

Course Outline

Department of Management
School of Business and Economics

MIST 4610-3
Strategic Management Information Systems (3,0,0)

Calendar Description

Students acquire the knowledge and skills to support decision-making and problem-solving processes in business and accounting. An emphasis is placed on managing the entire lifecycle of data, from collecting to interpreting, to modelling, to decision making, and finally to communicating the results. Topics include accounting information systems development; information technology auditing, including data and network security; developing enterprise reporting systems; managing data, principles of extensible markup language (XML), and extensible business reporting language (XBRL); and constructing, analyzing, and presenting a suite of spreadsheet-based, decision-making models.

Educational Objectives/Outcomes

After completing this course, students should be able to:

1. Identify the various systems development methodologies used to plan and develop Accounting Information and Enterprise Resource Planning (ERP) Systems.
2. Describe the impact of computer crime, fraud, ethics and privacy on the business and techniques and strategies reduce their frequency and mitigate their effect.
3. Categorize the various data sources and data management techniques used in data auditing, warehousing and mining.
4. Describe the range of cognitive, psychological and social pitfalls, which decision makers should avoid and to introduce students to the science of fact-based, data-driven decision modeling and analysis.
5. Demonstrate translating descriptions of decision problems into formal models, and investigate those models in an organized and systematic fashion.
6. Illustrate best practice modeling techniques such as the FAST financial modelling standard, strategies for reducing errors, spreadsheet auditing techniques and other methods to ensure consistent and easy to understand models.
7. Select the best modeling technique and interpreting model results in the context of the business situation and addressing the inherent assumptions through sensitivity analysis.
8. Demonstrate effective modeling creation, solutions and analysis for forecasted financial statements, production scenarios, investment opportunities and business performance.
9. Effectively communicate the analysis, outcomes, assumptions and implications through presentations and written reports.

Prerequisites

FINC 2120 or FNC 3120, SCMN 3320

Co-requisites

Texts/Materials

The instructor will assign various chapters from a series of books related to information systems management, security, technology and various software applications.

Suggested books:

- Alexander, David; Amanda Finch; David Sutton and Andy Taylor Information Security Management Principles - Second edition. BCS Learning and Development Limited Publisher. 2013.
- Tillman, Frank and Deandra T. Cassone. A Professional's Guide to Decision Science and Problem Solving: An Integrated Approach for Assessing Issues, Finding Solutions, and Reaching Corporate Objectives. FT Press. 2012.
- Winston, Wayne L. Microsoft Excel 2010: Data Analysis and Business Modeling, 3rd Edition. Microsoft Press. 2011
- Verlander, Edward G. The Practice of Professional Consulting. Pfeiffer Publishing. 2012

Student Evaluation

Case studies/research projects/assignments	30-40%
Tests/quizzes	30-40%
Final exam	30-40%

Students must pass exam to pass the course.

Course Topics

1. Introduction

- Introduction to course, resources, decision making bias, logic and their implications

2. Information Technology and Accounting Information Systems

- The importance of Information Technology to Accountants
- Internal control systems
- Business process fundamentals and engineering
- Tools: Business process maps and blueprints

3. Information Technology Auditing

4.

- Computer crime, fraud, ethics and privacy
- Auditing Accounting Information Systems
- Data and network security
- Tools: IT Auditor's Toolkit

5. Developing Accounting Information Systems

- Systems Development Methodologies and Systems Development Life Cycle
- System Planning & Analysis
- Detailed System Design
- Tools: System flowcharts and project management tools

6. Enterprise Systems

- Enterprise Resource Planning (ERP) systems,
- Network infrastructures
- Measuring IT performance
- Tools: developing selection criteria models

7. Data Management

- The relational database model concepts and data models
- Organizing, manipulating and extracting the data
- Data sources, classification, reliability visualization and managing "Big Data"
- Data warehouses and mining.
- Tools: filtered lists, pivot tables, descriptive statistics , power view, power pivot

8. XML and XBRL

- Understanding XML concepts and creating a well-formed XML document
- Financial Reporting on the Internet with XBRL
- Tools: EXCEL XML imports and exports

9. Creating Excel decision models

- Overview of Decision Analysis and Critical Thinking: Situation and Stakeholder Analysis, Objectives Hierarchy, uncertainly assessment and the determining the value of information
- Tools: Mind Maps, business process mapping and Influence
- Spreadsheet Engineering, spreadsheet errors and the FAST modelling standard
- Tools: Spreadsheet auditing tools, scenario manager and Tornado Charts
- Modeling Financial Statements, processes, data considerations, probability distributions and model selection
- Tools: Monte Carlo Simulation and spreadsheet auditing
- Resource Allocation – Optimization Models: Allocation of resources, data considerations, conflicts and model selection, decision engineering and sensitivity analysis
- Tools: linear, nonlinear and goal programming models best case and worst case analysis
- Deterministic Models – Multi-Period: Multi-stage decision problem analysis, value of information and control, risk aversion
- Tools: payoff tables, decision trees
- Regression Modelling: Forecasting process, data considerations, probability distributions - their impact and estimation.
- Tools: short-term forecasting models and regression analysis

10. Presenting Excel decision models

- Management Consulting: proposals, presentation and client management.
- Tools: dashboards, charting and presentations

Methods for Prior Learning Assessment and Recognition

As per TRU policy

Attendance Requirements – Include if different from TRU Policy

As per TRU policy

Special Course Activities – Optional

Use of Technology – Optional

