

Description for IT department Courses (MIS)

Year 1 Term 1	Course Name :	Mathematics 1		
	Type :	College		
	Course ID	TECH 1301	Hours	3
Disc	In this course , It is cover the following main math topics Limits and Continuity , Differentiation , Applications of Derivatives and Integration			
Objective	<p>The goal of this course is to introduce students to three main topics of calculus; namely, Limits, Differentiation and integration (methods and applications).</p> <p>The student solve algebraic equations.</p> <p>The student solve inequalities involving the square root .</p> <p>The student Know addition and double-angle formulas for trigonometric functions</p> <p>The student use them to express values of trigonometric functions.</p>			
Outcomes	<p>Course outcomes: On completion of this course students will be expected to:</p> <ul style="list-style-type: none"> • Be able to solve algebraic equations and inequalities involving the square root. • Know addition and double-angle formulas for trigonometric functions and use them to express values of trigonometric functions. • Be able to recognize odd, even, periodic, increasing, decreasing functions. • Understand the operation of composition of functions and the concept of functional inverse. • To able to recognize linear, quadratic, power, polynomial, algebraic, rational, trigonometric, exponential functions and sketch their graphs. • Be able to calculate limits. know derivatives of power, trigonometric functions and know the basic rules of differentiation 			
Year 1 Term 1	Course Name	Statistics		
	Type :	College		
	Course ID	TECH 1303	Hours	3
Disc	In this course we will cover the following statistics topics: Statistics Basics - Simple Random Sampling - Other Sampling Designs- Experimental Designs - Organizing Data - Descriptive Measures – Probability - Random Variables and Sampling Distributions - Discrete Random Variables			
Objective	<ul style="list-style-type: none"> • Understand sampling distributions of sample means and sample proportions • Estimate a population mean and a population proportion from a sample; • Compute simple probabilities of events. • Distinguish marginal, joint, and conditional probabilities; • Understand and apply the concept of independence of events. 			

Outcomes	Upon completion of this course the student should be able to <ul style="list-style-type: none"> • Compute probabilities by modeling sample spaces and applying rules of permutations and combinations, additive and multiplicative laws and conditional probability • Compute probabilities based on practical situations using the binomial and normal distributions 			
Year 1 Term 1	Course Name	Principles of Management		
	Type :	College		
	Course ID	TECH 1305	Course ID	3
Disc	The basic management functions are analyzed to provide a basic conceptual approach to management. Concentration will be on the main managerial process, planning, organizing, leading and controlling. Organizational decision making activities are a main topic as they lead to and promote efficient and effective management. This course aims TO provide the student with the necessary academic background to prepare him/her for specialization in Business Administration.			
Objective	<ol style="list-style-type: none"> 1. Understand the meaning, role and professional nature of management. 2. Introduce the students to the basic concepts, levels, functions, history, systems and principles of the management process (planning, organizing, directing, leadership, and controlling). 3. Introduce the management schools and theories. 4. Understand what management by objectives (MBO) means. 5. Develop modeling skills such as decision making, communications, motivation, centralization and delegation of authority. 6. Overview on Managing in a Global Environment, Managing Diversity, Managing Social Responsibility and Ethics 			
Outcomes	<ul style="list-style-type: none"> – An ability to know how to planning. – An ability to choose the Structural occasion of the institution – An ability to make the decision – Understand the nature of management as an art and a science and give a brief overview of management schools. – Develop modeling skills. – Understand what management by objectives (MBO) means. – Develop modeling skills such as decision making, communications, motivation, centralization and delegation of authority. 			
Year 1 Term 2	Course Name	Mathematics 2		
	Type :	College		
	Course ID	TECH 1302	Hours	3

Disc	<p>This course gives an introductory treatment of linear algebra that is suitable for a first undergraduate course. Its aim is to present the fundamentals of linear algebra in the clearest possible way. The course will cover the following important topics</p> <ul style="list-style-type: none"> - Systems of Linear Equations and Matrices - Determinants - Euclidean Vector Spaces - General Vector Spaces 			
Objective	<p>In this course the students should understand the following</p> <ol style="list-style-type: none"> 1. Systems of Linear Equations 2. Gaussian Elimination 3. Matrices and Matrix Operations 4. Inverses; Algebraic Properties of Matrices 5. Elementary Matrices and a Method for Finding 6. More on Linear Systems and Invertible Matrices 7. Diagonal, Triangular, and Symmetric Matrices 8. Applications of Linear Systems 9. Determinants by Cofactor Expansion 10. Evaluating Determinants by Row Reduction 11. Properties of Determinants; Cramer's Rule 12. Vectors in 2-Space, 3-Space, and n-Space 			
Outcomes	<p>Upon completion of this course the student should be able to:</p> <ul style="list-style-type: none"> • Solve linear equation system • Find the nxn matrix inverse, row operations, matrices properties. • Find matrices addition, subtraction and products • Understand matrix type, Diagonal, upper and lower matrix and triangular matrix • Understand determinates • How determinant can be use to find matrix inverse • Cramer's rule • Properties and operations on determinant. • Vectors in 2 and 3 and n-spaces • Norm Vector. • Dot product vectors 			
Year 1 Term 2	Course Name	Introduction to Communications		
	Type :	College Elective Course 1		
	Course ID	TECH 1204A	Hours	3
Disc	<p>In this course we will cover the following important topics Signals Convey Intelligence, Electrical Introduction to Transporting Electrical Signals , Quality of Service and Telecommunication Impairments , Transmission and Switching: Cornerstones of a Network , Digital Networks , Signaling , Local and Long-Distance Networks , Concepts in Transmission Transport , Data Communications , Enterprise Networks I: Local Area Networks , Enterprise Networks II: Wide Area Networks , CCITT Signaling System No. 7 , Image Communications</p>			
Objective	<p>Gives the students a complete knowledge about the main Concepts, terminologies and fundamentals of Telecommunication</p>			

