

# **Hope University College**

## **CURRICULUM**

**Faculty of Information Science**

*Department of Information Technology*



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# **Curriculum for Information Technology**

## **1.0 INTRODUCTION**

In the current information age, Information Technology (IT) is playing a critical role in the social and economic advancement of developing countries like Ethiopia. There is a great need to adopt Information and Communications Technical (ICT) as stipulated in the development goal of the country in order to deliver quality service, facilitate business processes, and advance the social welfare of the society. This, in turn, requires deploying an IT infrastructure, staffed with well-qualified and trained people, who can play a significant role in managing the IT infrastructure and giving customer support to assure its effective utilization. As a consequence, this B.Sc. program is designed to produce graduates in Information Technology capable of implementing IT infrastructure principles, providing good management and support.

## **2.0 VISION, MISSION, AIM AND OBJECTIVES**

### **2.1 VISION STATEMENT**

The vision of the Department of Information Technology of HUC is to be a leading department, preparing graduates that excel in information technology.

### **2.2 MISSION STATEMENT**

The mission of the Department of Information Technology of HUC is to deliver high quality education in information technology using state of the art facilities through training facilitated by highly qualified expatriate and local staff, and a program valuable in content and competencies, connected to the needs of the private sector and the government.

### **2.3 AIM**

The aim of the curriculum of the Department of Information Technology at HUC is to provide IT graduates with the skills and knowledge to take on appropriate professional positions in Information Technology.

### **2.4 OBJECTIVES**

The general objectives of the B.Sc. program in Information Technology are to provide a strong conceptual and practical understanding of information technology that will enable students to create, evaluate, adapt, and utilize appropriate technology, methods, theories, and techniques for solving real world problems. The program also helps the students to develop critical and analytical thinking, as well as hands-on and interpersonal skills to become active professionals and contribute to the intellectual life of the society.

The specific objectives of the program are to:

- equip students with problem-solving skills using computer technology;
- enable students to understand the fast changing field of IT, be aware of technological trends and be able to use emerging opportunities;

- develop in the student the concepts of professional practice, innovation and entrepreneurship;
- develop the business, analytical and communication abilities of the student;
- produce graduates who possess the right combination of knowledge, practical and communication skills to manage an organization's technology and infrastructure needs and work effectively with the people in the organization.
- produce professionals able to take responsibility for selecting hardware and software products appropriate for an organization and integrating those products with the organization's infrastructure to meet its needs;
- produce graduates who can install, customize and maintain applications for an organization (such as network installation, network administration, Web site design, development of multimedia resources, installation of communication components and oversight of an email system) ;
- produce professionals capable of working in organizations which implement and manage automated information systems for various scientific, educational, commercial and other purposes; and
- produce graduates capable of planning and managing the technology lifecycle through which an organization's technology is maintained, upgraded and replaced.

### **3.0 GRADUATE PROFILE**

**All HUC graduates shall exhibit the following General Competencies:**

*Personal Accountability* for the student's actions, at work and in society at large

*Self-regulation*: reflecting critically on the professional work of the student, and adjusting to finish tasks successfully.

*Intellectuality*: working scientifically, using analytical skills, to develop and carry out research valuable to the country's needs and development, writing and presenting the results in a clear and coherent manner; and valuing continual self-development through lifetime learning to cope with an environment of continuous change and a rapidly evolving society;

*Leadership*: able to lead people in the right direction by combining humility and respect for all people with integrity, strategy, motivating skills, a strong work ethic and an attitude of service; also able to serve as a leader in local, and national arenas.

### **3.1 PROFESSIONAL PROFILE**

A graduate from this program is expected to have a wide range of abilities and skills as described below.

*Knowledge, Understanding and Practical skills*

A graduate can:

- use and apply current technical concepts and practice in the core information technologies;

- analyze, identify and define the IT requirements that must be satisfied to address problems or opportunities faced by organizations or individuals.
- design effective and usable IT-based solutions and integrate them into the user environment;
- identify and evaluate current and emerging technologies and assess their applicability to address the user's needs;
- analyze the impact of technology on an individual, organization and the society.
- assist in the creation of an effective project plan.
- analyze, adopt and demonstrate IT best practices, standards and their application.
- demonstrate independent critical thinking and problem solving skills
- collaborate in teams to accomplish a common goal by integrating personal initiative into group cooperation.
- communicate effectively and efficiently with clients, users and peers both verbally and in writing, using appropriate terminology.
- implement, maintain and manage information technologies and services.
- implement, maintain and manage Web based systems and services.
- Implement, maintain and manage data and database systems.

#### *Attitudes and Values*

The graduates will aspire:

- to have professionalism at the center of their mentality;
- to have personal confidence in their jobs and professional activities; and
- to have a sense of responsibility, cooperation, honesty, and loyalty.

### **3.2 PROGRAM PROFILE**

The program prepares students to become highly skilled in computer knowledge and its applications in information processing and delivery to the community in such areas as medicine, social sciences, statistics, engineering, and others. Employees will achieve personal satisfaction, career growth and respect through working to create an environment that promotes values.

## **4.0 TEACHING METHODS & PHILOSOPHY**

### **4.1 TEACHING METHODS**

The teaching methods involve class room lectures, laboratory activities, field work and excursions. Students will also engage in seminar presentation, project execution and involvement in community work. Special attention will be given to integrating knowledge and professional skills so that the graduates are prepared for leadership in their fields.

### **4.2 TEACHING PHILOSOPHY**

Based on the mission of HUC and the outcomes of the interviews with relevant stakeholders, the following elements are in the curriculum:

- Excellence in applying scientific knowledge in a professional setting
- Continual interaction between faculty, students and professional learning environments

- Integration of theory and practice with the purpose to become excellent professionals
- Participation from stakeholders to create a challenging and practical curriculum
- Competencies as an important outcome of the curriculum
- Integration of teaching and coaching with a focus on talent development of the student.

Graduates of HUC will make a difference through a balance of the following elements

- **Knowledge & skills**  
Their professional activities are based on knowledge and skills that will help to contribute to the professional setting in which they are working.
- **Values & vision.**  
Their professional activities should be based on integrity and a strong conviction about major issues in professional activities.
- **Personality & professionalism**  
The student's professional activities are based on a balance of self knowledge from reflection on the one hand and eagerness to function in a professional way on the other.

Stressing these three elements underlines the importance of a holistic approach using a competency based curriculum. This modern concept of competency stresses the interrelationship of several learning dimensions in which the students combine knowledge, skills, motivation and attitude to create effective learning processes and to meet the standards of Hope University College.

The educational program will be characterized by increasing complexity. Knowledge, skills, attitude and competences will be tested at several levels during all years. The following five complexity-dimensions are distinguished:

- level of self management of the student
- level of professional cases to be dealt with
- the level of knowledge (and required analytical skills) to understand a specific subject
- the number of instruments, tools and methods needed to approach the subject

The department acknowledges these dimensions and challenges the students in their process towards professional maturity. Therefore, the curriculum has the integrative elements between theory and practice, between the different disciplines that are taught (a multi-disciplinary approach), and between the constituting parts of a competency. Furthermore, the curriculum has integrative elements between linguistic, calculative, analytic, synthetic, technical and ethical/philosophical tools to explore available knowledge and develop a moral and intellectual maturity for better judgement, leadership and knowledge ability.

## 5.0 ASSESSMENT METHODS

To guarantee the quality and standard of the program, the Department:

- provides on-the-job training upgrading academic qualifications of the staff as needed
- gathers feedback from students, employers and graduates as deemed necessary
- has prepared and has in place rules governing delivery and assessment of courses.

- performs regular evaluation of the program based on the current trends in the field and the country's skilled manpower need
- periodically acquires appropriate textbooks/references, laboratory equipment, software applications, and so forth.
- prepares a course syllabus for all courses offered in the department in order to standardize the course content
- carries out regular evaluation of the staff

## **6.0 ADMISSION REQUIREMENTS**

After successful completion of preparatory program:

- As per the regulations of Ministry of Education, and
- As per the senate legislation of the University, or
- A pass in an entrance examination set by the department

## **7.0 DURATION OF THE STUDY**

The duration of the study for a B.Sc. in Information Technology is four years

## **8.0 DEGREE NOMENCLATURE**

The degree offered after successful completion of the program is called:

- In English – “Bachelor of Science Degree in Information Technology”
- In Amharic – “የሳይንስ ባችለር ዲግሪ በኢንፎርሜሽን ቴክኖሎጂ”

## **9.0 GRADUATION REQUIREMENTS**

Graduating students shall be awarded the “Bachelor of Science Degree in Information Technology’ if they fulfill the following requirements:

- A minimum credit hour of 142
- A minimum Cumulative Grade Point Average of 2.00
- A minimum Cumulative Grade Point Average of 2.00 in core courses
- No F, NG, I in any course and
- Compliance with the regulation of the University

## **10.0 COURSE CODING**

Course Code used has a four-letter prefix and a three-digit number.

- The prefix which represents the department is assigned to all core courses in the department. If a core course is the responsibility of another department, it will be assigned a different code in the current department, but both codes will be shown on the course description to indicate that they are actually the same. For General

Foundation and non-major courses, the prefix indicates the subject area, and the responsible department is indicated in the course description.

- The first digit represents the year in which the course is offered by the responsible department (year at college starts with 2).
- The second digit distinguishes the course from other core courses offered in that semester. For General Foundation courses, that number is 0.
- The third digit indicates the semester in which the responsible department offers the course to its students.

## **11.0 QUALITY ASSURANCE: MAINTAINING THE PROGRAM'S QUALITY**

To maintain the quality of the program and due to the dynamic nature of the field, a formative review and revision should be done regularly by the curriculum revision task force of the Department. The Department needs also to do a summative review of the program after four years of implementing this curriculum by collecting feedback from employers and graduates of the program. This formative and summative program review will help to maintain the quality of the program in line with the demand of the employers and the country at large.

Methods of quality assurance of the program will include but not be limited to:

- comprehensive examinations and colleague assessment of examination papers and teaching methods;
- periodic workshops (with stakeholders, teachers and graduates);
- assessments by using survey project works (research), internships, and link programs;
- graduates' evaluation of the program, establishing a Graduate Alumni organization as a mechanism to implement such evaluations and follow their career paths;
- standardization of course offerings through preparation of general course outlines, exam contents, and external audit;
- annual assessment of the program by the teaching staff;
- working closely with the relevant professional associations to assess graduates' performance.

## **12.0 GRADING SYSTEM**

The grading system is a five scale grading system ranging from A to F and the respective grade points are presented below.

Grade	A <sup>+</sup>	A	A <sup>-</sup>	B <sup>+</sup>	B	B <sup>-</sup>	C <sup>+</sup>	C	C <sup>-</sup>	D <sup>+</sup>	D	D <sup>-</sup>	F
Value	4.00	4.00	3.75	3.50	3.00	2.75	2.50	2.00	1.75	1.50	1.00	0.75	0.00

## **13.0 LIMITATIONS OF THE CURRICULUM**

The curriculum is well planned and has few limitations if any.

## **14.0 RESOURCE REQUIREMENTS**

### **14.1 TEACHING STAFF**

The quality of the training to be provided is very dependent on the skill and excellence of its staff members. Therefore, the HUC Senate has placed great emphasis on this aspect. Consequently, some volunteer expatriate staff will deliver quality education in areas where there is a deficiency. Also, HUC is recruiting qualified local staff with M. Sc. degrees and above, who possess good credentials and the appropriate experience.

### **14.2 COMPUTER LABORATORY**

HUC has plans to provide enough computer terminals so that every student has adequate computer access. Additionally, it is adopting state-of-the-art internet access capabilities which allow every student to gain maximum benefit from online information and services. Students will use these skills for class work, and have an opportunity share knowledge and experience with counterparts in different businesses and service organizations during their internship. E-learning, E-books, and similar electronic services will also be available.

### **14.3 LIBRARY FACILITIES**

Students will have access to one of the best libraries in the country and will have relevant, recent books, E-books and other materials to use for their studies, and for personal interest and development. Computers will be available in the library as well other places, giving students access to information needed for research papers, and documentation of sources.

## **15.0 CLASS SIZE**

To assure the continuous assessment policy, the optimal class size shall be:

- For courses with student discussion – up to 40 students;
- For lecture type courses – up to 80 students;
- For lab and skill based courses – 24-30 students per class

## **16. PROGRAM STRUCTURE**

The Information Technology program is designed to be completed within eight semesters. Each semester shall have 16 weeks of regular classes. Additionally there shall be one internship program at the end of the third academic year for two and half months, where students will have a chance to work on practical information technology problems.

This real world experience will help students link theory and practice and have a vision of the skill, discipline and ethics demanded by information technology work. The major compulsory courses, supportive and general education courses are presented below.

