research about a particular topic.

- Select a storage device to meet specified requirements,
- Select a file organization to meet specified response time and storage constraints,
- Evaluate the output of processing algorithms with respect to selected performance criteria.

- b. explicitly indicate which of the student outcomes listed in Criterion 3 or any other outcomes are addressed by the course.

- Outcome #1: apply knowledge of computing and mathematics appropriate to the discipline.
- Outcome #2: apply traditional and contemporary analysis and design techniques.

7. Brief list of topics to be covered

- Computer hardware capabilities and limitations
- File programming fundamentals
- Physical storage organization
- File system implementations (Windows and Unix)
- Techniques for evaluating file performance
- Sorting, searching, and indexing
- Sort-merge and the balance line algorithm
- Indexes
- Tree structures and their maintenance
- Static Hashing
- Extendible Hashing
- Continuous track storage (CDROM, DVD, etc)
- Solid State Drives

ISQA 3310

1. Course number and name

ISQA 3310 Managing the Database Environment

2. Credits and contact hours

3

3. Instructor's or course coordinator's name

Peter Wolcott

4. Text book, title, author, and year

Hoffer, J. A., Ramesh, V., & Topi, H. (2012). Modern Database Management (11th ed.). Boston, MA: Pearson.

5. Specific course information

a. brief description of the content of the course (catalog description)

Introduction to business database design and management functions. The focus is on the use of current database management systems (DBMS) to support the data management function of an organization. Topics include data modeling, database design, SQL, data management and database administration. Hands-on experience in database design, creation, and use is provided.

b. prerequisites or co-requisites

CIST 2100

c. indicate whether a required, elective, or selected elective (as per Table 5-1) course in the program

required

6. Specific goals for the course

a. specific outcomes of instruction, ex. The student will be able to explain the significance of current research about a particular topic.

- Distinguish between 'data' and 'information'.
- Define the terms 'database', 'database management system' and distinguish between such systems and their predecessors.
- Define the characteristics and benefits of the relational database model.
- Use SQL to define and modify database objects, and retrieve data.
- Describe the database development process, and explain how it fits into the broader context of systems analysis, design, and implementation.

- Use data modeling techniques and tools to develop data models.
- Design appropriately normalized relations in a relational DBMS.
- Design and implement a relational database system of modest size using a contemporary DBMS.
- Identify the data integrity and security issues associated with database systems and explain how these are addressed in contemporary database management systems.
- Discuss the issues and techniques used with databases in a distributed environment, including the Internet.
- Explain the purpose, architecture, and associated terminology of data warehousing.

b. explicitly indicate which of the student outcomes listed in Criterion 3 or any other outcomes are addressed by the course.

- Outcome #1: apply knowledge of computing and mathematics appropriate to the discipline.
- Outcome #2: apply traditional and contemporary analysis and design techniques.
- Outcome #3: analyze organizational problems or opportunities and formulate appropriate strategies and solutions using information technologies.
- Outcome #7: design, integrate, implement, and evaluate a computer-based system, process, component, or program to meet desired needs.

7. Brief list of topics to be covered

- File processing systems definition and components of database system
- Microsoft Access DBMS
- The Relational Model
- SQL & PL/SQL
- Database development process
- Data modeling & Entity-Relationship Diagramming
- Logical database design: ERD to tables, Functional dependencies
- Logical database design: Normalization
- Transaction Processing & Concurrency Control
- Business Intelligence and Data Warehousing
- NoSQL data systems

ISQA 3400

1. Course number and name

ISQA 3400 Business Data Communications

2. Credits and contact hours

3

3. Instructor's or course coordinator's name

Sidney Davis

4. Text book, title, author, and year

Tanenbaum, A. S., & Wetherall, D. (2011). Computer networks (5th ed). Boston: Pearson Prentice Hall.

5. Specific course information

- a. brief description of the content of the course (catalog description)

Data Communications principles and service operations with computers and telecommunication systems for operational analysis and decision making. This course will focus on breath, not depth -- concepts rather than specific technologies because concepts remain constant over time, while technologies change from year to year. Students are expected to master the basic terminologies and concepts, not necessarily to become experts in computer networking, nor to know the engineering details of any technology.