	Understand the Electrical Signals Signal Modulation Convert signal analogs to digital data Understand TV Signals (Sound, Color) Understand the radio signals			
Outcomes	After complete this course the student should understand the basics of the following main topics in Telecommunication: <ul style="list-style-type: none"> • Electrical Signals • Signaling • TV and satellite communication concepts • Voice and Video signals • Receiver and transmitter devices 			
Year 1 Term 2	Course Name	Programming 1		
	Type :	specialization		
	Course ID	GTEC 1302	Hours	3
Disc	This course introduces the fundamental principles of computer programming, flowcharts, variables, input output statements, functions and methods, arrays using an appropriate programming language or visual programming language.			
Objective	This course aims to enable students to: <ul style="list-style-type: none"> • Learn about computer programming logic and develop a program logic using flowcharts, pseudo code and algorithm. • learn concepts applicable to all programming languages, including: identifiers, data types, arrays, control structures, looping • understand the main concept of Object Oriented Programming. • develop programs using any appropriate language 			
Outcomes	<ul style="list-style-type: none"> • Use programming terminology correctly in discussion of course topics • Identify the need for a variable and select the appropriate primitive data representation • Distinguish between a reference to an array and a reference to an array element • Write simple mathematical formulae in pseudocode and flowcharts • Write Boolean expressions to control the flow of a program in pseudocode and flowcharts • Write programs that use internal documentation and standard white space conventions to communicate program design • Create flowcharts and write syntactically correct pseudocode to solve small programming problems using structured programming techniques • Use a variety of desk-checking or debugging techniques on programs written with structured programming techniques • Design elementary computer algorithms. • Develop small programs that implement basic algorithmic designs 			

Outcomes Year 1 Term 2	Course Name	Programming 1 lab		
	Type :	specialization		
	Course ID	GTEC 1104	Hours	1
	To introduce students to programming concepts and techniques using the Java language in a way appropriate for students without a programming background.			
Objective	<p>This course aims to enable the students:</p> <ul style="list-style-type: none"> • Implement simple applications of object-oriented programming using java language. • To develop more complex programs of object-oriented language. • To develop the basic syntax and semantics of the Java language and programming environment • To develop the concepts of classes and objects • To develop the primitive data types built into the Java language and the difference between variables of primitive types and variables of class types • To develop features of a strongly typed language: variable declaration and type compatibility checking • To be able to implement decisions using if statements • To be able to program loops with while, for and do statements • To be able to write simple graphics programs involving the drawing of basic shapes • To develop the basics needed for testing and debugging programs • To be able to use arrays and array lists and to learn about simple array algorithms 			
Outcomes	<p>Upon completion of course student should be able to:</p> <ul style="list-style-type: none"> • Analyze and explain the behavior of programs involving the fundamental program constructs • Write short programs that use the fundamental program constructs, including standard conditional and iterative control structures • Write short programs that use arrays or array lists • Design and implement a class based on attributes and behaviors of objects • Construct objects using a class and activate methods on them • Use static and instance members of a class properly • Write javadoc comments for classes and methods 			
Year 1 Term 2	Course Name	Digital Logic Design		
	Type :	Specialization		
	Course ID	GTEC 1306	Hours	3
	This course cover information representation . number systems, operations and codes. logic gates. Boolean algebra. Function of Combinational logic such as, decoders, encoder, multiplexers, flip flop, timers ,counter. that will give student to understand and make some circuit in computers.			
Objective	<ul style="list-style-type: none"> • To Perform arithmetic operations in many number systems. • To Simplify the Boolean expressions. • To Analyze and design various combinational logic circuits. • To Understand the basic functions of Combinational logic. 			