## LISTS OF ALL COURSES FOR INFORMATION TECHNOLOGY

**Table 1: Major Compulsory Courses in Information Technology**

<b>Code</b>	<b>Course Name or Title</b>	<b>Cr. Hr</b>	<b>Lec. Hr</b>	<b>Lab./Tut. Hr</b>
INTE 211	Introduction to Information Technology	3	2	2
INTE 212	Computer Organization and Architecture	3	3	-
INTE 222	Programming I	4	2	4
INTE 311	Fundamentals of Database Systems	3	3	-
INTE 312	Database Systems Management and Use	3	2	2
INTE 321	Operating Systems	3	3	-
INTE 322	Data Communications and Computer Networks	4	3	2
INTE 331	Programming II	4	2	4
INTE 332	Internet Programming I	3	2	2
INTE 341	Systems Analysis and Design	3	3	-
INTE 342	Fundamentals of Electricity and Electronics	3	2	2
INTE 411	Computer Maintenance and Technical Support	3	1	4
INTE 412	Computer Graphics	3	2	2
INTE 421	Human Computer Interaction	3	3	-
INTE 422	Web Technologies	3	2	2
INTE 431	Internet Programming II	3	2	2
INTE 432	Multimedia Systems	3	2	2
INTE 441	Introduction to Telecom Technologies	3	2	2
INTE 442	Project Management	3	3	-
INTE 451	Programming C++	3	1	4
INTE 452	Systems and Network Administration	3	2	2
INTE 462	Internship	3	-	6
INTE 511	Network Device Configuration(comp. infrastructure)	3	3	-
INTE 512	Network Hardware Trouble Shooting and Maintenance	3	1	4
INTE 521	Information Assurance and Security	3	-	2
INTE 522	Senior Project	3	3	-
INTE 531	IT Social, Professional and Ethical Issues	3	2	2
INTE 532	Wireless Communication & Networking	3	2	2
INTE 541	Operating Systems Management and Use	3	-	-
<b>Total</b>		<b>90</b>		

**Table 2: Major Electives**

Code	Course Name or Title	Cr. Hr	Lec. Hr	Lab. Hr
INTE 501	Geographical Information System & Remote Sensing	3	2	2
INTE 502	Introduction to Distributed Systems	3	3	-
INTE 503	IT and Economic Development	2	2	-
INTE 504	Natural Language Processing	3	3	-
INTE 505	Introduction to Artificial Intelligence	3	3	-
INTE 506	System Simulation and Modeling	3	2	2
<b>Total</b>		<b>7/8</b>		

**Table 3: Supportive Courses:**

Code	Course Name or Title	Cr. Hr	Lec. Hr	Lab. Hr
MATH 203	Mathematics I	4	3	2
MATH 204	Mathematics II	4	3	2
STAT 301	Introduction to Probability & Statistics	3	3	-
MAEN 211	Introduction to Entrepreneurship	3	3	-
MAEN 212	Introduction to Business Management	3	3	-
PHYS 202	Physics Laboratory	3	2	2
ECON 204	Introduction to Economics	3	3	-
<b>Total</b>		<b>23</b>		

**Table 4: Crosscutting Courses**

Code	Course Name or Title	Cr. Hr	Lec. Hr	Lab. Hr
CEED 201	Civic and Ethical Education	3	3	-
PHIL 201	Introduction to Logic (Reasoning Skill)	3	3	-
FLEN 201	Sophomore English	3	3	1
FLEN 202	Professional Writing	3	3	1
FLEN 301	Presentation and Communication Skills	3	3	1
COMP 201	Introduction to Computer Applications	3	2	2
PSYC 201	General Psychology	3	3	-
LEAD 501	Leadership Skills	3	3	
<b>Total</b>		<b>24</b>		

**Table 5: The total minimum credit requirement summary:**

Course Categories	Credit Hours
Major Compulsory, including Internship	90
Major Electives	7/8
Supportive	23
Foundation Courses	24
<b>Total</b>	<b>144/145</b>

## 17.0 SEQUENCING OF COURSES

**Table 6: Course Offerings by Semester of the B.Sc. Program in Information Technology:**

<i>Year</i>	<i>Semester I</i>			
<i>1</i>	<i>Course No</i>	<i>Course Title</i>	<i>CrHr</i>	
	CEED 201	Civic and Ethical Education	3	
	COMP 201	Introduction to Computer Applications	3	
	INTE 211	Introduction to Information Technology	3	
	MATH 203	Mathematics I	4	
	FLEN 201	Sophomore English	3	
	PHIL 201	Introduction to Logic (Reasoning Skill)	3	
			<i>Semester Total</i>	<i>19</i>
	<i>Semester II</i>			
	<i>Course No</i>	<i>Course Title</i>	<i>CrHr</i>	
	INTE 212	Computer Organization and Architecture	3	
	MATH 204	Mathematics II	4	
	PHYS 202	Physics Lab	3	
	FLEN 202	Professional Writing	3	
	INTE 222	Programming I	4	
		<i>Semester Total</i>	<i>17</i>	

<i>Year</i>	<i>Semester I</i>			
<i>2</i>	<i>Course No</i>	<i>Course Title</i>	<i>CrHr</i>	
	INTE 311	Fundamentals of Database Systems	3	
	INTE 321	Operating Systems	3	
	STAT 301	Introduction to Probability & Statistics	3	
	FLEN 301	Presentation and Communication Skills	3	
	INTE 331	Programming II	4	
	INTE 341	System Analysis and Design	3	
			<i>Semester Total</i>	<i>19</i>
	<i>Semester II</i>			
	<i>Course No</i>	<i>Course Title</i>	<i>CrHr</i>	
		Elective I	3	
	INTE 312	Database Systems Management and Use	3	
	MAEN 211	Introduction to Entrepreneurship	3	
	INTE 322	Data Communications and Computer Networks	4	
	INTE 342	Fundamentals of Electricity & Electronics	3	
INTE 332	Internet Programming I	3		
		<i>Semester Total</i>	<i>19</i>	

<i>Year</i>	<i>Semester I</i>			
<b>3</b>	<b><i>Course No</i></b>	<b><i>Course Title</i></b>	<b><i>CrHr</i></b>	
	INTE 441	Introduction to Telecom Technologies	3	
	INTE 411	Computer Maintenance and Technical Support	3	
	PSYC 201	General Psychology	3	
	INTE 421	Human Computer Interaction	3	
	INTE 431	Internet Programming II	3	
	INTE 451	Programming C++	3	
			<b><i>Semester Total</i></b>	<b>18</b>
	<b><i>Semester II</i></b>			
	<b><i>Course No</i></b>	<b><i>Course Title</i></b>	<b><i>CrHr</i></b>	
	INTE 412	Computer Graphics	3	
	INTE 422	Web Technologies	3	
	ECON 204	Introduction to Economics	3	
	INTE 432	Multimedia Systems	3	
	INTE 442	Project Management	3	
	INTE 452	Systems and Network Administration	3	
			<b><i>Semester Total</i></b>	<b>18</b>
	INTE 462	<b>Internship</b>	<b>3</b>	
<i>Year</i>	<i>Semester I</i>			
<b>4</b>	<b><i>Course No</i></b>	<b><i>Course Title</i></b>	<b><i>CrHr</i></b>	
	INTE 511	Network Device Configuration(comp. infrastructure)	3	
	MAEN 212	Introduction to Business Management	3	
	INTE 521	Information Assurance and Security	3	
	INTE 531	IT Social, Professional and Ethical Issues	3	
	LEAD 501	Leadership Skills	3	
	INTE 541	Operating Systems Management and Use	3	
			<b><i>Semester Total</i></b>	<b>18</b>
	<b><i>Semester II</i></b>			
	<b><i>Course No</i></b>	<b><i>Course Title</i></b>	<b><i>CrHr</i></b>	
		Elective II	2/3	
		Elective III	3	
	INTE 512	Network Hardware Trouble Shooting and Maintenance	3	
	INTE 522	Senior Project	3	
	INTE 532	Wireless Communication & Networking	3	
		<b><i>Semester Total</i></b>	<b>14/15</b>	
		<b><i>Grand Total</i></b>	<b>144/146</b>	

## COURSE DESCRIPTIONS FOR MAJOR COMPULSORY COURSES

**COURSE TITLE:** INTRODUCTION TO INFORMATION TECHNOLOGY  
**COURSE NUMBER:** INTE 211 SAME AS INSY 211  
**CREDIT HOUR:** 3  
**PREREQUISITE:** NONE

### Course Description

This course provides an overview of Information Technology (IT). Topics include the development of computers, data representation, logical organization of a computer system, computer software, computer system architecture, computer network and communication, problem solving using computers, operating systems (single and multi-user) and the windows environment.

### Course Objectives

On completion, students will have gained an understanding of the components of modern technological infrastructures, such as relevant hardware, software, data structures, networks, telecommunications and internet systems. Students will also have learned appropriate development methods for creating and implementing Information Systems.

### Textbooks

1. David Reed, A Bablanced Introduction to Computer Science, 2<sup>nd</sup> Edition, 2008, ISBN 10: 0136017223

### References

1. Brookshear, J. G. 2008. Computer Science: An Overview, 10<sup>th</sup> ed. ISBN-10 0321524039. 688 p.
2. ITL Education Solutions Ltd, Introduction to Computer Science, Pearson Education, 2004
3. Structures and Abstractions. An introduction to computer science with Pascal by William I. Salmon, 1992, 1994 (12)
4. Computer Science: An Overview: International Edition, (10 ed), Pearson Higher Education, 2007.

### Evaluation Schemes

Assignments	15%
Practical work	15%
Mid Exam	30%
Final Examination	40%

**COURSE TITLE:** COMPUTER ORGANIZATION & ARCHITECTURE  
**COURSE NUMBER:** INTE 212 SAME AS INSY 212  
**CREDIT HOUR:** 3  
**PREREQUISITE:** INTRODUCTION TO INFORMATION TECHNOLOGY

### **Course Description**

This course introduces students to basic computer organization and architecture concepts. It covers: number systems, Boolean algebra, digital logic circuits and their design, simple machine architecture, genealogy of microprocessors, von Neumann architecture, the system bus model, data representation and manipulation, organization of instruction sets and program execution, microprocessor organization, memory organization, organization of input and output subsystems, I/O interface; instruction set design philosophies, parallel processing, symmetric multiprocessing and clustering; case study of at least two microprocessor families and other components of computing system.

### **Course Objectives**

At the end of the course students should be able to:

- describe the genealogy of microprocessors
- describe the microprocessors used in personal computers
- describe the structure of the personal computer system
- describe the von Neumann programming model
- describe the structure of instruction sets and their effect on registers and memory contents
- use assembly language functionalities to do arithmetic and logical operations, manage program flow control and modular programming
- describe the input output organization of the computer system
- describe the memory organization of the computer system

### **Textbooks**

1. Andrew S. Tanenbaum. 2005. Structured Computer Organization, 5<sup>e</sup>. ISBN-10 0131485211. 800 p.

### **References**

1. Mano, M. and Kime, C. 2007. Logic and Computer Design Fundamentals, (4<sup>th</sup> ed), ISBN-10 013198928X. 607 p.
2. John Hennessey and David Patterson: Computer Architecture: A Quantitative Approach, (4<sup>th</sup> ed), Morgan Kauffman Publishers, 2003.
3. Computer systems. Architecture, Organization and Programming by Arthur B. Maccabe, 1993

### **Evaluation Scheme**

Lab:	20%
Mid exam:	30%
Final exam:	50%

**COURSE TITLE:                   PROGRAMMING I**  
**COURSE NUMBER:           INTE 222     SAME AS     INSY 222**  
**CREDIT HOUR:               4**  
**PREREQUISITE:             INTRODUCTION TO INFORMATION TECHNOLOGY**

### **Course Description**

This course is designed to introduce students to problem solving techniques using computers. Topics covered include problem solving using computers, algorithm development and representation, programming languages, program structure, basic program elements, expressions, statements, dynamic memory management, user-defined data types, modular programming, recursion and file management.

### **Course Objectives**

On completion of this course students should be able to:

- describe the problem solving process as applied in programming
- understand common data structures and algorithms, and be able to implement them;
- perform basic Java programming – Object-Oriented programming
- describe and exercise the Arithmetic and Logic operations implemented in Java
- implement the program flow control in software
- describe and implement the basic data structure elements in Java that serve as holding homogenous data primitives

### ***Textbooks***

Sanders K. E. and Andy Van Dam. 2005. Object-Oriented Programming in Java: A Graphical Approach, Preliminary Edition. ISBN-10 0321245741. 640 p.

