

IE 413 INFORMATION SYSTEMS

Catalog Data: This course introduces information systems implemented and utilized in today's enterprises both as operational and decision support systems. Topics covered will include the overview of the information systems and technologies, hardware and software used in information systems, overview of database management systems and data modeling techniques, query languages, data warehousing concepts and architectures, business intelligence, data mining techniques, use of data warehousing and business intelligence in data-driven decision making, current trends in IT such as cloud computing and big data.

Learning objectives of the course.

- Grasp the importance of information systems and technology in achieving both corporate objectives and competitive advantages.
- Gain insight on the transactional and analytical processing used in business applications and decision-making processes.
- Understand the fundamentals of data warehousing and business intelligence.
- Get familiar with MS Excel, MS Access, Power BI, and related constructs for performing data analytics.

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Requirements:

- None. MS-Excel, and MS-Access, Power BI skills will be achieved in the course

Textbooks:

- Business Driven Technology, Paige Batzan, 9e., e-book from Mc Graw Hill Connect.

Online Training:

- Certificate from EXCEL at Work - Complete MS Excel Mastery Beginner to Pro, Udemy
<https://www.udemy.com/course/how-to-use-microsoft-excel-beginning-to-advanced-tutorials/>
- Certificate from Microsoft Power BI - A Complete Introduction Udemy
<https://www.udemy.com/course/powerbi-complete-introduction/>
- Certificate from Prompt Engineering – details will be announced later

Grading:

Attendance	0%
HWs, Tasks	20%
Certificates	10%
Midterm	30%
Final	40%

Tentative Course Outline:

Week	Topic	HWs.
Week 1	B1: Business Basics B2: Business Processes B3: Hardware and Software Basics B5: Networks and Telecommunications B6, B7, Chap.5: Information Security, Ethics	
Week 2	Chap. 1: Business Driven Technology, Chap. 2: Identifying Competitive Advantages Chap. 3: Strategic Initiatives for Implementing Competitive Advantages	HW1
Week 3	Chap. 4: Measuring the Success of Strategic Initiatives Chap. 6: Valuing and Storing Organizational Information Chap. 7: Accessing Organizational Information – Data Warehouses	Submit Excel Certificate
Week 4	Databases	HW2
Week 5	Dimensional Databases	
Week 6	Dimensional Databases	HW3
Week 7	Power BI	Submit PowerBI Certificate
Week 8	MidTerm	HW4
Week 9	Chap. 8: Understanding Data’s Impact on Business Chap. 9: Enabling the Organization – Decision Making	
Week 10	Chap. 10: Extending the Organization – Supply Chain Management Chap. 11: Building a customer-centric Organization – Customer Relationship Management Chap. 12: Integrating the Organization from End to End – Enterprise Resource Planning	HW5

Week	Topic	HWs.
Week 11	Chap. 13: Creating Innovative Organizations Chap. 14: E-business Chap. 15: Creating Collaborative Partnerships	Submit Power Prompt Engineering Certification
Week 12	Chap. 16 Integrating Wireless Technology in Business Chap. 17: Developing Software to Streamline Operations Chap. 18: Managing Organizational Projects	HW6
Week 13	AI powered Information Systems	
Week 14	IT Governance	HW7

Moral Expectations from Students

The students taking this course must submit their **own work** in all exams, homework, and labs.

- In labs, students are in the learning phase. They can get help from their assistants, section leaders, friends, or the Internet. However, they should not submit work retrieved from the Internet or prepared by somebody else.
- In homework, students enhance their knowledge and show their abilities to build programs. They can have ideas or tips from others on how to do things, but they are expected not to exchange files, work together, or let others do their work (even partially).
- In exams, all forms of information transfer between a student and a third person and any help retrieved from the Internet will be considered as cheating.
- Finally, being part of a dishonest plot intentionally (for example, helping others, cheating, doing others' homework, or giving homework solutions to others) or through negligence will also be considered as cheating.

Disciplinary action and/or reduction of the final letter grade will follow if any of the above-stated academic dishonesties are disclosed.

The violations of the academic honesty code in homework/exams (“work”) include (in order of increasing significance) going beyond the limits of verbal hints, showing/looking at finished work on how to do the job, working together, giving/taking code files, having a third person solve the work, stealing work of others.

If such violations take place, the course instructors will take one or more of the following actions:

- Reporting the student(s) to the administration for disciplinary investigation and/or
- Reducing the course letter grades of the involved student(s).
 - If the dishonesty is disclosed in an exam (midterm or final), a major letter grade reduction (from B+ to C+) will be applied.
 - If it is disclosed in a homework assignment, then a minor letter grade reduction (such as from B+ to B) will be applied.