Outcomes	Upon completion of this course the student should be able to: <ul style="list-style-type: none"> • Understand the Digital Systems basic concepts . • Understand the computer logic • qualify the student to understand the logic of programming. 			
Year 1 Term 2	Course Name	Management Information Systems		
	Type :	Specialization		
	Course ID	TMIS 1302	Hours	3
Disc	The course will be directed to provide broad introductory understanding of information systems employed to achieve the corporate objectives. The state-of-the-art technologies that will contribute towards the future development of IT systems and applications will also be introduced. In addition, the course describes how real global businesses use technology and information systems to increase their profitability, gain market share, improve their customer service, and manage their daily operations.			
Objective	- To become better-informed users, use of information systems and technology.			
Outcomes	- To know the Competitive Advantage and Strategic Information Systems			
	- To contributing to successful planning, design, development, implementation and management of IT systems.			
	- To know the importance of Data management.			
Outcomes	- To Know the various types of computer-based information systems in an organization			
	- To know the importance of web and Network Applications			
	By the end of this course students should be able to: <ul style="list-style-type: none"> • Use information systems in decision-making. • Demonstrate an understanding of the MIS functional area and its integration with other areas. • Apply data processing, management information systems, and decision support systems. 			
Year 2	Course Name	Educational Research Methods and Applied Statistics		

Term 1	Type :	College		
	Course ID	TECH 2205	Hours	2
Disc	This course will provide an opportunity for students to establish or advance their understanding of research through critical exploration of research language, ethics, and approaches. The course introduces the language of research, contents of research papers, ethical principles and challenges, and the elements of the research process within quantitative, qualitative, and mixed methods approaches. Students will use these theoretical underpinnings to begin to critically review literature relevant to their field or interests and determine how research findings are useful in forming their understanding of their work. This course has a lab of applied statistics to do research questionnaire and conduct research results.			
Objective	<p>The goals is to enable the students to:</p> <ol style="list-style-type: none"> 1. Understand research terminology. 2. Understand the process of conducting a scientific research. 3. Demonstrate the skills of conducting a literature review 4. Recognize the advantages of various quantitative and qualitative research methods. 5. Recognize ethical issues that arise in conducting research. 6. Develop a reasonable research proposal 			
Outcomes	<p>Student should be able understand the research types and its process.</p> <p>Student should be able to write a research proposal for the graduate research.</p>			
Year 2 Term 1	Course Name	Database Management		
	Type :	Specialization		
	Course ID	GTEC 2301	Hours	3
Disc	This course introduces the fundamentals of the database management systems. The entity-relationship model. Relational, network, and hierarchical models. Relational algebra and relational calculus. Relational query languages (QUEL, SQL). Database System physical data organization. Design theory for relational databases. Concurrency control.			
Objective	<p>The goals are:</p> <ul style="list-style-type: none"> • To provide students a clear and complete description about the characteristics of Database systems. • To understanding data modeling and database design. • To understand the languages and facilities provided by database systems. • To understand the implementation of database systems. 			
Outcomes	<p>A- Knowledge and Understanding:</p> <ul style="list-style-type: none"> • Be able to understand the principles and techniques of a number of research areas such as databases, DSS, information management, project engagement, data mining. • Be able to design a database as free-standing applications. • Be able to invoke the database applications with the World-Wide Web browser. <p>B- Intellectual:</p> <ul style="list-style-type: none"> • Be able to contribute in design and implement software systems in the field of 			

	<p>decision making and strategic planning.</p> <ul style="list-style-type: none"> • Be able to design a database as free-standing applications. • Be able to invoke the database applications with the World-Wide Web browser. <p>C- Practical:</p> <ul style="list-style-type: none"> • Be able to design a database as free-standing applications. • Be able to invoke the database applications with the World-Wide Web browser 			
Year 2 Term 1	Course Name	Database Management - Lab		
	Type :	Specialization		
	Course ID	GTEC 2103	Hours	1
Disc	This course implements the fundamentals of the database management systems. Apply structural query language SQL to create tables and apply the relations between them. In addition, students should use Oracle 10g to develop projects with Graphical User Interface and setup applications.			
Objective	<p>This course aims to:</p> <ul style="list-style-type: none"> • Enable the students create simple database and apply SQL using MySQL program. • To implement database systems. <p>To develop a complete project using Oracle applying DBMS principles.</p>			
Outcomes	<p>After completion of this course the students will:</p> <ul style="list-style-type: none"> • Be able to design a database as free-standing applications. <p>Develop a complete project within a team.</p>			
Year 2 Term 1	Course Name	Data Communication and Computer Networks		
	Type :	Specialization		
	Course ID	GTEC 2305	Hours	3
Disc	The course will present data communications fundamentals and computer networking methods. Design and Evaluation of computer networks using current trends in hardware and software. Data communication basic concepts , layered network models is studied.			
Objective	<ol style="list-style-type: none"> 1. Introduce fundamentals of data and computer communications. 2. Provide the student with a conceptual foundation for the study of data communications using the open system interconnection (OSI) layered architecture model. 3. Understand the Internet protocol. 			
Outcomes	<ul style="list-style-type: none"> - Ability to analyses and Design the networks; - An ability to determine the protocol; - An ability to create Subnating for networks. 			
Year 2 Term 1	Course Name	Data communication and computer Networks - lab		
	Type :	Specialization		
	Course ID	GTEC 2107	Hours	1
Disc	This course emphasizes aspects of networking, Subnetting (VLSM) IP addressing and routing in implementing scalable and highly performance Cisco routers that are connected to LANs, WANs,			