### ***References***

1. Drozdak, Adam, Data Structures and Algorithms in Java, 2008, ISBN 10: 0534376681
2. IBM PC Assembly Language and Programming by Peter Abel, 2001 (1)

### **Evaluation Scheme**

Lab project:	20 %
Mid-Term exam:	20 %
Quiz	10%
Final Examination:	40 %

**COURSE TITLE:** FUNDAMENTALS OF DATABASE SYSTEMS  
**COURSE NUMBER:** INTE 311 SAME AS INSY 311  
**CREDIT HOUR:** 3  
**PREREQUISITE:** PROGRAMMING I

### **Course Description**

This course introduces the students to the design and implementation of database systems. Topics covered include definition of a database and benefits of database systems, architecture for database systems, implications of file organization and storage structures, hierarchical and network data models, relational data model, data structures and integrity rules, database design, relational algebra and relational calculus.

### **Course Objectives**

At the end of the Course students should be able to:

- explain the different models of database,
- design models from specifications and interpret them into relational tables,
- write statements for data creation and manipulation purposes,
- know how to optimize databases to the most efficient form,
- distinguish and use relational model and relational algebra,
- identify and fix the possible problems that may occur in securing data

### **Textbooks**

1. Abraham Silberschatz, Henry F. Korth, S. Sudarshan. 2005. Database System Concepts (5<sup>th</sup> ed). ISBN-10 0071244763. 1024 p.

### **References**

1. Ramez Elmasri, Shamkant B. Navathe. 2006. Fundamentals of Database Systems( 5<sup>th</sup> ed ). ISBN-10 0321369574.
2. Connolly T.M. and Carolyn E. Begg. 2009. Database Systems: A Practical Approach to Design, Implementation and Management, 5<sup>e</sup>. ISBN-10 0321523067 1400 p.
3. Database Processing. Fundamentals, Design and Implementation by David M. Kroenke

### **Evaluation Scheme:**

Quiz	10%
Mid Exam	30%
Lab Evaluation and Project Work	20%
Final Exam	40%

**COURSE TITLE:** DATA BASE SYSTEMS MANAGEMENT AND USE  
**COURSE NUMBER:** INTE 312 SAME AS INSY 312  
**CREDIT HOUR:** 3  
**PREREQUISITE:** FUNDAMENTALS OF DATABASE SYSTEMS

### **Course Description**

This course focuses on the client or user side of Database systems. It extends the knowledge in the previous course by adding concepts of database management and use. Topics to be covered are file and record organization, basics of query optimization, transaction management and database security. The course includes an overview of advanced database systems such as Object-Oriented and Object-Relational databases, active databases, deductive databases, multimedia and spatial databases and distributed databases. Current trends in DBMS is also included.

### **Course Objectives**

On completion of this course students should be able to:

- manage a database system..
- understand how to effectively organize and use databases
- identify the related issues with object-relational databases.
- explain basics of query optimization.
- understand transaction processing concepts.
- understand database recovery techniques.
- identify database security issues.

### **Textbooks**

1. Connolly T.M. and Carolyn E. Begg. 2009. Database Systems: A Practical Approach to Design, Implementation and Management, 5<sup>th</sup> edition. ISBN-10 0321523067. 1400 p.

### **References**

1. Ramez Elmasri, Shamkant B. Navathe , Fundamentals of Database Systems( 4<sup>th</sup> ed ) , USA, Addison-Wesley, 2004
2. Abraham Silberschatz, Henry F. Korth, S. Sudarshan. 2005. Database System Concepts (5<sup>th</sup> ed). ISBN-10 0071244763. 1024 p.
3. Microsoft Office Access 2003 Complete Concepts and Techniques by Shelly, Cashman, Pratt, 2006

### **Evaluation**

Assignments and quizzes	20%
Mid-term	30%
Final Examination	50%

**COURSE TITLE: OPERATING SYSTEMS**  
**COURSE NUMBER: INTE 321**  
**CREDIT HOUR: 3**  
**PREREQUISITE: INTRODUCTION TO INFORMATION TECHNOLOGY**

### **Course Description**

The course introduces the students to the basic functions of operating systems. Topics to be covered are overview of operating systems including history, evolution and philosophy. The course then covers the process concept; the thread concept; scheduling: basic concepts, scheduling criteria, scheduling algorithms; inter-process communication, process synchronization, the critical section problem, semaphores, monitors, classical synchronization problems; deadlocks and avoidance, prevention. Memory management includes physical and virtual memory, swapping, allocation, paging, segmentation; file systems, access methods, directory structure, file system implementation, disk space management, Input/Output, principles of I/O hardware and software; security: authentication and encryption.

### **Course Objectives**

At the end of the course students should be able to:

- describe common inter-process communication and synchronization methods
- describe common process scheduling algorithms
- understand the problem of deadlocks
- describe the implementation of virtual memory as used in computer systems and some of the critical problems that need to be considered
- describe the main issues of operating systems in handling I/O devices
- explain the goals of file system design and the ways in which several operating systems meet these goals
- discuss the need for security in computer systems in the historical context and discuss several threats and methods of overcoming those threats

### **Textbooks**

Andrew S. Tanenbaum. 2007. Modern Operating Systems (3<sup>rd</sup> ed). ISBN-10 0136006633.

### **References**

1. William Stallings, Operating Systems: Internals and Design Principles (5<sup>th</sup> ed), Prentice Hall, 2005.
2. Abraham Silberschatz, P. B. Galvin and G. Gagne: Operating System Concepts (6<sup>th</sup> ed), John Wiley & Sons, 2001.

### **Evaluation Scheme**

Lab Project	15%
Class Exercises/Assignments	15%
Mid-term	30%
Final Exam	40%

**COURSE TITLE:** DATA COMMUNICATIONS AND COMPUTER NETWORKS  
**COURSE NUMBER:** INTE 322 SAME AS INSY 442  
**CREDIT HOUR:** 4  
**CO-REQUISITE:** INTRODUCTION TO INFORMATION TECHNOLOGY

**Course Description**

This course introduces the students to basic principles and techniques of data communication in computer networks. Topics covered are :application of computer networks; overview of the OSI and TCP/IP reference models, network types; network protocols; analog and digital signals, modulation; guided and unguided transmission media, encoding, multiplexing, synchronous and asynchronous communication, transmission impairments, connecting devices, error detection and correction, multiple access methods, network topologies, network security, network management and an introduction to wireless networks.

**Course Objectives**

Upon completion of the course students should be able to:

- understand basic communication concepts
- understand the concept of data encoding, data transmission and communication media sharing
- analyze different types of computer networks and network architectures
- understand the concept of path selection
- understand the various security threats and the security mechanisms to use

**Textbooks**

1. B. A. Forouzan. 2006. Data Communications and Networking ( 4<sup>th</sup> ed). ISBN-10 0071254420

**References**

1. W. Stallings: Data and Computer Communications (7<sup>th</sup> ed), Prentice Hall, , 2004.
2. D. E. Comer and R. E. Droms: Computer Networks and Internets, with Internet Applications(4<sup>th</sup> Ed), Prentice Hall, 2003.
3. A. S. Tannenbaum: Computer Networks( 4<sup>th</sup> ed), Prentice Hall, 2003.

**Evaluation Scheme**

Lab Assessment	20%
Class Exercises/Assignments	20%
Mid-term	20%
Final Exam	40%

**COURSE TITLE:** PROGRAMMING II  
**COURSE NUMBER:** INTE 331 SAME AS INSY 331  
**CREDIT HOUR:** 4  
**PREREQUISITE:** PROGRAMMING I

### **Course Description**

This course is designed to provide an in-depth coverage of object-oriented programming principles and techniques. Topics to be dealt with are: classes, data abstraction, information hiding, overloading, inheritance, polymorphism, exceptions handling.

### **Course Objectives**

Upon completion of the course students should be able to:

- understand basic object oriented concepts such as object, class, abstraction, hierarchy modularity and encapsulation
- understand, and be able to successfully carry out a project on the edit-compile-run cycle of software development in an appropriate software development environment
- compare and contrast the two known programming paradigms such as structural programming and Object Oriented Programming.

### **Textbooks**

1. Sanders K. E. and Andy Van Dam. 2005. Object-Oriented Programming in Java: A Graphical Approach, Preliminary Edition. ISBN-10 0321245741. 640 p.

### **References**

1. Schildt, Herbert. 2006. Java 2: the Complete Reference(Osborn Complete Reference List), 7<sup>th</sup> Edition, ISBN-10 0072263855. 1024 p.
2. Cay S. Horstmann and Gary Cornell, Core Java 2 Volume I – Fundamentals (7<sup>th</sup> ed), USA, Prentice Hall PTR, 2004
3. Cay S. Horstmann and Gary Cornell, Core Java 2 Volume II - Advanced Features (7<sup>th</sup> ed), USA, Prentice Hall PTR, 2004
4. Java, How to Program , 8e, by Deitel and Deitel, 2009 1 copy

### **Evaluation Scheme**

Lab project:	30 %
Mid exam:	30 %
Final Examination:	40 %

**COURSE TITLE:** INTERNET PROGRAMMING I  
**COURSE NUMBER:** INTE 332 SAME AS INSY 412  
**CREDIT HOUR:** 3  
**PREREQUISITE:** PROGRAMMING II

### **Course Description**

This course offers an overview of the internet and the world wide web. Topics include characteristics of web-based information systems; client-server architecture; web server and security, HTTP protocol; web page design and development; information architecture and visualization, static & dynamic pages and client-side programming using markup and scripting languages (HTML, JavaScript, VBScript);

### **Course Objectives**

At the end of the course students should be able to:

- understand the internet and World Wide Web(WWW).
- understand essence and application of web-based information systems.
- analyze, design and develop small scale web-based information systems.
- produce both static and active web pages.

### ***Textbook:***

1. Paul Dietel. 2007. Internet & World Wide Web: How to Program (4th Edition). ISBN-10 0131752429. 1424 p.

### ***References:***

1. Craig D. Knuckles, David S. Yuen, Web Applications: Concepts & Real World Design, John Wiley & Sons, ISBN 0-471-20458-7 (paperback) or 0-471-42929-5.
2. Thomas A. Powell, HTML & XHTML: The Complete Reference , McGraw-Hill
3. HTML Comprehensive Concepts and Techniques by Shelly, Cashman, Woods, Dorin, 2002 2 copies

### **Evaluation Scheme**

Lab Project	20%
Class Exercises/Assignments	20%
Mid-term	20%
Final Exam	40%

**COURSE TITLE:** INFORMATION SYSTEMS ANALYSIS AND DESIGN  
**COURSE NUMBER:** INTE 341 SAME AS INSY 321  
**CREDIT HOUR:** 3  
**PREREQUISITE:** INTRODUCTION TO INFORMATION TECHNOLOGY

### **Course Description**

This course covers information systems theory. Topics include organization and management; types of information systems; roles in development; development life cycle; information systems development methodologies; approaches to development, requirements structuring, Object Technology, principles of modeling, principles of Object Orientation and systems development using the object technology and principles of modeling. An individual or team project involving systems analysis and design is also a major component of this course.

### **Course objectives**

At the end of the course students should be able to:

- explain the theories and principles of systems analysis and design
- understand the concept of system thinking
- understand lifecycles of system development
- understand object oriented system analysis and design techniques
- analyze complex systems to structure them into manageable parts
- analyze and design small and medium scale systems

### **Textbooks**

1. Hoffer, J. A. and Joey F. George. 2007. Modern System Analysis and Design 5<sup>e</sup> Joseph S Valacich, 648 p. ISBN-10 0132240769.

### **References**

1. Kendall K.E. & Kendall J.E. Systems Analysis and Design( 7<sup>th</sup> ed), USA, 816 p.
2. Scott w. Ambler. The Object Primer 3rd ed. University of Cambridge press.2004
3. Ian Sommerville ,Software Engineering (8 ed ), USA, Addison-Wesley, 2006

### **Evaluation**

Class Exercises/Assignments	30%
Mid-term	30%
Final Exam	40%

**COURSE TITLE:** FUNDAMENTALS OF ELECTRICITY & ELECTRONICS  
**COURSE NUMBER:** INTE 342  
**CREDIT HOUR:** 3  
**PREREQUISITE:** MATHEMATICS I

**Course Description:**

This course is an introductory course covering the fundamental principles of electric and electronic circuits. It focuses on basic concepts of voltage and current, resistance, conductance, power and energy, series and parallel circuits, circuit theorems, AC circuit fundamentals, diodes and transistors, properties of electrostatics, the electric field, electric potential, direct current circuits, basic electronics principles, how to read schematics and how to interpret circuits.