- b. prerequisites or co-requisites

CIST 2100

- c. indicate whether a required, elective, or selected elective (as per Table 5-1) course in the program

required

6. Specific goals for the course

- a. specific outcomes of instruction, ex. The student will be able to explain the significance of current research about a particular topic.

- Learn data communications principles and service operations with computers and telecommunication systems for operational analysis and decision making.
- Master the basic terminology and concepts of data communications.
- Analyze and design a system or a sub-system of a large scale system for the semester project applying the tools and techniques learn in the course.
- Carry out hands-on projects to understand data communications models.
- Understand networks

- b. explicitly indicate which of the student outcomes listed in Criterion 3 or any other outcomes are addressed by the course.

- Outcome #1: apply knowledge of computing and mathematics appropriate to the discipline.
- Outcome #2: apply traditional and contemporary analysis and design techniques.
- Outcome #3: analyze organizational problems or opportunities and formulate appropriate strategies and solutions using information technologies.

7. Brief list of topics to be covered

- Data Transmission
 - Introduction
 - Internet Trends
 - Naming With the Domain Name System
 - Transmission Media
 - Long-Distance Communication (carriers, Modulation, and Modems)
- Networking and Packet Transmission
 - Packets, Frames, and Error Detection
 - LAN Technologies and Network Topology
 - Hardware Addressing and Frame Type Identification
 - LAN Wiring, Physical Topology, and Interface Hardware
 - Extending LANs: Fiber Modems, Repeaters, Bridges, and Switches
 - Long-Distance Digital Connection Technologies
 - WAN Technologies and Routing
 - Connection-Oriented Networking and ATM
 - Network characteristics: Ownership, Service Paradigm, and Performance
- Protocols and Layering
- Internetworking
 - Internetworking: Concepts, Architecture, and Protocols
 - IP: Internet Protocol and Addresses
 - Binding Protocol Addresses (ARP)
 - IP Datagrams and Datagram Forwarding
 - IP Encapsulation, Fragmentation, and Reassembly
 - The Future IP (Ipv6)
 - An Error Reporting Mechanism (ICMP)
 - TCP: Reliable Transport Service
 - Network Security

ISQA 3420

1. Course number and name

ISQA 3420 Managing in a Digital World

2. Credits and contact hours

3

3. Instructor's or course coordinator's name

Matt Germonprez

4. Text book, title, author, and year

No textbook

- a. other supplemental materials

5. Specific course information

- a. brief description of the content of the course (catalog description)

This course introduces the fundamentals of information systems/technology (IS/T) management. Students are introduced to the various roles, responsibilities, skills, and concepts essential to successful management of IS/T in the context of a dynamic environment of technology workforce diversity, a global economy, and concern for ethics and social responsibility in the development of systems.

- b. prerequisites or co-requisites

CIST 2100

- c. indicate whether a required, elective, or selected elective (as per Table 5-1) course in the program

required

6. Specific goals for the course

- a. specific outcomes of instruction, ex. The student will be able to explain the significance of current research about a particular topic.

- Increase awareness of how a dynamic and changing information-intensive environment affects IS managers.
- Appreciate challenges and opportunities of IS management in context of 21st century organizations.
- Understand the international aspects of IS management to develop a global and multi-cultural view.
- Understand the importance of having a competitive advantage and the potential role of IT in developing a competitive advantage.
- Become familiar with environmental challenges that IS managers face in managing diversity, quality, information technology, and knowledge for competitive advantage in the 21st century.

- Become familiar with the foundations of ethical managerial behavior, using information ethically, and issues/challenges as it pertains to IS/T management
- Identify how work can be altered with the use of information system and technology.
- Understand the challenges of IS leadership, leadership theories and models, and the role of the Chief Information Officer.
- Understand issues affecting the management of global IS/T, particularly challenges of and best practices for managing teleworkers and virtual teams
- Appreciate the IT-enabled change process, including change strategies, resistance to change and the nature of organization development.
- Understand models for technology adoption and diffusion of technological innovations.

b. explicitly indicate which of the student outcomes listed in Criterion 3 or any other outcomes are addressed by the course.