	IPv4 and IPv6. The headlines in the application of the course on the program Packet Tracer .			
Objective	<ul style="list-style-type: none"> Planning subnetting a medium-sized LAN with multiple switches, supporting VLANs, trunking, and spanning tree; Troubleshooting IP connectivity (IPv4 and IPv6). -Static Routing Configuring and troubleshooting RIPv1, RIPv2, EIGRP and OSPF (IPv4 and IPv6); - Dynamic Routing. Configuring devices for SNMP, Syslog, and NetFlow access. 			
Outcomes	<ul style="list-style-type: none"> Create Subnetting IP address for network Implementing Cisco IP Routing; Implementing Cisco IP Switched Networks. Analyses and Design the network. 			
Year 2 Term 1	Course Name	Programming II		
	Type :	Specialization		
	Course ID	GTEC 2309	Hours	3
Disc	A continuation of the course Programming I .This course introduces the object-oriented programming concepts, principles, and techniques, including classes, objects, inheritance, and polymorphism. All these concepts are illustrated via a contemporary object-oriented programming language.			
Objective	The main objectives are to enable students to: <ul style="list-style-type: none"> Understand the object-oriented programming principles and techniques. Understand classes and the relation between them. Use an object-oriented Programming language to develop rather complex programs. 			
Outcomes	<ul style="list-style-type: none"> Describe the principles of object-oriented programming Apply the concepts of data encapsulation, inheritance, and polymorphism to large-scale software Acquire the concepts of Graphical User Interfaces Develop object-oriented computer programs Develop programs with Graphical User Interfaces capabilities Formulate problems as steps so as to be solved systematically Develop software with team-work in mind 			
Year 2 Term 1	Course Name	Programming II Lab		
	Type :	specialization		
	Course ID	GTEC 2111	Hours	1

Disc	A continuation of the course Programming I .This course introduces the implementation of the object-oriented programming concepts, principles, and techniques which encompasses classes, objects, inheritance, and polymorphism. All these concepts are illustrated via Java Programming language.			
Objective	This course aims to enable the students: <ul style="list-style-type: none"> Implement simple applications of object-oriented programming using java language. To develop more complex programs of object-oriented language.			
Outcomes	Upon completion of course student should be able to: <ul style="list-style-type: none"> Practice the principles of object-oriented programming Apply the concepts of data encapsulation, inheritance, and polymorphism to large-scale software Acquire the concepts of Graphical User Interfaces Design and develop object-oriented computer programs Design and develop programs with Graphical User Interfaces capabilities Formulate problems as steps so as to be solved systematically Develop software with team-work in mind			
Year 2	Course Name	Ethics For IT		
Term 2	Type :	College		
	Course ID	TECH 2106	Hours	1
Disc	This course concerns with the ethical dilemmas that exist where human beings, information objects, and social computing technologies interact. The course will stress ethical decision-making as well as legal and social responsibility in connection with technology-related concerns. Issues such as security, crime, privacy and intellectual property will be examined in the context of computer use.			
Objective	The main goals are to: <ul style="list-style-type: none"> give a fuller, richer, deeper understanding of the social impact of computers and the ethical issues in human activities affected by computers. prepare the student for living in a computerized world and perhaps working as a professional in the computing field. improve students' presentation, debating and writing skills 			
Outcomes	After successful completion of this course: <ul style="list-style-type: none"> Students will understand many of the key ethical, legal and social issues related to information technology and how to interpret and comply with ethical principles, laws, regulations and institutional policies. Students will understand the essential issues related to information security, how to take precautions and use techniques and tools to defend against computer crimes. 			
Year 2	Course Name	Data Structures & Algorithms Analysis		
Term 2	Type :	Specialization		
	Course ID	GTEC 2308	Hours	3
Disc	This course covers the basics of algorithms, focusing on the themes of efficient algorithms. The course emphasizes the following topics: algorithm analysis , data structures, abstract			

	data types, recursive methods, sorting and searching, and problem-solving strategies.		
Objective	The goals of this course are to enable the students to: <ul style="list-style-type: none"> Understand algorithms and data structures and associated design and analysis techniques. pay attention on the design of the program structure that is correct, efficient in both time and space utilization. Practice various data structures. Understand problem solving strategies. 		
Outcomes	After successful completion of this course, students will be able to: <ul style="list-style-type: none"> Present the concepts of stacks, queues, abstract data types, pointer, recursion, list and tree. Understand Sorting. Write programs which apply these concepts. analyze the efficiency of various techniques work in team on a project in the lab 		
Year 2 Term 2	Course Name	Data Structures & Algorithms Analysis LAB	
	Type :	Specialization	
	Course ID	GTEC 2110	Course ID 1
Disc	This course is to apply and implement the main data structure techniques using java language. Topics includes arrays, stacks, queues, recursion, linked lists, trees, searching and sorting.		
Objective	This course aims to enable the students: <ul style="list-style-type: none"> To implement practical applications of object-oriented programming using java language. To implement arrays and linked lists and perform the basic operations (inserting, deleting, sorting, rearranging, and modifying) To implement applications using stacks and queues. To develop more complex programs using trees.		
Outcomes	Upon completion of course student should be able to: <ul style="list-style-type: none"> Practice the principles different data structures. Apply the concepts of data structures in simple projects. Design and develop object-oriented computer programs using trees. Implements the ideas of searching and sorting in deferent data structures. Develop software with team-work in mind		
Year 2 Term 2	Course Name	Systems Analysis & Design	
	Type :	Specialization	
	Course ID	GTEC 2312	Hours 3
Disc	This course covers the main concepts about analysis and design of information systems. Systems analysis includes the documentation of the system using such tools as dataflow diagrams and use cases. It focuses on gathering user needs and analyzing them then translate those needs into diagrams using Unified Modeling Language (UML) diagrams. The systems development life cycle is a vital tool, and object-oriented technologies are introduced and integrated throughout the course.		
Objective	The goals of this course are to enable the students to:		