**Course Objectives**

At the end of the course students should be able to:

- Explain the basic operation of various electromechanical devices and instruments.
- Describe and solve problems involving current, resistance, conductivity, voltage, EMF and Ohms law.
- Understand basic electrical and electronic terminology
- Analyze simple circuitry using basic laws as Ohm's and Kirchoff's laws of electricity.
- Identify basic electronics components and use them to construct simple projects

**Textbooks**

Robert Boylestad & Louis Nashelsky, Introduction to Electricity, Electronics & Electromagnetics, Prentice Hall, 5<sup>th</sup> edition, 2002, ISBN10: 0135026590

**References**

1. Kybett, H. and E. Boysen. 2008. All New Electronics Self-Teaching Guide. 456 p. ISBN-10 0470289617.
2. "Basic Electronics" by Bernard Grob and M.E. Schultz; 9<sup>th</sup> edition, Glencoe/McGraw-Hill Ed., ISBN 0-07- 824716-0

**Evaluation Scheme**

Lab Assessment:	30 %
Mid exam:	30 %
Final Examination:	40 %

**COURSE TITLE:** COMPUTER MAINTENANCE AND TECHNICAL SUPPORT  
**COURSE NUMBER:** INTE 411 SAME AS INSY 532  
**CREDIT HOUR:** 3  
**PREREQUISITE:** PHYSICS LAB

**Course Description:**

This course is designed to provide students with the fundamentals of configuring, installing, diagnosing, repairing, upgrading, maintaining, computers and their peripherals. The topics include: PC hardware configuration, preventative maintenance, customer interaction, virus protection, safety and networks and installation of operating systems and applications.

**Course Objectives**

At the end of the course students should be able to:

- apply standard safety procedures.
- correctly operate appropriate tools, equipment, and materials
- perform periodic maintenance on a computer workstation.
- demonstrate knowledge of computer components, i.e., power supplies, motherboards, memory, processors, hard drives, modems, and bus and port connections.
- understand and install appropriate operating systems and drivers.
- demonstrate knowledge of installation and maintenance of computer peripherals.
- understand and troubleshoot basic computer networks.
- to be able to manage time and to set priorities within the needs of the client or organization.

**Textbooks**

1. Jean Andrews, A+ Guide to Managing and Maintaining Your PC, Sixth Edition, Comprehensive, ISBN13: 9780619217587. 2006 edition, ISBN-10 0619217588.

**References**

1. Beisse, A Guide to Computer User Support for Help Desk and Support Specialists, Third Edition, Course Technology, (c) 2001, ISBN 0-619-21510-0

**Evaluation Scheme**

Lab project:	30 %
Practical Work:	70 %

**COURSE TITLE:** COMPUTER GRAPHICS  
**COURSE NUMBER:** INTE 412  
**CREDIT HOUR:** 3  
**PREREQUISITE:** OPERATING SYSTEMS MANAGEMENT AND USE

### **Course Description**

Introduction to computer graphics starts with a brief survey of the main developments. Additional topics include image concepts: modeling, scaling, rotation, translation, representation, coloring, brightness, shadow, texture and other rendering methods. The course also includes two-dimensional graphics: point plotting techniques, line drawing algorithms, clipping, windowing and shading two-dimensional transformations, homogeneous coordinates and the use of matrices in representing chain of transformations. Animation and visualization, instant drawing, color table, page swapping and screen copying are included. Three-dimensional graphics is also covered including modeling, transformations, perspective projections, clipping, removal of hidden surfaces and factors for giving depth in 3D graphics.

### **Course Objectives**

At the end of this course, students will:

- understand about image concepts;
- acquire knowledge on two-dimensional graphics;
- have an understanding of two dimensional transformations;
- develop skill in animation and visualization;
- also acquire knowledge on three-dimensional graphics

### ***Textbooks***

Shirely, Peter. 2009. Fundamentals of Computer Graphics. 804 p. ISBN-10 1568814698.

### ***References***

1. V.K. Pachghare, Comprehensive Computer Graphics, New Delhi,
2. S. Harrington, Computer Graphics A programming Approach, McGraw – Hill

### **Evaluation Scheme**

Lab project: 50 %  
Final Examination: 50 %

**COURSE TITLE:** HUMAN COMPUTER INTERACTION  
**COURSE NUMBER:** INTE 421  
**CREDIT HOUR:** 3  
**PREREQUISITE:** GENERAL PSYCHOLOGY

**Course Description:**

This course describes the human psychological response of computer system users. Topics include cognitive principles and their application to interfaces with computer products. The course presents analysis of human interaction with products such as avoidance, and feedback that shows the behavior of user populations that differ with regard to their abilities and characteristics for using both software and hardware products. The importance of the user abilities and characteristics in the usability of products are covered.

**Course objectives**

At the end of the course students should be able to:

- explain cognitive principles and their application
- explain the conceptual terms for analyzing human interaction with products
- understand theories and principles of human computer interaction
- understand the capabilities of users, and
- design and develop technologies that fit the organization and work practices.

**Textbooks**

Jennifer Preece, Yvonne Rogers, Helen Sharp, Interaction Design: Beyond Human-Computer Interaction, 2e., ISBN-13: 978-0-470-01866-8 (ISBN-10: 0-470-01866-6), Paperback, 800 pages, 2007.

**References**

1. Human-Computer Interaction (3rd Ed): by Alan Dix, Janet E. Finlay, Gregory D. Abowd, and Russell Beale
2. Holtzblatt, K., Wendell, J. B., and Wood, S. (2004). Rapid Contextual design: A How-to Guide to key techniques for user-centered design, Morgan Kaufmann

**Evaluation Scheme**

Lab project:	30 %
Assignments:	20 %
Final Examination:	50 %

**COURSE TITLE:** WEB TECHNOLOGIES  
**COURSE NUMBER:** INTE 422  
**CREDIT HOUR:** 3  
**PREREQUISITE:** INTERNET PROGRAMMING I & II

### **Course Description**

This course introduces the student to the prominent technologies and standards currently used on the web. Representative topics to be covered include introduction to web standards, transformations of XML documents, programming language bindings, introduction to web technologies for E-commerce and on-line payments; web services and associated standards.

### **Course Objectives**

At the end of the course, the students will:

- know the important technologies and standards currently used on the web,
- be able to use the web for accessing relevant information,
- understand web services

### **Textbooks**

Jeffrey C. Jackson. 2006. Web Technologies: A Computer Science Perspective, Prentice Hall. ISBN-10 0131856030. 574 p.

### **References**

1. Thomas A. Powell, HTML & XHTML: The Complete Reference (McGraw-Hill)
2. Ajay Vohra, Deepak Vohra, Pro XML Development with Java Technology (Apress)

### **Evaluation Scheme**

Lab assessment	20%
Class Exercises/Assignments	20%
Mid-term	20%
Final Examination	40%

**COURSE TITLE: INTERNET PROGRAMMING II**  
**COURSE NUMBER: INTE 431**  
**CREDIT HOUR: 3**  
**PREREQUISITE: INTERNET PROGRAMMING I**

**Course Description**

Internet Programming II is a continuation of the course Internet Programming I. Topics include, client-side programming using scripting languages (JavaScript, VBScript); server-side programming and web-based database application development.

**Course Objectives:**

At the end of the course students should be able to:

- understand the internet and World Wide Web
- understand essence and application of client-server web-based information systems
- analyze, design and develop dynamic web-based commercial systems

**Textbook**

Paul Dietel. 2007. Internet & World Wide Web: How to Program (4th Edition).ISBN-10 0131752429. 1424 p.

**References:**

1. Shelly Cashman Series, HTML Complete Concepts and Techniques, 3 rd Edition, 2005, ISBN 0-619-25502-1
2. Craig D. Knuckles, David S. Yuen, Web Applications: Concepts & Real World Design, John Wiley & Sons, ISBN 0-471-20458-7 (paperback) or 0-471-42929-5.
3. Harvey & Paul, Internet & World Wide Web: How to Program (4th Edition) (How to Program (Deitel)), Deitel & Associates Inc. , 2007.

**Evaluation Scheme**

Lab Project	30%
Class Exercises/Assignments	10%
Mid-term	20%
Final Exam	40%

**COURSE TITLE:** MULTIMEDIA SYSTEMS  
**COURSE NUMBER:** INTE 432 SAME AS INSY 422  
**CREDIT HOUR:** 3  
**PREREQUISITE:** DATA COMMUNICATIONS AND COMPUTER NETWORKS

### **Course Description**

Multimedia data has become an indispensable part of our daily life. It is also one of the critical applications in broad areas of use. In this course students will be introduced to the principles and current technologies of multimedia systems. The course includes the topics introduction to multimedia and multimedia systems, multimedia data representation, multimedia applications, multimedia tools, hands on practice on multimedia system creation using tools, multimedia standards, communication requirements of multimedia data and multimedia information retrieval.

### **Course Objectives**

At the end of the course students should be able to:

- understand principles and current technologies of multimedia systems,
- understand applications of multimedia systems in day to day life
- produce a multimedia presentation

### **Textbooks**

1. Tay Vaughan. 2006. Multimedia: Making it Work, 7<sup>th</sup> ed. ISBN-10 0072264517.

### **References**

1. Ralf Steinmetz and Klara Nahrstedt, Multimedia Fundamentals: Media Coding and Content Processing; Prentice Hall,
2. Ze Nian Li and M. S. Drew, Fundamentals of Multimedia, Prentice Hall, 2004.

### **Evaluation**

Multimedia presentation	30%
Class Exercises/Assignments	20%
Mid-term	20%
Final Exam	20%

**COURSE TITLE:** INTRODUCTION TO TELECOM TECHNOLOGIES  
**COURSE NUMBER:** INTE 441  
**CREDIT HOUR:** 3  
**PREREQUISITE:** DATA COMMUNICATION AND COMPUTER NETWORKS

### **Course description**

This course covers telephone system administration and the application of telephone systems to assist user organizations in achieving their goals. The subject is presented from the user organization's telecommunication manager's perspective. Management of premise equipment, costs, staffing, departmental structure and management, and the services provided by a telephone company's central office are included. Operational principles of audio, data and video telecommunication technologies are also included.

### **Course Objectives**

At the end of the course students should be able to:

- explain theories and principles of telephone systems
- explain usage of telecom systems in organizations
- understand operational principles of audio and video data in telecommunication technologies
- understand services and their management in telecom companies

### **Textbooks**

Goleniewski L. and K.W. Jarrett. 2006. Telecommunications Essentials, 2<sup>nd</sup> edition. The Complete Global Source. ISBN-10 0321427618. 928 p.

### **References**

1. Carr I Snyder (2003) Management of Telecommunications, McGraw-Hill Irwin: Boston
2. Grant, August E. & Meadows, Jennifer H. (1998). Communication Technology Update (6th Edition). Boston, MA: Focal Press in association with Technology Futures, Inc.
3. A. Kershenbaum: Telecommunications Network Design Algorithms.
4. Norihiko Morinaga, Ryuji Kohno and Seiichi Sampei (Editors): Wireless Communication Technologies: New Multimedia Systems, Kluwer Academic Publishers, 2002.
5. Stuber: Principles of Mobile Communication, second edition, Kluwer Academic Pub.

### **Evaluation**

Class Exercises/Assignments	20%
Mid-term	30%
Final Exam	50%

**COURSE TITLE:** PROJECT MANAGEMENT  
**COURSE NUMBER:** INTE 442 SAME AS INSY 342  
**CREDIT HOUR:** 3  
**PREREQUISITE:** SYSTEMS ANALYSIS AND DESIGN

### **Course Description**

The purpose of this course is to provide students with practical experience in the management of development projects. It deals with planning, organizing, staffing, controlling, and directing projects. It lays major emphasis on project planning, techniques for monitoring and controlling projects, quantitative methods and tools, and leadership issues in project management. A term project that involves the development of a project plan for a non-trivial project will be required. Students in this course will gain this experience by serving with a development team of IS and IT students. Each team will have approximately an equal number of IS and IT students.

### **Course Objectives**

At the completion of the course the student will be able to:

- define a project goal and create the project charter
- create a feasibility plan and establish a priority list
- determine strategy and budget dollars
- work with management and define their role
- determine project expenses—including estimated required hours
- delegate responsibilities and manage project schedules
- implement a project management approach to tracking progress and implementing
- develop a project management system to track costs and schedule quality testing

### **Textbooks**

Jack R. Meredith, Scott M. Shafer, Sutton, Margaret Sutton. 2007. Information Systems Project Management. ISBN-10 0975914650. 336 p.

### **References**

1. Phillips, Joseph. 2004. IT Project Management: On Track from Start to Finish, 2<sup>nd</sup> ed. McGraw Hill, Osborne.
2. Baine, Kenneth R. 2004. Integrated IT Project Management- A Model-Centric Approach. Artech House, Boston.
3. Lock, Dennis. 2007. Project Management, 9<sup>th</sup> ed. Gower.

### **Evaluation Scheme**

Project Work	70%
Final Exam	30%

**COURSE TITLE:** PROGRAMMING WITH C++  
**COURSE NUMBER:** INTE 451  
**CREDIT HOUR:** 3  
**PREREQUISITE:** PROGRAMMING II

### **Course Description:**

This course introduces the student to more advanced programming philosophies, theories, techniques and practices. In introducing more advanced programming techniques, the language C++ will be used.

