Saint Leo University

COM 498
Advanced Computer Skills

Course Description:
A capstone course for the major, COM498 emphasizes the integration of information and environmental systems to support broad strategic planning decisions. The course will involve lectures, case studies and application of previous course work to support strategic decision making.

Prerequisites:
COM 315, COM 410, COM 415, MGT 301, MKT 301, and senior standing

Textbooks:
Monk, E.F., Brady, J.A., & Mendelsohn, E.I. (2017). *Problem-Solving Cases in Microsoft Access & Excel (15*th ed.). Cengage Learning. ISBN-13: 978-1-337-10133-2

Course Objectives:
1. Describe and evaluate the use of information systems in strategy and planning, technology assessment, operational activities, and control.
2. Describe and evaluate the concepts utilized in the management of information assets, the management of personnel, long- and short-range planning, and management of expectations.
3. Describe and evaluate the integration of telecommunications and information systems management into information technology management as found in industry.
4. Describe and evaluate the structural changes resulting in companies and organizations as a result of new technology.

Saint Leo University Core Values:
Students are expected to be mindful of the Benedictine core values of Saint Leo University when submitting work, interviewing outside resources, and working in groups.

Excellence: Saint Leo University is an educational enterprise. All of us, individually and collectively, work hard to ensure that our students develop the character, learn the skills and assimilate the knowledge essential to become morally responsible leaders. The success of our University depends upon a conscientious commitment to our mission, vision and goals.

Community: Saint Leo University develops hospitable Christian learning communities everywhere we serve. We foster a spirit of belonging, unity and interdependence based on mutual trust and respect to create socially responsible environments that challenge all of us to listen, to learn, to change and to serve.

Respect: Animated in the spirit of Jesus Christ, we value all individuals' unique talents, respect their dignity and strive to foster their commitment to excellence in our work. Our community's strength depends on the unity and diversity of our people, on the free exchange of ideas and on learning, living and working harmoniously.

Personal Development: Saint Leo University stresses the development of every person's mind, spirit and body for a balanced life. All members of the Saint Leo University community must demonstrate their commitment to personal development to help strengthen the character of our community.

Responsible Stewardship: Our Creator blesses us with an abundance of resources. We foster a spirit of service to employ our resources to university and community development. We must be resourceful. We must optimize and apply all of the resources of our community to fulfill Saint Leo University's mission and goals.

Integrity: The commitment of Saint Leo University to excellence demands that its members live its mission and deliver on its promise. The faculty, staff and students pledge to be honest, just and consistent in word and deed.

Grading Scale:

Grade	Score (%)
A	94-100
A-	90-93
B+	87-89
B	84-86
B-	80-83
C+	77-79
C	74-76
C-	70-73
D+	67-69
D	60-66
F	0-59
I	Incomplete
W	Withdrawal

Evaluation:
The following criteria will be used to determine a final grade in the course:

Case Assignments (8 x 8.125%)	65%
Discussions (8 x 1.25% per module)	10%
Final Quiz	25%
Total	**100%**

Text (Case) Assignments
Students will complete case assignments from the text each week. Some cases will require the use of additional data files that are accessible in the course Doc Sharing area. The professor will evaluate these assignments and the results will be returned to the student. Assignment submissions will consist of packages prepared in a professional style and manner, with a cover sheet containing the student's name and class, a case description, an analysis, and the solution with any supporting documentation or calculations as attachments. In addition, students will be required to present the results of their analyses on the various cases. Presentations will require visual aids.

There are **three and only three** required deliverables for every case:

1. Report

The required report is a Word document addressed to the owner/manager of the business and should be a formal business report with appropriate letterhead, etc., (make up your own if necessary) that lays out in detail (discuss it!) what you have been asked to do, what you have done, and what you recommend. Remember that this is the meat of your package and it should be written in a manner that covers all of the questions in a professional, business-like manner.

2. Presentation

The PowerPoint presentation is the required stand-up presentation you would do in a business setting explaining the gist of what you have done and recommend to the owner/manager of the business. The slides should not be detailed but more general on what was requested and what came out of it. Examples of the reports, forms, etc., should be in the report and can be referred to during the presentation if necessary. There need not be a lot of slides and they should primarily be used as a guide/reminder of the thrust of the presentation. Slides should not be read but should serve as bullets about which you talk. You should limit each slide to about three items (or sub-items).