	<ul style="list-style-type: none"> • Prepare and use various information gathering techniques of eliciting user information requirements and system expectations. • interpret user needs into diagrams using UML diagrams. • Understand different methodologies for system development and learn how to choose one of them for implementation. • improve their writing skills via documenting user needs and modeling it. • Communicate effectively, in both written and oral forms by documenting systems specifications and presenting them and to be persuasive in this presentation. 			
Outcomes	<p>Knowledge: -the student will gain an understanding of the following as they apply to computer information systems:</p> <ul style="list-style-type: none"> •The historical and theoretical foundations and concepts of System Development techniques. •Comprehend the fundamentals of three development methodologies •Concepts and theory gained through the textbook by solving simulated system development tasks and projects. •Develop an integrated perspective of the complex human and technical interactions in the system development process as well as the approaches, tactics, and tools. •Gain a deeper understanding and appreciation for the complexities, organizational requirements, and approaches necessary for success in all aspects of the development of information systems projects. <p>Skills: the student will demonstrate proficiency in the use of the following as they relate to computer information systems:</p> <ul style="list-style-type: none"> •An understanding of all the steps of the System Development Life Cycle and the procedures, skills, and tools that comprise them. •Presentation skills through the demonstration of outcomes of system development projects. •Common tools and techniques used in professional system development and design 			
Year 2 Term 2	Course Name	Information Retrieval		
	Type :	College Elective 2		
	Course ID	TECH 2304B	Hours	3
Disc	This course introduces the basic techniques for text-based information systems: efficient text indexing; Boolean and vector space retrieval models; evaluation and interface issues; Web search including crawling, link-based algorithms, and Web metadata; text/Web clustering, classification; text mining. This course has a lab where the student will apply the studied techniques and do a project.			
Objective	The main objective of this course is to provide the most fundamental knowledge about the			

	Information Retrieval and its techniques.
Outcomes	<p>Upon completion of the course, the student will be able to:</p> <ul style="list-style-type: none"> • Understand the principles of information storage and retrieval systems and database • Understand how effective information search and retrieval is interrelated with the organization and description information to be retrieved • Use a set of tools and procedures for organizing information • Become familiar with the techniques involved in conducting effective searches of print and online information resources

				
Year 3 Term 1	Course Name	Software Engineering		
	Type :	Specialization		
	Course ID	GTEC 3313	Hours	3

Disc	This course introduces the main principles of software engineering And software methodologies, requirements and modeling. It includes software Quality, system analysis, de requirements; data collection, analysis, organization and documentation; feasibility analysis, maintenance and security issues.
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Objective	<ul style="list-style-type: none"> - Developing an in-depth understanding of software engineering concepts, processes, methods, techniques, and tools - Understanding software processes, process models (prescriptive and agile) - Mastering software engineering practice
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Outcomes	<p>Upon successful completion of this course, the student will be able to:</p> <ul style="list-style-type: none"> - Appreciate the need for software engineering and the role it plays in information systems development and maintenance - Understand and use various prescriptive software process models - Understand and use Agile methodologies and show their differences from prescriptive methodologies - Conduct and manage software projects using appropriate software engineering practice - List and describe new and hot research topics in the field of software engineering
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Year 3 Term 1	Course Name	Principles of Accounting		
	Type :	specialization		
	Course ID	TMIS 3301	Hours	3

Disc	This is the First course in a sequence of courses dealing with the profession and practice of accounting. This includes the concept of accounting, accounting principles, ethics and assumptions, accounting equation, recording, posting and summarizing and communication of financial information related to business transactions, based in double
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	entry system under both perpetual and periodic system. The measurement of business income (revenues and expenses) and financial position (assets, liabilities and equities), completion of accounting cycle and preparing basic financial statements. Emphasis is placed on financial reporting for decision-makers inside the organization according to IFRS.			
Objective	<ol style="list-style-type: none"> 1. To know the accounting concept, accounting equation, principles, assumptions and ethics, and the double entry system approach. 2. To know how to journalize transactions, posting them to the ledger and realizing the book keeping process for merchandising, service and industrial transactions under perpetual and periodic Inventory system. 3. To know how to prepare trial balance. 4. To know how to adjust accounts and to prepare adjusted trial balance 5. To know how to complete the steps of accounting cycle. 6. To know how to prepare basic financial statements (Income Statement, Income Summary and Financial Position Statement) 			
Outcomes	<p><i>Upon completion of this course, the student should be able to:</i></p> <ol style="list-style-type: none"> 1. Understand the nature and purpose of accounting. 2. Understand accounting main assumptions and principles and accounting equation 3. Classify accounts and use double entry system 4. Journalize transaction according to perpetual and periodic systems 5. Posting transactions from journal to ledger and prepare Trial Balance 6. Making the necessary adjustments for revenues and expenses to measure the income of the period and preparing the adjusted Trial Balance 7. Complete the accounting Cycle and closing entries 8. Prepare basic financial Statements 			
Year 3 Term 1	Course Name	Business Process Management		
	Type :	specialization		
	Course ID	TMIS 3303	Hours	3
Disc	This course integrates core concepts from Management Information System (MIS) with those of Operations Management (OM) and introduces a process-oriented view of the flows of materials, information, products and services through and across organizational functions. All organizations must carefully analyze and document their business processes and must continuously assess the efficiency and effectiveness of these processes to minimize cost and maximize value creation. The course helps students identify information-bearing events, assess and improve process efficiency, learn to model and analyze business processes, and understand the interactions between human behavior and process design.			