### **Course Objectives**

At the end of the course students should be able to:

- explain advanced programming philosophies, theories and principles
- use C++ effectively as a programming language
- apply techniques of systematic debugging. Performance tuning
- do programming in C++

### **Textbooks**

Walter Savitch, Problem Solving with C++: Object Oriented Programming, 7<sup>th</sup> Edition, 2008, ISBN-10: 0321531346

### **References**

1. Steve C McConnell, Code Complete: A Practical Handbook of Software Construction, Microsoft Press.
2. Molay, Understanding Unix/Linux Programming: A Guide to Theory and Practice , Prentice Hall.
3. **C++ Programming. Program Design including Data Structures by D.S. Malik, 2007**

### **Evaluation Scheme**

Programming project: 30 %  
Assignments: 30 %  
Final Examination: 40 %

**COURSE TITLE:** SYSTEMS AND NETWORK ADMINISTRATION  
**COURSE NUMBER:** INTE 452 SAME AS INSY 432  
**CREDIT HOUR:** 3  
**PREREQUISITE:** DATABASE SYSTEMS MANAGEMENT AND USE

### Course Description

This course covers software-specific concepts of systems and computer network administration. Topics include network basics, server management, network security; and network configuration and management. This course provides a practical problem solving approach to the field of Windows NT/2000, UNIX, and/or Novell Netware.

### Course Objectives

At the end of the course, students will be able to:

- manage the day-to-day administrative tasks necessary to maintain a business computer network,
- create user and group accounts, profiles, and setting permissions,
- set up and administer a network printer,
- audit, backup and recovery, and monitoring resources,
- use software tools such as Microsoft Windows NT, UNIX.

### Textbooks:

B. A. Forouzan: Data Communications and Networking ( 3<sup>rd</sup> ed), 2003.

### References:

1. A. S. Tannenbaum: Computer Networks( 4<sup>th</sup> ed), Prentice Hall, 2003.
2. W. Stallings: Data and Computer Communications (7<sup>th</sup> ed), Prentice Hall, , 2004.
3. J. F. Kurose and K. W. Ross: Computer Networking: A Top-Down Approach to the Internet (3<sup>rd</sup> ed), Pearson Education, Inc., 2005.

### Evaluation Scheme

Class Exercises/Assignments	20%
Practical lab work	40%
Final Exam	40%

**COURSE TITLE:** NETWORK DEVICES CONFIGURATION (COMPUTING INFRASTRUCTURE)  
**COURSE NUMBER:** INTE 511  
**CREDIT HOUR:** 3  
**PREREQUISITE:** DATA COMMUNICATIONS AND COMPUTER NETWORKS

**Course Description:**

This course is directed towards designing a network. Topics include the functions of networking, security, the Host-to-Host communications model, packet delivery process, connecting to an Ethernet LAN, solving network challenges with switched LAN technology, switches, routers, remote devices, IP addressing schemes and IP services to meet network requirements for a small branch office.

**Course Objectives**

At the end of the course students should be able to:

- set up the basic configurations for switches and routers as applied to LANs and WANs
- formulate basic Access Control Lists to provide security for a network
- perform basic troubleshooting of typical network problems
- design a simple LANs and WANs using Cisco devices
- setup IP sub-networks with appropriate IP addresses and subnet masks

**Textbooks/References**

Peterson L. L. and B S Davie. 2007. Computer Networks: A Systems Approach, 4<sup>th</sup> edition. 848 p. ISBN-10 0123705487.

**Evaluation Scheme**

Exams: 40 %  
Design work: 60 %

**COURSE TITLE:** NETWORK HARDWARE TROUBLE SHOOTING AND MAINTENANCE  
**COURSE NUMBER:** INTE 512  
**CREDIT HOUR:** 3  
**PREREQUISITE:** DATA COMMUNICATIONS AND COMPUTER NETWORKS

**Course Description:**

This practical course is directed towards working with network hardware. Topics include the functions of networking, connecting to an Ethernet LAN, solving network challenges with switched LAN technology, switches, routers, remote devices, IP addressing schemes and IP services to meet network requirements for a small branch office. Students will assemble the system, operate it, perform trouble shooting and maintenance.

**Course Objectives**

At the end of the course students should be able to:

- set up operate the hardware for basic configurations for switches and routers as applied to LANs and WANs
- perform basic troubleshooting of typical network problems
- perform maintenance
- understand remote monitoring and maintenance.

**Textbooks**

Equipment manuals

**References**

**Evaluation Scheme**

Paper work:	20 %
Practical work:	80 %

**COURSE TITLE:** INFORMATION ASSURANCE AND SECURITY  
**COURSE NUMBER:** INTE 521 SAME AS INSY 521  
**CREDIT HOUR:** 3  
**PREREQUISITE:** DATA COMMUNICATION AND COMPUTER NETWORKS

### **Course Description**

The course will cover historical background of security, fundamentals of Information Systems security, privacy and the importance of security for Information Systems. Additional topics include protection schemes, public and private key encryption techniques, security at different layers, malicious security threats (viruses, worms, Trojan horses) and web security.

### **Course Objectives**

At the end of the course students should be able to:

- understand potential threats of information systems
- understand theories and principles of information security
- understand protection mechanisms and their strength and limitations
- demonstrate how to secure files and users access

### **Textbooks**

Ciampa. 2009. Security Awareness: Applying Practical Security in Your World, ISBN-10: 1435454146.

### **References**

1. S. Bosworth and M. E. Kabay, Computer Security Handbook(4<sup>th</sup> ed) , Willey Inc. , 2002.
2. D. Schweitzer, Incident Response, Computer Forensics Toolkit, Wiley, 2003.
3. S. Garfinkel, G. Spafford and A. Schwartz, Practical Unix and Internet Security (3<sup>rd</sup> ed), O'Reilly, 2003.

### **Evaluation Scheme**

Lab project:	30 %
Mid exam:	30 %
Final Examination:	40 %

**COURSE TITLE: SENIOR PROJECT**  
**COURSE NUMBER: INTE 522**  
**CREDIT HOUR: 3**  
**PREREQUISITE: NONE**

### **Course Description**

The purpose of this course is to enable students to put together the several concepts they have learned to solve a real world problem. They will identify and define a problem area worth a semester period, write a software/system project proposal, develop requirement analysis, write a project management plan and then carry out the project. To provide experience with professional presentations, an oral report will be given to complete the project.

The grade will be based on the quality of the reports, the actual software/system developed and the oral presentation.

### **Evaluation Scheme**

Project reports	40 %
Quality of the software/system	40%
Oral presentation	20%

**COURSE TITLE:** IT SOCIAL, PROFESSIONAL and ETHICAL ISSUES  
**COURSE NUMBER:** INTE 531  
**CREDIT HOUR:** 3  
**PREREQUISITE:** INTRODUCTION TO INFORMATION TECHNOLOGY

### **Course Description**

This course provides a survey of the impact that computers and information technology has on society. It examines the roles and responsibilities that computer and information technology professionals have in directing current and emerging technologies.

### **Course Objectives**

The growing importance of computers in modern society makes Computer Ethics essential both when it comes to the issues related to the profession such as safety, environmental impact, quality and also in the everyday usage of computers which gives rise to numerous ethical dilemmas.

The aim of ethics in science and engineering is:

- to increase the ability of future professionals
- to recognize and solve ethical problems, to accept different ethical perspectives and ethical pluralism.
- to develop the skill and habit of thinking rationally about ethical issues and in that way prepare students for challenges of their profession.

### **Textbooks**

1. M. Martin and R. Schinzinger, Introduction to Engineering Ethics, 2009, 288 pages, ISBN-10: 0072483113

### **References**

1. Accreditation Board for Engineering and Technology (ABET) Engineering Criteria 2000 Third Edition, <http://www.ele.uri.edu/People/Faculty/daly/criteria.2000.html>
2. <http://www.acm.org/constitution/code.html> ACM Code of Ethics& Profess. Conduct
3. [www.ieee.org/about/whatis/code.html](http://www.ieee.org/about/whatis/code.html) IEEE Code of Ethics
4. Internet and Society by Christian Fuchs, 2008

### **Evaluation Scheme**

Continuous Assessment	30%
Mid-Term	30%
Final Exam	40%

**COURSE TITLE:** WIRELESS COMMUNICATIONS & NETWORKING  
**COURSE NUMBER:** INTE 532  
**CREDIT HOUR:** 3  
**PREREQUISITE:** DATA COMMUNICATION AND COMPUTER NETWORKS

### **Course Description**

This course on wireless communication includes an overview of current wireless systems; wireless channel and system models; cellular communications, multiple access schemes and wireless communication systems standards (1G/2G/3G systems). Topics on Mobile Computing, include an introduction to mobile computing, mobile devices, trends of mobile computing, mobile communication protocols and mobile operating systems.

### **Course Objectives**

At the end of the course students should be able to:

- explain principles of current wireless systems.
- understand wireless channel and system models.
- understand mobile devices and their computing.

### **Textbooks**

P. Zheng et al., Wireless Networking Complete, 2009, 300 pages, ISBN-10: 0123750776

### **References**

1. Reza B'Far, Roy T. Fielding, Mobile Computing Principles: Designing and Developing Mobile Applications with UML and XML, Cambridge University Press, 2005, ISBN 0521817331, 9780521817332.
2. T. S. Rappaport, Wireless Communications: Principles & Practice(2nd ed), USA, Prentice-Hall: Upper Saddle River, 2002,

### **Evaluation Scheme**

Lab project:	30 %
Assignments:	20 %
Final Examination:	50 %

**COURSE TITLE: OPERATING SYSTEMS MANAGEMENT AND USE**  
**COURSE NUMBER: INTE 541 SAME AS INSY 441**  
**CREDIT HOUR: 3**  
**PREREQUISITE: PROGRAMMING I**

### **Course Description**

This course introduces fundamental concepts, principles and types of operating systems, functions of operating systems, version management, installing and configuring operating systems to users, user management, etc. In addition, the course prepares students with practical skills for managing operating systems.

### **Course Objectives**

At the end of the course students should be able to:

- explain basic concepts and functions of an operating system
- explain why and how business environments matters in the choice of operating systems
- demonstrate installing and configuring operating systems
- manage users in a networked environment

### **Textbooks**

Andrew S. Tanenbaum. 2007. Modern Operating Systems (3<sup>rd</sup> ed). ISBN-10 0136006633.

### **References**

1. William Stallings, Operating Systems: Internals and Design Principles (5<sup>th</sup> ed), Prentice Hall, 2005.
2. Abraham Silberschatz, P. B. Galvin and G. Gagne: Operating System Concepts (6<sup>th</sup> ed), John Wiley & Sons, 2001.
3. Understanding operating systems (5th ed.). Boston: Thomson Course Technology. ISBN: 1-4239-0160-6

### **Evaluation Scheme**

Lab project:		30 %
Mid-term	:	30 %
Final exam		40%

**COURSE TITLE:                INTERNSHIP**  
**COURSE NUMBER:           INTE 462**  
**CREDIT HOUR:               3**  
**PREREQUISITE:              COMPLETE THIRD YEAR**

**Course description and objective:**

This course supplements the student’s academic program with experiential education. The internship experience will be guided by a learning contract outlining expectations and academic components. Three credit hours will be awarded for approved internships provided that all conditions of the learning contract are met. The internship will occur during the summer between the third and fourth year. The intern will work regular work days for two and a half months.

**Completion of the following assignments is the basis for earning college credit:**

1. **Daily journal:** Students are required to keep a daily journal of their job experiences. If possible it is typed and double spaced and submitted electronically to the Entrepreneurship and Management Internship Coordinator each Monday covering the prior week. If the student has no computer access, a copy must be taken to the Coordinator each Monday.
  
2. **Special project and report:** The host employer and HUC Internship Coordinator will coordinate to select a special project relevant to the company for assignment and completion by the student intern. Concurrent with completion of the special project, the intern will prepare an executive-level business report appropriate for submission to top management. The student will present his/her project to the other internship students, the HUC Internship Coordinator and a representative of the host employer.
  
3. **Executive interview summary:** Students will interview one senior level manager to understand his/her career and discuss career development. Students will summarize the interview in a one (1)-page written document with the business card of the manager attached
  
4. **Job Performance and Satisfactory Evaluations:** The focus of the Internship course is to develop practical career-related experience. Performance evaluations are completed by the host employer during the Internship course and upon completion of the Internship course. At least two performance evaluations are documented to form the basis for grade assignment and awarding of college credit.