3. Supporting application (Excel/Access/HTML files)

The spreadsheet or database is the supporting data for what you have done. In real life you should be prepared to display it and/or demonstrate something but that is not part of the presentation.

Grammatical errors in any part of the deliverables are not acceptable. Remember, these deliverables represent you and/or your company. They are a major portion of what the business owner/manager thinks of you and your work. Your reputation rides on the competence of these.

Pretend that these cases are going to provide your rent and food money for the next month. If you do a good job, the owner of the business will write you a large check and recommend you to other businesses as a competent, professional consultant that will allow you to continue paying your rent and eating for the coming months.

Do not include any reference to the course, the professor, the university, or anything except yourself and the person to whom the deliverables are addressed (except on the cover sheet). Do not refer to the owner/manager of the business in the third person in the report (e.g., "Mr. Milligan wants to know…"). At best, it's stilted. At worst, it sounds like you're a sycophant. Instead, use, "You want to know…"

As stated above, you should assume that you are a consultant doing this for your livelihood—you may be closer to that than you realize. You may think that the cases are too difficult or cover material you don't remember from those business courses you took so long ago. That may be true but CIS is supposed to combine the functions of business with the tools provided by the computer to enhance business operations, and these cases demonstrate your ability to do just that. The cases have been reviewed by competent consultants in the field and they stated that the cases represent the kind of work they are doing and have had to do in their jobs. As a CIS graduate you will be expected to do these things.

Remember, the answers to all of the questions in the case and the Test Your Design questions should be in the report. Having been a manager and knowing quite a few, I can assure you that it's really frustrating to be given a report that is supposed to supply the answers to questions only to find they're in not in the report but in some other source.

Module 8 Assignment 8:
Submit Module 8 Assignment 8 to **Chalk and Wire** using the link in the Module 8 folder. Students that do not submit the assignment to Chalk and Wire will receive a zero. This is a key program assessment;

the results are used to ensure students are meeting program goals. Video and PDF instructions can be found on the Start Here page. PDF instructions are also located in the Start Here folder.

Final Quiz

In Module 8, students will take a comprehensive quiz consisting of 80 multiple-choice questions covering all areas of the COM courses taken during the major.

Participation in discussions

Each module includes a discussion question to which you must initially respond. Then, as you've read through your classmates' answers, you must also post a response to at least one other posting. For more information regarding student expectations for discussions, see the *Discussion Guidelines* in the Start Here menu.

Late Assignments

Case assignments are worth 100 points each. Late submissions will be accepted under the following conditions:

How late?	Penalty
1 day or less late	Loss of 1 letter grade (10 points out of 100)
More than 1 and less than 2 days	Loss of 2 letter grades (20 points)
More than 2 and less than 3 days	Loss of 3 letter grades (30 points)
More than 3 days late	Zero (0) points awarded for the assignment

Module 1: Introduction to Data Representation
Objectives:

When you complete this module, you should be able to:
- Explain the difference between the computer science discipline and that of computer information systems.
- Describe and discuss the contents of the CIS curriculum, section by section.
- Explain the difference between analog and digital data and data storage methods used in computers.
- Use the logical operators used in the computer, perform signed and unsigned binary arithmetic, convert numbers from binary to decimal and vice-versa, and explain the use of hexadecimal numbers in the computer.

Assignments:

Items to be Completed:	Due No Later Than:
Read review document	
Post introduction to the class	Thursday 11:59 PM EST/EDT
Post initial response to the discussion question	Thursday 11:59 PM EST/EDT
Post responses to at least two classmates	Sunday 11:59 PM EST/EDT
Submit Assignment 1	Sunday 11:59 PM EST/EDT

Module 2: Data Representation II and How Computers Operate

Objectives: When you complete this module, you should be able to:
- Explain the methods used for data storage and manipulation of useful values to include integers, floating point numbers, and character data.
- Explain how data is represented in external devices.
- Explain how the computer operates optical input devices.
- Explain the use of audio I/O devices in the computer.
- Describe the foundations and components of computer systems including the von Neumann computer architecture, the central processing unit, the system bus, primary storage, secondary storage, and I/O processing.