	Hands-on, case-based assignments allow students to practice some of the principles addressed.			
Objective	This course aims to enable the students to:			
Outcomes	<p>After completion of this course the student should be able to:</p> <ul style="list-style-type: none"> • Model simple business processes in terms of people, and activity sequences involved, the data and materials flowing through those sequences and the dependencies between business information and operational activities. • Assess the documented business processes using their key operations characteristics; <i>e.g.</i>, efficiency, intended service quality, process flexibility and costs associated with delays, material low volume and level of service or product customization. • Relate the characteristics of a business process with the process' behavior through simulation. • Diagnose problems of and formulate improvements to observed processes and estimate the effects of these improvements in terms of the above process metrics. • Express and explain the concept of business process management (BPM) and its relationships with total quality management (TQM), business process reengineering (BPR) and enterprise resource planning (ERP). 			
Year 3 Term 1	Course Name	Web Programming		
	Type :	specialization		
	Course ID	TMIS 3305	Hours	3
Disc	<p>This course covers the most current tools available for developing Hyper Text Markup Language (HTML) documents and posting pages on the World Wide Web. Students will learn the semantics of a web page and how to abstract information in a universal form on the web with HTML5. They will learn how to make things "pretty" and presentable using CSS3. And interactivity and user-personalization will be added using JavaScript and an appropriate web programming language (PHP or ASP). This course requires the student to build at least one major website design that interacts with a database.</p>			
Objective	<p>This course aims to enable the students to:</p> <ul style="list-style-type: none"> • Learn essential skills for creating a website. • Understand how to build layouts that use properly formed HTML and CSS. • Create dynamic web sites that include client-side and server-side scripting. • Connect the website with a database using an appropriate web programming language. 			
Outcomes	<p>After completion of this course the students will be able to:</p> <ol style="list-style-type: none"> 1. design and programming Web sites 2. build Web sites dynamic effectively 3. Build site using various applications such as Google Site 4. Learn how to build Blog 5. Learn how publishing and editing news and announcements and add various topics 			

	about media			
Year 3 Term 1	Course Name	Accounting Information Systems		
	Type :	specialization		
	Course ID	TMIS 3207	Hours	3
Disc	<p>This course aims at helping students to learn accounting systems concepts and applications. It includes a general view of AIS and its environment and components. Accounting cycles, review of the recent information technology, and the control & development process of AIS. Accounting Information Systems is concerned with the way computerized information systems impact how accounting data is captured, processed, and communicated. The accounting information system is at the heart of a company's enterprise systems. This course offers a focused look at accounting information systems as part of enterprise resource planning systems. It includes consideration of issues such as transaction processing and transaction processing cycles, the use and effects of computers and other relevant technology on accounting, database and file systems, internal controls.</p>			
Objective	<ul style="list-style-type: none"> • Explores, in detail, several typical AIS application subsystems, such as revenue, payment, payroll, and production cycles. • The role of accounting information, business processes, system mapping and documentation, transaction cycles, business environment and the control of risk. • Develop skills that will enable graduates to critically analyze and evaluate the existing AIS and propose control procedures that are appropriate and sensible. 			
Outcomes	<p>By the end of this course it is expected that the student will be able to:</p> <ol style="list-style-type: none"> 1. Understanding of how information systems, particularly accounting information systems, can assist in attaining organizational objectives, and how they can improve planning and control at all levels of the organization. 2. Understanding the technical nature of (and interrelations between) physical resource flows, source documentation, financial flows, internal controls, accounting information procedures, and management control systems for both manual and computerized accounting information systems; 3. Understand the business processes and accounting cycles: how accounting transactions are initiated, processed and recorded and the operational and information functions of several major AIS subsystems, how these subsystems interface with one another, and the principle inputs, processes, files and outputs associated with these subsystems. 4. Document and/or interpret a system using flow charts and assess the differences between computerized processing systems and manual systems; 			
Year 3 Term 2	Course Name	Operating Systems		
	Type :	specialization		
	Course ID	GTEC 3314	Hours	3