**Grading and College Credit:** The Accounting Internship Course requirements are weighted as follows for assignment of final grade and credit:

Daily journals	40%
Special project and report	40%
Executive interview summary	10%
Job performance evaluation	10%

## COURSE DESCRIPTIONS FOR MAJOR ELECTIVES COURSES

**COURSE TITLE:** GEOGRAPHICAL INFORMATION SYSTEM AND REMOTE SENSING  
**COURSE NUMBER:** INTE 501  
**CREDIT HOUR:** 3  
**PREREQUISITE:** COMPUTER GRAPHICS

### Course Description:

This course prepares students to use geo-referenced data to produce geographical presentations. Topics include various kinds coordinate systems and transformation between them, many different ways of computing with georeferenced data and choice in presentation parameters such as color schemes, symbol sets, and medium used.

### Course objectives

At the end of the course students should be able to:

- explain concepts and principles of geographic information systems
- understand concepts and techniques of geo-referencing
- understand presentations techniques of location or geo-referenced information
- capture location data and form maps

### Textbooks

1. DeMers, M..N. (2006). Fundamentals of Geographic Information Systems. 443 p. ISBN-10 0470129069.

### References

1. Chang, Kang-tsung 2009. Introduction to Geographic Information Systems with Data Files CD. 448 p. ISBN-10 007729436X.
2. C.P.Lo & Albert K.W. Yeung, Concepts and techniques of Geographic Information Systems, Prentice Hall of India, New Delhi, 2005
3. Albrecht, J 2007. Key Concepts and Techniques in GIS. London: Sage.

### Evaluation Scheme

Lab project:	30 %
Assignments:	10 %
Mid-term	20%
Final Examination:	40 %

**COURSE TITLE:** INTRODUCTION TO DISTRIBUTED SYSTEMS  
**COURSE NUMBER:** INTE 502 SAME AS INSY 502  
**CREDIT HOUR:** 3  
**PREREQUISITE:** DATA COMMUNICATION AND COMPUTER NETWORKS

**Course Description:**

This course includes topics such as basic concepts in distributed systems, communication, synchronization, consistency and replication, security, distributed files systems and document based systems.

**Course Objectives**

At the end of the course students should be able to:

- Understand concepts of distributed systems
- Explain about remote procedure calls
- Understand concepts in distributed file systems, transactions, consistency and data security

**Textbooks**

A.S. Tannenbaum, Maarten Van Steem, Distributed Systems, Principles and Paradigms;  
2006, ISBN10: 0132392275.

**References**

1. Distributed Systems, Concepts and design, G. Coulouries, J. Dullimore, Y. Kendberg
2. Distributed Systems, S.Mullender

**Evaluation Scheme**

Mid exam:	30 %
Assignments:	30 %
Final Examination:	40 %

**COURSE TITLE:** IT AND ECONOMIC DEVELOPMENT  
**COURSE NUMBER:** INTE 503 SAME AS INSY 503  
**CREDIT HOUR:** 3  
**PREREQUISITE:** NONE

**Course Description:**

Development Informatics considers the implications of the “Information Age” for the majority of the world’s population that live in “developing” countries. The course considers answers to the following questions:- What professional and ethical issues are raised by the so called “Digital Divide?”; Does adoption of information technology lead to economic development; Can information technology support sustainable development?

This course combines a range of topics from information systems, the social sciences, and economics, as well as social and professional issues. It examines factors such as knowledge, place, time, capital, institutional relationships, learning, and policy in understanding and promoting technology-based economic development. Policies to promote high technology firms, technology development and transfer, and regional techno poles are examined.

**Course Objectives**

At the end of the course students should be able to:

- explain impact of IT in economic development
- understand factors dealing technology-based economic development
- understand polices that promote information technology transfer and development

**Textbooks**

M. Warschauer, Technology and Social Inclusion: Rethinking the Digital Divide, 2004, ISBN-10: 0262731718

**References**

1. Wilson, E. J. (2004). The information revolution and developing countries. Cambridge, MA: MIT Press.

**Evaluation Scheme**

Project paper:	40 %
Assignments:	10 %
Mid-Term	20%
Final Examination:	30 %

**COURSE TITLE:** NATURAL LANGUAGE PROCESSING  
**COURSE NUMBER:** INTE 504  
**CREDIT HOUR:** 3  
**PREREQUISITE:** SOPHOMORE ENGLISH

### **Course Description:**

This course is designed to provide basic understanding of natural language processing. Topics include: linguistic approaches; statistical approaches; regular expression (grammar) and finite state automata; methods such as words, morphology, phonology, syntax, parsing, tagging, finite state transducers, semantics (ambiguity and disambiguation techniques, lexical semantics, semantic grammar) and pragmatics (discourse, dialogue, translation and generation);

### **Course Objectives**

At the end of the course students should be able to:

- improve their understanding on various issues and concepts
- have hands-on experience on various issues, approaches to solve problems
- have the knowledge of current trends

### **Textbooks**

S. Bird et al., Natural Language Processing with Python, 2009, 512 pages, ISBN-10: 0596516495

### **References**

1. Daniel Jurafsky and James H. Martin: Speech and Language Processing, Prentice-Hall, 2000.
2. Lucja M. Iwanska and Stuart C. Shapiro (eds): Natural Language Processing and Knowledge Representation, MIT Press, 2000.
3. Roland R. Hausser: Foundations of Computational Linguistics: Human-Computer Communication in Natural Language, Springer Verlag, 2001.

### **Evaluation Scheme**

Lab project:	30 %
Mid exam:	30 %
Final Examination:	40 %

**COURSE TITLE:** INTRODUCTION TO ARTIFICIAL INTELLIGENCE  
**COURSE NUMBER:** INTE 505 SAME AS INTE 505  
**CREDIT HOUR:** 3  
**PREREQUISITE:** NONE

### **Course Description**

This course introduces basic principles and current research topics in Artificial Intelligence. It includes a formal representation of real world problems, search of problem spaces for solutions, and deduction of knowledge in terms of logic and reasoning. Application of these methods are made to important areas of Artificial Intelligence including Expert Systems, language understanding, machine learning ,neural networks ,computer vision and robotics.

### **Course Objectives**

On completion of this course students should be able to:

- describe the key components of the artificial intelligence (AI) field
- describe search strategies and solve problems by applying a suitable search method
- understand how agents reason
- understand the issues related to agent planning, handling uncertainty, learning from observation and communicate.

### ***Text books:***

1. Stuart J. Russell and Peter Norvig, Artificial Intelligence: Modern Approach (3<sup>nd</sup> edition), USA, Prentice Hall, 2009, ISBN10: 0136042597.

**COURSE TITLE:** SYSTEM SIMULATION & MODELING  
**COURSE NUMBER:** INTE 506  
**CREDIT HOUR:** 3  
**PREREQUISITE:** SYSTEMS ANALYSIS AND DESIGN

### **Course Description**

The course presents a holistic view of the modeling and simulation enterprise by starting from a general methodology which stresses the generic, application-independent aspects of modeling formalisms and their implementation. Topics covered include basic introduction to modeling and simulation, model syntax and semantics, system specification hierarchy, model classification, state automata and petri nets, higraphs and state charts, pseudo-random generators, input/output analysis, discrete event world views, process interaction, discrete event system specification, animation of simulation results, continuous-time models, solvers, sorting, population dynamics, system dynamics and object-oriented modeling of physical systems

### **Course Objectives**

At the end of the course, students will:

- understand modeling and simulation from methodology to implementation,
- apply modeling and simulation in real world problems

### **Textbooks**

1. Banks J, John Carson, Barry Nelson, and David Nicol. 2009. Discrete event System Simulation, 5e.,. 640 p. ISBN-10 0136062121.

### **References**

1. Bernard P. Zeigler, Herbert Praehofer, and Tag Gon Kim, Theory of Modeling and Simulation (2<sup>nd</sup> edition),USA, Academic Press, 2000.
2. Paul A. Fishwick, Simulation Model Design and Execution, USA, Prentice Hall, 1995.

### **Evaluation Scheme**

Lab project:	30 %
Mid exam:	20 %
Final Examination:	50 %

## COURSE DESCRIPTIONS FOR SUPPORTIVE COURSES

**COURSE TITLE:** MATHEMATICS I  
**COURSE NUMBER:** MATH 203 **RESPONSIBILITY: CROSSCUTTINGS**  
**CREDIT HOUR:** 4  
**PREREQUISITE:** NONE

### Course Description

The course included linear algebra and quadratic, exponential and logarithmic functions, finite mathematics including matrices, linear programming, logic, sets, counting, probability.

### Course Objectives

This course is designed for students of computer science who will take calculus. To support computer studies, the topics include counting techniques, matrices, recursion, linear programming, counting and probability. To support preparation for calculus, the topics include graphing, functions, slopes and maximums and minimums. Technology, such as computers and graphing calculators, will be used frequently.

### Textbook

Raymond A. Barnett et al., College Mathematics for Business, Economics, Life Sciences, and Social Sciences, 11<sup>th</sup> Edition, 2008, ISBN10: 0131572253

### References:

1. Nathan Niles. Calculus with Analytic Geometry, 2<sup>nd</sup> ed, Prentice Hall.
2. Mathematical Handbook of Formulas and Tables 2<sup>nd</sup> ed. by Murray R. Spiegel and John Liu, 1999
3. Applied Mathematics. For the Managerial, Life and Social Sciences by S.T. Tan, 2007
4. A Custom Edition of Calculus for Business, Economics, Life Sciences and Social Sciences by Barnett, Ziegler and Byleen, 1999
5. Differential Equations with Boundary Value Problems, S. Hollis, 2002
6. Multivariable Calculus, F. Beatrous and C. Curjel, 2002

### Evaluation Schemes

Mid-Term:	30 %
Quiz 1:	15 %
Quiz 2:	15%
Final Examination:	40 %

**COURSE TITLE:** MATHEMATICS II  
**COURSE NUMBER:** MATH 204 **RESPONSIBILITY: CROSSCUTTINGS**  
**CREDIT HOUR:** 4  
**PREREQUISITE:** MATHEMATICS I

**Course Description**

This course covers basic calculus and is designed for students not intending to major in mathematics, the physical sciences or engineering. The topics covered will include: limits, derivatives, relation to graphing, integration, multi-variables and applications.

**Course Objectives**

At the end of the course students should be able to:

- Evaluate finite and infinite limits using a graph.
- Use the limit definition to find the derivative of a function.
- Find the equation of a tangent line to a function at a point.
- Find derivatives using the differentiation rules for: sum, difference, product, quotient, power, constant multiples, and composition (chain rule).
- Find the derivative of various types of functions including: polynomial, rational, radical, trigonometric, inverse trig, exponential, and logarithms.
- Find the derivative of an implicit function.
- Graph a function using first and second derivatives, identifying intervals of increasing, decreasing, and concavity, as well as relative minimums and maximums and inflection points.
- Find integrals of functions.
- Extend understanding to multi-variable problems.
- Solve an optimization word problem using calculus.

**Textbooks**

Raymond A. Barnett et al., College Mathematics for Business, Economics, Life Sciences, and Social Sciences, 11<sup>th</sup> Edition, 2008, ISBN10: 0131572253

**References:**

1. Nathan Niles. Calculus with Analytic Geometry, 2<sup>nd</sup> ed, Prentice Hall.
2. Mathematical Handbook of Formulas and Tables 2<sup>nd</sup> ed. by Murray R. Spiegel and John Liu, 1999
3. Applied Mathematics. For the Managerial, Life and Social Sciences by S.T. Tan, 2007
4. A Custom Edition of Calculus for Business, Economics, Life Sciences and Social Sciences by Barnett, Ziegler and Byleen, 1999
5. Differential Equations with Boundary Value Problems, S. Hollis, 2002
6. Multivariable Calculus, F. Beatrous and C. Curjel, 2002

**Evaluation**

Class work, quizzes	30%
Mid-term	30%
Final Exam	40%

**COURSE TITLE:** INTRODUCTION TO PROBABILITY AND STATISTICS  
**COURSE NUMBER:** STAT 301 **RESPONSIBILITY: CROSSCUTTINGS**  
**CREDIT HOUR:** 3  
**PREREQUISITE:** MATHEMATICS I

### **Course Description**

This course is designed to provide students an introduction to the basic science of statistics. Students will develop a useable understanding of research design, the organization of data, measures of central tendency and variability, central tendency theory, descriptive and inferential statistics, parametric and nonparametric tests, and basic test assumptions. Primarily, students will be introduced to the fundamental ideas of data collection and presentation, populations and samples; the presentation and interpretation of data, descriptive statistics, linear regression, and inferential statistics including confidence intervals and hypothesis testing. Basic concepts are studied using applications from economic ideas, education, business, social science, and the natural sciences. Also included is a mathematical introduction to probability theory including the properties of probability; probability distributions; expected values and moments, specific discrete and continuous distributions; and transformations of random variables

### **Course Objectives**

At the end of the course, the students will be able to:

- acquire knowledge on statistical methods,
- collect and organize facts for statistical analysis,
- make interpretations of data collected, and
- make statistical inferences based on statistical analyses

### **Textbooks**

Freedman, David, Purves, Pisani. 2006. Statistics. WW Norton & Co (ed). ISBN-10: 0393930432.