- Outcome #1: apply knowledge of computing and mathematics appropriate to the discipline.
- Outcome #2: apply traditional and contemporary analysis and design techniques.
- Outcome #3: analyze organizational problems or opportunities and formulate appropriate strategies and solutions using information technologies.
- Outcome #4: communicate effectively to a range of audiences through listening and through oral, written, and visual presentation.
- Outcome #7: design, integrate, implement, and evaluate a computer-based system, process, component, or program to meet desired needs.

7. Brief list of topics to be covered

- Open source and open source communities
- Corporate development methods
- Corporate participation with open source communities
- Open compliance
- Crowdsourcing
- Scientific inquiry and citizen science
- Cloud computing
- Distributed services in cloud computing
- Distributed development in cloud computing
- Amazon Web Services

ISQA 3910

1. Course number and name

ISQA 3910 Introduction to Project Management

2. Credits and contact hours

3

3. Instructor's or course coordinator's name

Donna Dufner

4. Text book, title, author, and year

- Fleming, Q. and Hoppelman, J. Earned Value Project Management. Newton Square, PA: Project Management Institute, 2000.
- Ireland, L. Quality Management for Projects and Programs. Newton Square, PA: Project Management Institute, 1991.
- Guide to the Project Management Body of Knowledge (PMBOK Guide) by the Project Management Institute Standards Committee, Newton Square, PA. 2013.

5. Specific course information

a. brief description of the content of the course (catalog description)

This course will cover the basics of project planning, scheduling and control. Earned value management techniques and project quality will be covered. Risk management will also be covered. The student will be introduced to the IEEE Standards for Project Management. The purpose of the course is to provide students with an introduction to the tools and techniques used to manage projects to achieve successful completion. The project management methods taught are suitable for a wide variety of project types such as software development or engineering projects (e.g. construction).

b. prerequisites or co-requisites

CIST 2100

c. indicate whether a required, elective, or selected elective (as per Table 5-1) course in the program

required

6. Specific goals for the course

- a. specific outcomes of instruction, ex. The student will be able to explain the significance of current research about a particular topic.

- Understand the fundamentals of project management and control; the appropriate tools and techniques, and the expected planning deliverables.
- Understand earned value analysis (EVA) for project management.
- Understand quality issues for project management.
- Understand the fundamentals of the management of risk.
- Apply the fundamentals of earned value analysis and, cost and schedule variance analysis to control projects.
- Learn how to create and use a work breakdown structure.
- Learn how to manage and track changes to the project requirements.
- Manage projects using the Critical Path Methodology.

b. explicitly indicate which of the student outcomes listed in Criterion 3 or any other outcomes are addressed by the course.

- Outcome #3: analyze organizational problems or opportunities and formulate appropriate strategies and solutions using information technologies.
- Outcome #8: apply relevant project management techniques and processes.

7. Brief list of topics to be covered

- Fundamentals of a project and the role of the project manager
- Introduction to the calculation of the impact of risk
- Project Scope Management
- Work Breakdown Structure
- Project Time Management
- Project Cost Management
- Earned Value Analysis
- Project Quality Management
- Project Human Resource Management
- Project Communications Management
- Project Risk Management
- Project Stakeholder Management
- Project Integration Management

ISQA 4110

1. Course number and name

ISQA 4110 Information Systems Analysis

2. Credits and contact hours

3

3. Instructor's or course coordinator's name

Leah Pietron

4. Text book, title, author, and year

Hoffer, J. A., George, J. F., & Valacich, J. S. (2014). Modern systems analysis and design (Seventh edition). Boston: Pearson.

5. Specific course information

a. brief description of the content of the course (catalog description)

This course examines and applies the principles of information systems analysis, following a structured systems development methodology. It surveys project management, feasibility and analysis and systems requirement definition using modern systems analysis techniques and automated tools. Course utilizes a case approach where students initiate the analysis and logical design of a limited-scope information system.

b. prerequisites or co-requisites

CIST 3910, and ISQA 3310 concurrent with or prior to

c. indicate whether a required, elective, or selected elective (as per Table 5-1) course in the program

required

6. Specific goals for the course

a. specific outcomes of instruction, ex. The student will be able to explain the significance of current research about a particular topic.