Disc	This course addresses the history of operating systems, the important role of operating systems in the computer. Scheduled functions and components of operating systems such as memory management, organization, CPU control. Algorithms of Scheduling and managing operating systems components. It provides a brief discussion about mobile devices and operating advantages for personal computer operating systems. The practical part of the course is interested in studying the Linux operating system as an environment to run and work platform for personal computers and large servers.			
Objective	<ul style="list-style-type: none"> To provide a basic, but essential, course on computer operating systems to junior CS and senior MIS undergraduate students. To provide discussions of fundamental O/S concepts that are applicable to a variety of popular systems like Microsoft Windows, Unix, MacOS, DOS, and others. To apply theories and concepts discussed in class through group projects. Define, explain, and apply introductory operating systems concepts: process management, inter-process communication, memory management, I/O systems, file systems, and the like Use the UNIX operating system interface to implement a user-level shell in the C language Design and implement a correct concurrent program requiring synchronization Gain experience in implementing and debugging operating system components, including the kernel module, system call, synchronization primitives, and the file system 			
Outcomes	You will have an opportunity to learn a lot of practical information about how programming languages, operating systems, and architectures interact and how to use each effectively. This course is the first time you will learn about how concurrency and distributed systems communicate and work correctly. This knowledge will help you to more effectively use and manipulate computers and computer programs. I have designed the written and programming assignments to build on and enhance the lectures. You will hear the concepts in lecture, read them in the book, analyze them in the written homework, and put them in practice in the programming assignments.			
Year 3 Term 2	Course Name	Operating Systems- Lab		
	Type :	specialization		
	Course ID	GTEC 3116	Hours	1
Disc	This course is designed to equip students, who have a particular interest in becoming practitioners, with a substantial hands-on experience in solving concrete problems in a computer operating system, via programming, in a laboratory intensive course. Students experiment with many topics in the areas of operating systems and network protocols, including but not limited to: boot loaders, shell, process scheduler, file system, virtual memory, network protocols and packet filtering and manipulation, and device drivers.			
Objective	<ul style="list-style-type: none"> To develop conceptual understanding of UNIX commands and UNIX Shell programming. To provide a practical exposure of all algorithms and behavior of processes in the 			

	<p>system with respect to all its timings.</p> <ul style="list-style-type: none"> To develop understanding about signal, inter-process communication and semaphore. 			
Outcomes	<ul style="list-style-type: none"> Apply appropriate instruments and/or software tools and handle them carefully and safely to make measurements of physical quantities or perform data analysis. Identify the strength and limitations of theoretical models and establish a relationship between measured data and underlying physical principles. Specify appropriate equipment and procedures/algorithms, implement these procedures/algorithms, analyze and interpret the resulting data. <p>Design and build a software/hardware part to meet desired specifications and tests it using appropriate testing strategy and/or equipment.</p>			
Year 3 Term 2	Course Name	IT Security and risk management		
	Type :	specialization		
	Course ID	GTEC 3318	Hours	3
Disc	<p>This course is to make students familiar with the basic concepts of risk management information systems security ISSRM. Explore the latest techniques for securing information and its systems, from policies and procedures to technologies and audit. Also it provides students with different techniques for security risk management. Ability to perform full activities security risk.</p>			
Objective	<ul style="list-style-type: none"> Analyze internal and external threats to proactively prevent information attacks. Learn how to do security risk management and designed secure system. Deal with methods impacts the performance of any information system. Learn how to define the security problems. Study a wide spectrum of different issues where we can protect our information systems. Deal with tools of risk and perform risk management strategies. 			
Outcomes	<p>Upon successful completion of this course, students will be able to:</p> <ul style="list-style-type: none"> Understand the basic concepts of the risk information security; Understand a variety of generic security threats and vulnerabilities, and identify and analyze particular security problems for a given application. Understand risk management tools and methods. 			
Year 3 Term 2	Course Name	Intelligent Systems & DSS		
	Type :	specialization		
	Course ID	TMIS 3308	Hours	3
Disc	<p>This module tends to give the student the concepts and applications of the decision support system, including type of decisions, type of decision makers, modeling decisions, decisions within organizations, rule based expert systems, and simulation as a DSS application. This module also covers practical issues in DSS such as using Integer and Linear Programming as applications of modeling and solving choices and uncertainties of real world decision problems.</p>			

Objective	<ol style="list-style-type: none">1. To provide students with the main concepts of Decision Support System (DSS) and management sciences2. To study the components of DSS and the main players who participate in the decision process3. To study management science models especially linear and integer programming, network and decision tree4. To explain key areas contributing to DSS such as knowledge acquisition, expert system and knowledge base systems5. To study group decision support and groupware technologies within organizations6. The student should be able to use the different problems using QM program and Excel7. The students should be able to utilize statistical tools, and AI techniques especially knowledge base and expert system techniques related to DSSs.8. The student should be able to demonstrate his ability to design computer based decision support systems and design appropriate solutions for different problems.			
Outcomes	<ol style="list-style-type: none">1. The student should be able to identify the role of information systems in DSSs.2. The students should be able to explain the role of managers and individuals in the process of deriving decisions within IT organizations3. The students should be able to design and formulate management problems using DSSs models.4. The students should be able to apply linear and integer programming techniques for scheduling and optimization problems that require decision making using MSEXCEL and QM.			
Year 3	Course Name	Strategic Management		
Term 2	Type :	specialization		
	Course ID	TMIS 3306	Hours	3
Disc	<p>This is a capstone course designed to expose students to strategic perspectives on issues of concern to the organization. The course draws on and integrates concepts from different areas (e.g. accounting ethics, finance, information systems, law, marketing, and management) in the analysis and resolution of complex business situations. In addition to internal integration, the course also addresses the processes by which firms choose, maintain or redirect their strategic positions within ever-changing external environments. Strategic Management provides students with a realistic, comprehensive, and highly effective approach to strategic management. Students will learn how to use the resource-based view to develop competitive advantage through the acquisition, development and management of resources. This course aims at providing students with critical skills necessary for long-term management. To this end, the course will train students on how to analyze environmental data related to long- term planning. Finally, the course will teach students the necessary skills needed for the analysis of cases and decision-making in the light of results analysis.</p>			