### **References**

1. Berenson , Mark L; Levine, David M. and Krehbiel, Timothy C. (2008) Basic Business Statistics, 11<sup>th</sup> ed., Prentice Hall, USA
2. Brase, Charles Henry and Brase, Corrinne Pellillo (2006) Understanding Basic Statistics, 4<sup>th</sup> ed., Houghton Mifflin Company, New York 2 copies
3. Lind , Douglas A.; Marchal, William G. and Wathen, Samuel A. (2007) Basic statistics for business and economics with student CD (CD-ROM), 6<sup>th</sup> ed., McGraw-Hill/Irwin, New York

### **Evaluation**

Class Exercises/Assignments/Quizzes	30%
Mid-term	30%
Final Exam	40%

**COURSE TITLE:** INTRODUCTION TO ENTREPRENEURSHIP  
**COURSE NUMBER:** MAEN 211  
**CREDIT HOUR:** 3  
**PREQUISITE:** None

### **Course description**

This course is an introduction to entrepreneurship. Topics include economic, social and political climate; demographic, technological and social changes; skills, challenges, and rewards of entrepreneurship. This course will provide a basic understanding of the entrepreneurial or new venture process. Students will discuss the critical role that opportunity recognition and creation plays in that process. Several class exercises will assist students to identify their own personal goals, and their unique skills and competencies related to the entrepreneurial process. Students will also develop a simple business plan, which will enable them to examine how entrepreneurs and investors create, find, and differentiate robust, money-making opportunities from “good ideas.”

### **Course objectives**

Upon successful completion of this course, students should be able to:

- develop a simple business plan.
- evaluate their own entrepreneurial tendencies and create a new venture.
- explain the role of entrepreneurship and new venture creation in economic development.
- evaluate and explain the real-world of entrepreneurship and the entrepreneurial mindset.
- understand the process of opportunity recognition and analysis.
- clearly articulate a new venture’s business model.
- recognize the importance of teams in the entrepreneurial process and the pros and cons. associated with different behavior types when starting a new venture.
- be familiar with the financial issues associated with new venture start-ups.
- develop an understanding of entrepreneurship as a business behavior worldwide.

### **Textbooks**

Kuratko, Donald. Entrepreneurship: Theory, Process and Practice, 2008. ISBN10: 0324590913.

### **References**

1. Katz, Jerry and R. Green, Entrepreneurial Small Business, 2008. ISBN 0073405063.
2. How to Write a Business Plan, Ethiopian Chamber of Commerce, 2004.
3. Small Business Management: Launching and Growing Entrepreneurial Ventures,J. Longenecker et al., 2007, 768 p. ISBN-10: 0324569728

### **Evaluation Scheme:**

Continuous Assessment	25%
Midterm exam	20%
Project work	25%
Final Exam	30%

**COURSE TITLE:** INTRODUCTION TO BUSINESS MANAGEMENT  
**COURSE NUMBER:** MAEN 212  
**CREDIT HOUR:** 3  
**PREREQUISITE:** None

**Course description:**

This course focuses on the basic concepts and principles of management, the functions of planning, organizing, staffing, directing and controlling and their relationships to key issues in management practices, such as leadership and motivation. Nature and role of supervisory management, functions of supervisor and labor relations, inspection and effective communication are also discussed. Students will work in teams to improve their business proficiency by developing a marketing plan, based on all this semester's courses, and understand the role marketing plays in business and business management.

**Course objectives:**

Upon successful completion of this course, students should be able to

- develop a marketing plan
- explain the characteristics of management
- identify the evolution of management theories and practices
- define management functions i.e. planning, organizing, leading and controlling
- distinguish organization, theories of organizations and organizational structures
- apply the fundamentals of staffing, leadership theories and practices in the process of management.

**Textbook**

1. Burrow, J. et al., Business Principles and Management, 2007. ISBN-10:0538444681

**References**

1. How to Write a Business Plan, Ethiopian Chamber of Commerce, 2004.
2. Public Relations. Strategies and Tactics. By Dennis L. Wilcox, Glen T. Cameron, 2006.
3. This is PR. The Realities of Public Relations by Newsom, Turk, Kruckeberg, 2004
4. Green to Gold. How smart companies use environmental strategy to innovate, create value, and build competitive advantage by Daniel C. Esty and Andrew S. Winston, 2008

**Evaluation Scheme:**

Continuous Assessment: assignments, tests, quizzes, presentations	25%
Midterm exam	20%
Project work	25%
Final Exam	30%

**COURSE TITLE:** PHYSICS LABORATORY  
**COURSE NUMBER:** PHYS 202 **RESPONSIBILITY: CROSSCUTTINGS**  
**CREDIT HOUR:** 3  
**PREREQUISITE:** MATHEMATICS I

**Course Description:**

The purpose of this course is to reinforce learning of physics theory by a series of practical laboratory exercises. The topics covered include 1-d and 2-d motion, force and motion, energy and momentum, circular motion, fluids, heat and temperature, wave motion, electric charge, electric potential and current, magnetism, reflection and refraction of light and mirrors and lenses.

**Course Objectives:**

The objectives are to reinforce past learning by practical exercises in important areas of classical physics, to improve the student's problem solving skills and to improve the students skill in working with instruments and other technical equipment.

**Textbook:**

J.D. Wilson et al., College Physics, 6<sup>th</sup> Edition, 2007, ISBN10: 0131495798

**Reference**

1. Physics for Scientists and Engineers Vol. 1, Tipler and Mosca, 5<sup>th</sup> Edition, 2004,
2. Physical Science, 6<sup>th</sup> Edition, Bill Tilery, 2005
3. Physics for Scientists and Engineers, Vol. 2, Paul Tipler, 2003

**Assessment/Evaluation**

Laboratory Reports	30%
Mid-Term Examination	30%
Final Examination	40%

**COURSE TITLE:** INTRODUCTION TO ECONOMICS  
**COURSE NUMBER:** ECON – 204 **RESPONSIBILITY: CROSSCUTTINGS**  
**CREDIT HOUR:** 3  
**PREREQUISITE:** NONE

### **Course Description**

This course introduces and explores a variety of macroscopic and microeconomic topics, including: supply and demand, market equilibrium, elasticity, decision making by producers and consumers, production cost, market structures, public policy, the labour market, distribution of income, environmental policy, market efficiency and government intervention, aggregate supply and demand, market equilibrium, Gross Domestic Product, employment, income, prices, major schools of economic thought, fluctuations, growth, monetary policy, fiscal policy, the national debt, international trade, and international finance.

### **Course Objectives**

Students should be able to:

- state the laws of supply and demand and explain the concept of equilibrium.
- identify and explain the basic principles of economics.
- enumerate and explain the three economic choices.
- provide a definition of gross domestic product and describe the four components.
- define fiscal policy and explain how it can be used to cope with fundamental economic problems.
- explain how monetary policy can be used to cope with fundamental economic problems.

### **Textbooks**

1. Macroeconomics by Blanchard, 2006
2. Microeconomics by Pindyck and Rubinfeld, 6<sup>th</sup> ed. 2004

### **References**

1. Mankiw, H. G. 2008. Essentials of Economics, 5<sup>th</sup> ed. 584 p. ISBN-10 0324590024.
2. O' Sullivan, A., F. Sheffrin and S. Perez. 2009. Survey of Economics: Principles, Applications and Tools, 4<sup>th</sup> ed. 456 p. ISBN-10 0136093809.
3. Rohlf, William D. 2007. Introduction to Economic Reasoning (7<sup>th</sup> Edition). (Addison-Wesley Series in Economics).
4. Economic Concepts. A Programmed Approach by Bingham and Henry Pope, 1993
5. Kohler's Microeconomics by Heinz Kohler, 1992
6. Macroeconomic Analysis by Edward Shapiro, 1999

### **Assessment/Evaluation**

Assignments/Quizzes	30% ;
Mid examination	30% ;
Final examination	40% .

## COURSE DESCRIPTION FOR CROSSCUTTING COURSES

<b>COURSE TITLE:</b>	<b>CIVIC AND ETHICAL EDUCATION</b>
<b>COURSE NUMBER:</b>	<b>CEED 201      RESPONSIBILITY: CROSSCUTTING</b>
<b>CREDIT HOUR:</b>	<b>3</b>
<b>PREREQUISITE:</b>	<b>NONE</b>

### Course Description

This fundamental objective of Civic and Ethical Education is producing good citizens with higher civic qualities. Good citizen who are well aware of their rights and responsibilities as well as endowed with various type civic virtues such as active participation, tolerance, civic mindedness etc have a lot to contribute in the process of democratization and development of their own state. In view of this, this course is designed to familiarize students with basic themes and concepts of civic and ethical education, constitutionalism, Democracy, Human Rights and some other pertinent issues in achieving the basic goal of the subject matter. The very nature of civic education requires active participation from the part of students in various ways such as forwarding original arguments, participating in class discussions, debates, Presentation etc. . Thus students are highly expected to act accordingly for the successful delivery of the course. Professional ethics relates to fulfilling work responsibilities, honesty in financial matters and contributing to improvements in the workplace and profession. Ethical behavior also relates to society and the environment and includes tolerance, obeying the rule of law, respecting the rights of others, respecting the environment and practicing a sustainable lifestyle.

### Course Objectives

The students will be able to:

- impart civic knowledge on various issues such as on meaning and definition of civics and ethics, constitutionalism, democracy, and human rights.
- help students clearly understand their rights and responsibilities and then exercise their rights and discharge their responsibilities.
- develop civic attitude such as patriotism, civic mindedness, active participation and tolerance.
- develop civic skills such as accurate decision making, expression of oneself clearly and logically and conflict resolution.
- understand the importance of professional ethics and to commit to ethical behavior in all aspects of a professional career.
- understand how to live in a diverse society by demonstrating tolerance and an appreciation of other cultures.
- learn to respect the environment and live in a sustainable manner.

### Textbook:

1. Civic and Ethical Education, Alamirew G/Mariam, 2005.

### References

1. Chekki Don. 1999. "Participatory Democracy in Action" International Profiles of Community Devt. New Delhi.
2. The Constitution of the Federal Democratic Republic of Ethiopia, August 21, 1995.
3. Universal Declaration of Human Rights: Adopted by the UN General Assembly in 1948.

### Assessment/Evaluation

Community project	30 %
Mid-semester	30%
Final examination	40 %

**COURSE TITLE:** INTRODUCTION TO LOGIC  
**COURSE NUMBER:** PHIL 201  
**CREDIT HOUR:** 3  
**PREREQUISITE:** None

### **Course Description**

This course attempts to introduce the fundamental concepts of logic and methods of logical reasoning. The purpose of this course is to develop in learners the skills required to construct sound arguments of their own and the ability to critically evaluate the arguments of others; cultivate the habits of critical thinking and develop sensitivity to the clear and accurate use of language. Topics to be covered in this course include: the nature of argument, definitions, fallacies, syllogistic logic, propositional logic and rules of propositional logic.

### **Course objectives**

After completion of this course students will be able to

- Evaluate the implication and rules of equivalence
- Define logic.
- Compare and contrast sound and unsound arguments
- Set criteria for lexical definitions
- Appreciate critical thinking & morality, social and political philosophy.
- Synthesize the rules for propositional logic

### **Testbook**

1. Introduction to Logic, Copi and Cohen, Student Ed., 2005, 688 p. ISBN10: 0131898349

### **References**

1. Being Logical: A Guide to Good Thinking, D. McInerny, 20005, 160 p. ISBN10: 00812971159.
2. Morris Raphael Cohen; Ernest Nagel. 2002. An introduction to logic and scientific method. Simon Publications, Safety Harbor, FL.

### **Evaluation Scheme**

Continuous Assessment	50%
Final Exam	50%

**COURSE TITLE:** SOPHOMORE ENGLISH  
**COURSE NUMBER:** FLEN 201 **RESPONSIBILITY:** CROSSCUTTING  
**CREDIT HOUR:** 3  
**PREREQUISITE:** NONE

**Course Description:**

A course designed to develop college-level reading and writing skills. It includes critical analysis of and written response to readings, as well as academic vocabulary, grammar and mechanics. It focuses on the steps of the writing process: planning, organizing, writing, peer review, revising, and editing while writing essays in various rhetorical patterns of organization and development. There will be in-class essays and others prepared outside of class. Students will write every day in class. In addition, students will improve listening and speaking skills through listening to lectures and taking notes, class discussion, giving short talks and responding to questions.