- The students will be able to develop a better understanding of the entire information system development process.
- The students will improve their technical and group communication skills.
- The student systems analyst will learn how to utilize critical thinking skills, problem solving, change management, and project management.
- The students will apply technical and theoretical knowledge to the client project.
- The student will have a better understanding of information systems in general.

b. explicitly indicate which of the student outcomes listed in Criterion 3 or any other outcomes are addressed by the course.

- Outcome #1. apply knowledge of computing and mathematics appropriate to the discipline.
- Outcome #2. apply traditional and contemporary analysis and design techniques.

- Outcome #3. analyze organizational problems or opportunities and formulate appropriate strategies and solutions using information technologies.
- Outcome #4. communicate effectively to a range of audiences through listening and through oral, written, and visual presentation.
- Outcome #5. work effectively in a team environment and collaborate with others to accomplish a common goal.
- Outcome #6. understand and apply appropriate types of computer-based tools to support communication.
- Outcome #7. design, integrate, implement, and evaluate a computer-based system, process, component, or program to meet desired needs.
- Outcome #8. apply relevant project management techniques and processes.

7. Brief list of topics to be covered

- Introduction to ISQA 4110, The Systems Development Environment & Overview of Software Applications
- The Origins of Software
- Managing the Information Systems Project & Introduction to Microsoft Project
- Identifying and Selecting Systems Development Project
- Initiating and Planning Systems Development Projects
- Information Security Policy/Data Governance
- Risk Analysis for Information Systems
- Determining Systems Requirements
- Structuring Systems Requirements: Process Modeling & Structuring Systems Requirements: Logic Modeling
- Rapid Application Development & Object-Oriented Analysis and Design

ISQA 4120

1. Course number and name

ISQA 4120 Information Systems Design and Implementation

2. Credits and contact hours

3

3. Instructor's or course coordinator's name

Paul van Vliet

4. Text book, title, author, and year

Hoffer, J. A., George, J. F., & Valacich, J. S. (2014). Modern systems analysis and design (Seventh edition). Boston: Pearson.

5. Specific course information

a. brief description of the content of the course (catalog description)

This is the second course in a sequence in computer information systems analysis, design, and implementation. This course extends the basic foundations of systems development started in ISQA 4110 and examines the activities comprising the design, construction and implementation of information systems.

b. prerequisites or co-requisites

ISQA 3310 and ISQA 4110

c. indicate whether a required, elective, or selected elective (as per Table 5-1) course in the program

required

6. Specific goals for the course

a. specific outcomes of instruction, ex. The student will be able to explain the significance of current research about a particular topic.

- Complete the development of the projects started in the previous semester in ISQA 4110.
- Successfully design and construct a software application.
- Critically assess systems development alternatives.
- Develop high quality systems documentation.

b. explicitly indicate which of the student outcomes listed in Criterion 3 or any other outcomes are addressed by the course.

- Outcome #1. apply knowledge of computing and mathematics appropriate to the discipline.
- Outcome #2. apply traditional and contemporary analysis and design techniques.
- Outcome #3. analyze organizational problems or opportunities and formulate appropriate strategies and solutions using information technologies.
- Outcome #4. communicate effectively to a range of audiences through listening and through oral, written, and visual presentation.
- Outcome #5. work effectively in a team environment and collaborate with others to accomplish a common goal.
- Outcome #6. understand and apply appropriate types of computer-based tools to support communication.
- Outcome #7. design, integrate, implement, and evaluate a computer-based system, process, component, or program to meet desired needs.
- Outcome #8. apply relevant project management techniques and processes.

7. Brief list of topics to be covered

- Overview of Systems Design approaches
- Data Model Design
- Database Design
- User Interface Design
- Systems Architecture Design
- Systems Controls Design
- Process Design & Code Development
- Documentation Development
- Design of Testing Procedures
- Systems Installation Issues
- Distributed Systems Design
- System Maintenance

