# IE 413 INFORMATION SYSTEMS

**Catalog Data:** This course introduces information systems implemented and utilized in today’s enterprises both as an 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 the MS Excel, MS Access, Power BI, and related constructs for performing data analytics

**Instructor:** Yasemin Turkan, [turkan.yasemin@gmail.com](mailto:turkan.yasemin@gmail.com) or [yaseminturkan@sabanciuniv.edu](mailto:yaseminturkan@sabanciuniv.edu)

# 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 Excel to Access: Intro to Microsoft Access for Excel Users, Udemy

<https://www.udemy.com/course/import-excel-into-access/>

* Certificate from Microsoft Power BI - A Complete Introduction [2022 EDITION], Udemy

<https://www.udemy.com/course/powerbi-complete-introduction/>

**Grading:**

**Lecture attendance via in class activities 15%**

**Lab HWs, Tasks 20%**

**Certificates 10%**

**Project 20%**

**Final 35%**

In order to pass,

•The final must be 40%; **AND**

•Overall grade should be 50%.

# Tentative Course Outline:

| Week | Topic | Lab. |
| --- | --- | --- |
| Week 1 | B1: Business BasicsB2: Business ProcessesB3: Hardware and Software BasicsB5: Networks and TelecommunicationsB6, B7, Chap.5: Information Security, Ethics | Setting up and getting used to online learning tools.CourseraIntroduction to Data Analysis Using Excel Week1Introduction to Spreadsheets |
| Week 2 | Chap. 1: Business Driven Technology,Chap. 2: Identifying Competitive AdvantagesChap. 3: Strategic Initiatives for Implementing Competitive Advantages | CourseraIntroduction to Data Analysis Using Excel Week2Spreadsheet Functions to Organize DataWeek3Introduction to Filtering, Pivot Tables and Charts |
| Week 3 | Chap. 4: Measuring the Success of Strategic InitiativesChap. 6: Valuing and Storing Organizational InformationChap. 7: Accessing Organizational Information – Data Warehouses | CourseraIntroduction to Data Analysis Using Excel Week4Advanced Graphing and ChartingSubmit Certificate |
| Week 4 | Databases | UdemyExcel to Access: Intro to Microsoft Access for Excel UsersSection 1,2,3,4 |
| Week 5 | Dimensional Databases | UdemyExcel to Access: Intro to Microsoft Access for Excel UsersSection 5,6,7,8 |
| Week 6 | Dimensional Databases | UdemyExcel to Access: Intro to Microsoft Access for Excel UsersSection 9,10,11,12 |
| Week 7 | MidTerm | UdemyExcel to Access: Intro to Microsoft Access for Excel UsersSection 13,14,15,16 |
| Week 8 | Power BI | UdemyExcel to Access: Intro to Microsoft Access for Excel UsersSection 17,18,19,20Submit Certificate |
| Week 9 | Chap. 8: Understanding Data’s Impact on BusinessChap. 9: Enabling the Organization – Decision Making | UdemyMicrosoft Power BI - A Complete Introduction Section 1,2,3,4 |
| Week 10 | Chap. 10: Extending the Organization – Supply Chain ManagementChap. 11: Building a customer-centric Organization – Customer Relationship ManagementChap. 12: Integrating the Organization from End to End – Enterprise Resource Planning | UdemyMicrosoft Power BI - A Complete Introduction Section 1,2,3,4 |
| Week 11 | Chap. 13: Creating Innovative OrganizationsChap. 14: E-businessChap. 15: Creating Collaborative Partnerships | UdemyMicrosoft Power BI - A Complete Introduction Section 5,6,7,8 |
| Week 12 | Chap. 16 Integrating Wireless Technology in BusinessChap. 17: Developing Software to Streamline OperationsChap. 18: Managing Organizational Projects | UdemyMicrosoft Power BI - A Complete Introduction Section 9,10,11,12 |
| Week 13 | Case Studies | UdemyMicrosoft Power BI - A Complete Introduction Section 13,14,15, |
| Week 14 | Case Studies | UdemyMicrosoft Power BI - A Complete Introduction Section 16,17,18Submit Certificate |

**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.