**Course objectives:**

This course will enable students to:

- understand and critically analyze class readings, as well as their textbooks
- improve their academic vocabulary, written and spoken grammar and mechanics usage
- improve their overall writing skills: being able to write clearly and correctly, make points and support them with examples and explanations.
- write under time pressure in answering essay examination questions.
- understand oral academic lectures and basic English conversation.

**Textbook:**

1. Evergreen: A Guide to Writing with Readings, 8<sup>th</sup> Edition. Susan Fawcett. 2007. Houghton-Mifflin/ Cengage, ISBN10: 0618766448

**References:**

1. Real Writing with Readings,, Susan Anker, 2004, ISBN-10: 0312405219
2. Mastering Reading through Reasoning, by Dr.Arthur Whimbey, 1985
3. 75 Readings:Anthology ;by S. Buscemi, C. Smith, 2007
4. Writing Analytically, 4e, D. Rosenwasser, J. Stephen, 2006 (100)
5. Language Arts: Process, Product and Assessment, 1999, by Pamela Farris (20)
6. Prentice Hall Writing and Grammar: Communication in Action, by Carroll,et.al,2001

**Assessment/Evaluation**

Tests: reading, grammar, vocabulary	20%
Writing assignments:	40%
Class participation in discussion	10%
Final exam, including writing	30%

**COURSE TITLE: PROFESSIONAL WRITING**  
**COURSE NUMBER: FLEN 202 RESPONSIBILITY: CROSSCUTTING**  
**CREDIT HOUR: 3**  
**PREREQUISITE: FLEN 201, SOPHOMORE ENGLISH**

**Course Description**

A course extending use of the writing process to longer essays based on analysis of readings, through awareness of audience, purpose and diverse viewpoints. Additional writing will be based on readings and research in students’ professional fields, incorporating credible evidence through quotations, paraphrase and summary, according to MLA/APA standards. Students will learn to distinguish between opinion, facts and inferences and to use argument and persuasion. Students will work in teams on a proficiency task, writing a marketing plan and presenting it to the class.

**Course Objectives:**

Students will be able to:

- write essays with a clear thesis, logical points to support the thesis, and evidence based on library and Internet research, using MLA/ APA documentation.
- avoid plagiarism by incorporating this evidence using documentation.
- improve their writing and proofreading skills through participating in peer review.
- write clear and concise reports and papers appropriate to their field of study, using library and Internet research. Business students will write business letters, memos, resumes, reports, and a business plan.
- use technical writing styles and formats: reports, proposals, analysis of technical articles, and learn the appropriate vocabulary used in their field.
- use improved speaking and presentation skills through class and small group discussions, and an oral presentation based on the final writing.
- develop and write a marketing plan.

**Textbooks:**

1. Susan Fawcett , Evergreen: A Guide to Writing w.Readings, 8<sup>th</sup>Ed. 2007. Houghton-Mifflin (now Cengage)
2. Alred, Gerald J, Brusaw, Charles, and Oliu, Walter; Business Writers’ Handbook., 2008. Bedford-St. Martins. 590 p..ISBN10: 0132477090

**References**

1. Alred,Gerald J, Brusaw, Charles, Oliu,Walter; Handbook of Technical Writing, 2008, 9<sup>th</sup> ed. MacMillan. ISBN: 9780312057336
2. Michael Merkel, Technical Communication,9e. ISBN9780-312485979 Bedford St.M.
3. Writing in the Disciplines:Supplement,TomJehn,Jane,2007, ISBN10: 0312452640
4. Discovering Arguments, an Introduction to Critical Thinking and Writing, with Readings2e, by D. Memering, W Palmer, 2006 (80)
5. Creative Editing, 3e, by D.B owles, D. Borden,2000 (1)
6. Reporting for the Media, 8e, by Fedler et al, 2005

**Evaluation Scheme**

Essays:	30%
Business/Technical writing assignments, including Project	50%
Final Assignment- Writing 10% Oral Presentation10%	20%

**COURSE TITLE:** COMMUNICATION AND PRESENTATION SKILLS  
**COURSE NUMBER:** FLEN 301 **RESPONSIBILITY:** CROSSCUTTING  
**CREDIT HOURS:** 3  
**PREREQUISITE:** PROFESSIONAL WRITING

**Course Description:**

This course is designed to improve students’ speaking and listening skills, understanding of turntaking, and other conventions and strategies in English conversation through discussion and role play. They will give short talks, planned and impromptu, and receive feedback. Through group assignments and presentations, students will improve their ability to discuss controversial or difficult topics in a respectful manner and tone: listening for understanding, then presenting their views - in conversation, to solve a business problem, or to persuade. As a final project, students will research an area of interest in their field and write a paper on it, using properly documented sources, and then make a final oral presentation to the class using AV equipment. Questions and answers will follow each presentation.

**Course Objectives:**

Students successfully completing the course will have:

- developed a concern for audience and understand the importance of psychological approaches to the solution of business problems through skilled communication;
- the ability to use a variety of communication strategies, and know when to use them;
- developed presentation skills, oral and written, with or without AV equipment.
- developed an ability to apply critical thinking and decision-making skills to business
- developed an ability to work effectively with other people in small groups or teams
- learned to listen for understanding
- the ability to understand and negotiate differences in communication between oneself and people from other cultures and those with viewpoints disagreeing with one’s own
- the ability to give and receive feedback that will improve one’s own and others’ communication

**Textbook:**

1. Guide to Managerial Communication. 7thEd Munter, Mary Munter. Upper Saddle River, NJ,Prentice Hall 2007 ISBN: 0131755234.
2. Public Speaking: A Audience Centered Approach, Beebe and Beebe, 2006

**References:**

1. Locker, Kitty O and Kaczmarek, Stephen Kyo, Building Critical Skills, 4th Ed. McGraw-Hill/Irwin, NY 2008, ISBN10: 007-3377724
2. Alred, Gerald J, Brusaw, Charles, and Oliu, Walter. Business Writers’ Handbook., 2008, . Bedford-St. Martins. 590 p.. ISBN10: 0132477090
3. The Art of Public Speaking, and Learning Tools Suite, 8e,by Stephen Lucas, 2004 + CDRom, Topics
4. Literature, the Human Experience,9e byM. Klotz, R.Abcarian, 2007

**Assessment/Evaluation**

Classwork: discussions, role plays, short talks	20%
Assigned group and individual presentations	20%
Project work: business plan	30%
Quizzes:	20%
Final Exam	10%

**COURSE TITLE:** INTRODUCTION TO COMPUTER APPLICATIONS  
**COURSE NUMBER:** COMP 201 **RESPONSIBILITY: CROSSCUTTING**  
**CREDIT HOUR:** 3  
**PREREQUISITE:** NONE

**Course Description**

This course is a broad introduction to the use of computers as tools for creativity, communications and organizing information. In addition to learning the technical fundamentals of computer use, students build skills in researching information, making appropriate ethical choices about the use of computers, and using technology to learn on their own and pass your new skills on to others. The role of the computer as a communications tool will be central to this course. All students will be given computer accounts to maintain files. We will also emphasize the use of the Internet as a tool for finding information and the use of word processing, presentation software and image editing to organize and communicate ideas.

Topics will include computer hardware components, how the personal computer works and computer applications including word processing, spreadsheets, presentations, database and internet. Students are expected to learn to type and to practice exercises using MS Office.

**Course Objectives**

The students will be able to:

- familiarize themselves with components of computers and windows personal computers and operating systems
- use Microsoft Office as tools for writing, analyzing and presenting information
- use of information technology to assist you in other coursework
- use the internet for communications, research
- use traditional and nontraditional ways to find and share information
- create, edit and share pictures
- creating online and paper publications and graphics using computers
- understand ethical and responsible use of computer technology

**Textbook**

1. Shelly Gary B. et al. 2007. Microsoft 2007: Introductory Concepts and Techniques, Windows XP Edition. 1224 p. ISBN-10 141884327X
2. CIS 105: Information Technology Applications. Business and Economics Department by Zimmerman, Zimmerman, 2007 (19)

**References**

- 1 Andy Channele, Beginning Open Office 3- from Novice to Professional, 2008, ISBN10: 1430215909
- 2 Preston, John et al. 2008. Computer Literacy for IC3 – 2007
- 3 Update. 400 p. ISBN-10 0135038529.
- 4 Using Excel & Access for Accounting 2007 by Glenn Owen, 2007
- 5 Advanced Excel for scientific data analysis by Robert de Levie, 2004
- 6 Microsoft Office Word 2003. A Professional Approach by Deborah Hinkle, 2005
- 7 Beginning Open Office 3 from Novice to Professional by Andy Channele, 2009

**Assessment/Evaluation**

Assignments	50%,
Mid exam	20%,
Final exam	30%
Final exam	30%

**COURSE TITLE:** GENERAL PSYCHOLOGY  
**COURSE NUMBER:** PSYC 201 **RESPONSIBILITY: CROSSCUTTING**  
**CREDIT HOUR:** 3  
**PREREQUISITE:** SOPHOMORE ENGLISH

### **Course Description**

The introductory survey course explores the scientific study of human nature, behavior, and cognitive processes. The major areas of psychological study will be reviewed including history, biology, memory, learning, development, personality, abnormal and social psychology. Emphasis will be placed on applying psychological principles and data to life experience.

The course is also geared towards helping students conceptualize the psychological foundations of human behavior in all occupations. It is also the application of the principles and concepts in overcoming various kinds of human and environmental barriers for effective relationship.

Topics to be covered include motivation, emotion, knowledge retention, group dynamics and worker efficiency, sensation and perception, personality, and development of attitudes. Students will work on a proficiency task, developing a personal statement of goals and values.

### **Course Objectives**

Upon satisfactory conclusion of the course, students will be able to:

- understand human behavior and relationship in different professions and life at large,
- be apply knowledge gained in the areas of business, government and education,
- familiarize themselves with group and individual decision-making,
- exercise effective human and environmental relationships.
- use their knowledge of psychology in developing a personal statement of goals and values

### **Textbooks:**

Kalat, James. 2008. Introduction to Psychology, 8<sup>th</sup> ed. Wadsworth Pub. 04955102881.

### **References:**

1. Weiten, Wayne and Diane Helpen. 2007. Psychology: Themes and Variations: with Concept Charts. Briefer Edition, 7<sup>th</sup> ed. Thomson-Wadsworth pub. 631 p. ISBN 10: 0495100587.
2. Psychological Research, Methods for Discovery and Validation, by A.C. Vadum, N.O. Rankin, 1998 (1)
3. Psychology: Careers for the 21st Century, by the American Psychological Association, 2000
4. (9) Innovative Approaches to Health Psychology:
5. Prevention and Treatment: Lessons from AIDS. by M.A. Chesney, M.H. Antoni, 2002
6. Psychology, 7e, by John Santrock, 2005 (1)

### **Assessment/Evaluation**

Assignments	20 %
Project, practical work	30%
Mid-semester	20%
Final examination	30 %

**COURSE NAME:** LEADERSHIP SKILLS  
**COURSE NUMBER:** LEAD 501 **RESPONSIBILITY: CROSSCUTTING**  
**CREDIT HOUR:** 3  
**PREQUISITE:** NONE

**Course description:**

The purpose of this course is to encourage you to carefully analyze responsibilities and commitments in the context of leadership for the common good and for purposeful change. Students will come to understand the concepts of relational and servant-leadership and how they differ from traditional leadership theories. The course includes the study of leadership as well as the application of leadership theories, concepts, and skills. Students will also develop their leadership potential through the completion of personal and leadership self-assessments, values exploration, and leadership skill practice through course activities.

This course addresses the responsibility of a leader for business, society and himself. What will be the legacy of the professional leader? What difference does he make in all the networks in which he is participating? What is his basic attitude toward all the stakeholders? These kinds of questions are the core theme of this course. Leadership will be combined with stakeholder management and current thinking about the role of communities in the business world.

**Course Objectives**

Students should be able to:

- Explain their personal opinion about stewardship'
- Reflect on his/her personal effectiveness as a leader;
- Perform as a transparent leader in his/her own networks

**Textbook:**

1. Peter Northouse, Leadership: Theory and Practice, 5<sup>th</sup> Edition, 2009, ISBN-10 1412974887

**Reference:**

- 1 Kouzes and Posner, The Leadership Challenge, 4<sup>th</sup> Edition, 2003, ISBN-10: 0787984922
- 2 The Leadership Challenge by Kouzes and Posner, 2003
- 3 Motivating Yourself for Achievement, by A.R. Bell, D.A. Smith, 2003 (10)
- 4 Focus on Success, by Dr. Rita Davis, Dr. Aaron Thompson, 2001 (1)
- 5 Leadership, by Dr. J.Clifton Williams, 1986 (1)

**Evaluation**

Leadership activities	20%
Leadership Self- Assessment	20%
Mid-Term Examination	30%
Final Examination	30%