

RUTGERS - THE STATE UNIVERSITY OF NEW JERSEY
Computers and Information Systems

- **Course Description and Objective:** the objective of this course is to study management's role in the development and use of information systems that help businesses achieve their goals and objectives. Information Technology (IT) has been the driving force behind the new way of doing business. IT has enabled modern organizations to make tremendous strides in productivity, has opened new markets, and has created new product and service opportunities. Managers should understand how IT can help to organize the complexity of modern organizations, manage relationships with customers, suppliers, and employees, and improve work efficiency.

This course provides students the opportunity to develop some basic IT skills needed in the business world. The class includes a broad coverage of technology concepts and trends underlying current and future developments in Information Technology. We start by introducing the background of the computer and its components, such as its hardware devices, software programs, communication packages, internet jargons, database technologies, and data processing (data mining and analysis) trends. All these topics are directly related to the commercial world. As time permits, we will also cover some advanced topics to provide you with a competitive advantage to uniquely identify and solve IT related business problems.

- **Textbook:** Using MIS by David Kroenke, ISBN: 0131433725, Prentice Hall, 2007.

There are several reference books, as well:

- White, Ron, et. al. **How Computers Work.** 7th ed. Indianapolis, IN: Que Publishing. ISBN: 0789730332.
- Gralla, Preston, et. al. **How the Internet Works.** 7th ed. Indianapolis, IN: Que Publishing. ISBN: 0789729733. Good introductory texts on the internals of computer hardware, system software and the Internet. Recommended if you don't have a background in science or engineering.
- **Introduction to Data Mining** by Pang-Ning Tan, Michael Steinbach, Vipin Kumar, Addison Wesley, ISBN: 0-321-32136-7, 2005.

- **Key Topics**

Chapter 1 – Introduction to MIS

Chapter 2 – Purposes of Information Systems

Chapter 3 – Hardware and Software

Chapter 4 – Database Processing

Chapter 5 – Data Communications and Internet Technology

Chapter 6 – Systems Development

Chapter 7 – Information Systems Within Organizations

Chapter 9 – Business Intelligence and Knowledge Management

Chapter 10 – Information Systems Management

Chapter 11 – Information Security Management

- **Additional material that you are expected to know:**

Computer Representation and Compression:

<http://www.si.umich.edu/Classes/540/Readings/Representation.doc>

Attack Trees:

<http://www.schneier.com/paper-attacktrees-ddj-ft.html>

Data Mining:

Introduction to Data Mining by Pang-Ning Tan, Michael Steinbach, Vipin Kumar, Addison Wesley, ISBN: 0-321-32136-7, 2005.