Assignments:

Items to be Completed:	Due No Later Than:
Read review document	
Post initial response to the discussion question	Thursday 11:59 PM EST/EDT
Post responses to at least two classmates	Sunday 11:59 PM EST/EDT
Submit Assignment 2	Sunday 11:59 PM EST/EDT

Module 3: Operating System Fundamentals and Programming Concepts

Objectives: When you complete this module, you should able to:

- Explain system software, the operating system model, resource allocation, process management, and inter-process communication.
- Explain basic programming concepts, the levels of programming, language translators, the differences between procedural and OOP (object oriented programming) languages, and the data types used in programming languages.
- Explain the comparison operators, data types and presentations used in programming, and the use of pseudocode and flowcharts.
- Explain program flow operators, how programming languages make decisions, the methods used for repetition, and the use of arrays.

Assignments:

Items to be Completed:	Due No Later Than:
Read review document	
Post initial response to the discussion question	Thursday 11:59 PM EST/EDT
Post responses to at least two classmates	Sunday 11:59 PM EST/EDT
Submit Assignment 3	Sunday 11:59 PM EST/EDT

Module 4: Computer Use in Management Sciences

Objectives: When you complete this module, you should be able to:

- Develop and use Cost-Volume-Profit analysis, perform a What-If analysis, use Trial and Error to perform business situation analysis.
- Create and use Data Tables, employ Goal Seek, and use Scenario Manager to analyze different business problems to determine solutions.
- Use the Solver to solve business problems.

Assignments:

Items to be Completed:	Due No Later Than:
Read review document	
Post initial response to the discussion question	Thursday 11:59 PM EST/EDT
Post responses to at least two classmates	Sunday 11:59 PM EST/EDT
Submit Assignment 4	Sunday 11:59 PM EST/EDT

Module 5: Systems Analysis and Design, and Project Management

Objectives: When you complete this module, you should be able to:
- Explain the systems development life cycle, including the purpose, activities, and outputs of each phase.
- Explain the need for better project management, the concept of a project, and how projects are managed.
- Describe project manager functions, skill requirements, and career opportunities.
- Explain project management as a profession and the tools available to assist in completing projects.

Assignments:

Items to be Completed:	Due No Later Than:
Read review document	
Post initial response to the discussion question	Thursday 11:59 PM EST/EDT
Post responses to at least two classmates	Sunday 11:59 PM EST/EDT
Submit Assignment 5	Sunday 11:59 PM EST/EDT
Systems Analysis and Design, and Project Management	Systems Analysis and Design, and Project Management

Module 6: Introduction to Telecommunications Concepts

Objectives: When you complete this module, you should be able to:
- Explain signals and signal types, frequency concepts, signal encoding and decoding, and transmission modes used in telecommunication.
- Explain signal distortion, transmission media, the difference between baseband and broadband, and methods used for error detection and correction.

Assignments:

Items to be Completed:	Due No Later Than:
Read review document	
Post initial response to the discussion question	Thursday 11:59 PM EST/EDT
Post responses to at least two classmates	Sunday 11:59 PM EST/EDT
Submit Assignment 6	Sunday 11:59 PM EST/EDT

Module 7: Consumer Production and Marketing

Objectives: When you complete this module, you should be able to:
- Explain the basic communication model consisting of sender, encoder, channel, decoder, receiver, and noise.
- Explain the types of networks including the wide area network, metropolitan area network, campus network, and local area network.
- Explain network topologies to include bus, tree, ring, mesh, and star.
- Explain the OSI Reference Model layers, including application, presentation, session, transport, network, data link, and physical.

Assignments:

Items to be Completed:	Due No Later Than:
Read review document	
Post answer to discussion question	Thursday 11:59 PM EST/EDT
Post response to your classmates	Sunday 11:59 PM EST/EDT
Submit Assignment 7	Sunday 11:59 PM EST/EDT

Module 8: Introduction to Information Security and Databases

Objectives: When you complete this module, you should be able to:
- Describe information security, the history of computer security, and how it evolved into information security.
- Define and explain key terms and critical concepts of information security.'
- Describe the security systems development life cycle how it differs from the systems development life cycle.
- Explain the roles of individuals working in an organization's information security.
- Explain the types of databases, database management systems (DBMS), and the advantages and disadvantages of DBMS.
- Explain data relationships, keys as used in databases, queries, forms and reports, and the concepts of a data warehouse and data mart.

Assignments:

Items to be Completed:	Due No Later Than:
Read review document	
Post initial response to the discussion question	Thursday 11:59 PM EST/EDT
Post responses to at least two classmates	Sunday 11:59 PM EST/EDT
Submit Assignment 8 to Chalk and Wire	Sunday 11:59 PM EST/EDT
Complete Final Quiz	Sunday 11:59 PM EST/EDT