Objective	<ol style="list-style-type: none"> 1. This course aims at providing students with critical skills necessary for long-term management 2. Acquaint the student with the significance of strategic management principles for organizations under International changes created by globalization conditions. 3. Acquaint the student with principles and techniques in setting the strategic plan and its control and implementation 4. To this end, the course will train students on how to analyze environmental data related to long- term planning 5. The course aims at providing students with modern management terminology 			
Outcomes	<ul style="list-style-type: none"> • Discuss the basics and philosophy of strategic management • Determine available opportunities and threats facing organizations • Apply strategic analysis tools to choose appropriate strategic alternatives • Apply strategic analysis tools to choose appropriate strategic alternatives. 			
Year 3	Course Name	Planning and Project Management		
Term 2	Type :	specialization		
	Course ID	TMIS 3304	Hours	3
Disc	<p>By weaving together theory and practice, this course presents an understandable, integrated view of the many concepts skills, tools, and techniques involved in Project Management. This course and its textbook provide up-to-date information on how good Project Management and effective use of tools and models can help in managing projects, especially IT Projects. This course covers topics such as Project Integration, Scope, Time, Cost, Risk management. Microsoft Project 2013, Green Project Management, and Human Resources management. Teaching approach include: lecture notes, case studies, group projects and guest speakers.</p>			
Objective	<ul style="list-style-type: none"> • The student should be able to Managing Information Technology Projects within an organizational context, including the processes related to Initiating • The student should be able to Planning • The student should be able to Executing • The student should be able to Controlling & Monitoring • The student should be able to Closing a project. 			
Outcomes	<p>On successful completion of this course, students should be able to:</p> <ol style="list-style-type: none"> 1. Understand the genesis of Project Management and its importance to improving the success of Information Technology projects; 2. Understand the <i>triple</i> constraints of Project Management: <i>Scope, Time, and Cost</i>; 3. Describe Project Management <i>knowledge Areas</i> and <i>Process Groups</i>; 4. Understand the Project Life-cycle: <i>Initiation, Planning, Executing, Controlling and Closing</i>; 5. Demonstrate knowledge of Project Management terms and techniques such as: <i>Project</i> 			

	<i>Selection Methods; Work Breakdown Structures; Network Diagrams, Critical Path Analysis, and Critical Chain Scheduling; Cost Estimates; Earned Value Management; Motivation Theory and Team Building.</i> 6. Apply Project Management Software (MS Project 2013) to help plan and manage Information Technology Projects.			
Year 4 Term 1	Course Name	Advanced Database		
	Type :	specialization Elective Course 1		
	Course ID	GTEC 4315A	Hours	3
Disc	The primary focus of this course is on Data Warehousing and its applications to business intelligence. The concentration will be on topics like: requirements gathering for data warehousing, data warehouse architecture, dimensional model design for data warehousing, physical database design for data warehousing, extracting, transforming, and loading strategies, introduction to business intelligence, design and development of business intelligence applications, expansion and support of a data warehouse.			
Objective	Enriching the students with knowledge and building their practical skills of Data Warehouse and Business Intelligence topics The course aims: <ul style="list-style-type: none"> • to teach the students the data warehouse concepts • to teach the students the differences between OLTP and OLAP • to teach the students how to analyze, design, and implement data warehouse projects • to teach the students how to link data warehouse repositories to business intelligence applications for generating statistical reports that help in supporting the decisions of the top managements 			
Outcomes	Upon successful completion of this course, the student will be able to: <ul style="list-style-type: none"> ▪ Gather requirements for data warehousing ▪ Explain data warehouse architecture ▪ Design a dimensional model for data warehousing ▪ Design a physical model for data warehousing ▪ Comprehend extract, transform and load strategies ▪ Identify Online Analytical Processing (OLAP) databases ▪ Design and develop business intelligence applications ▪ Expand and support a data warehouse 			
Year 4 Term 1	Course Name	Operations Research for IT		
	Type :	specialization		
	Course ID	TMIS 4319	Hours	3
Disc	Operations Research is a very important area of study, which tracks its roots to business applications. It combines the three broad disciplines of Mathematics, Computer Science, and Business Applications. This course will formally developed the ideas of developing, analyzing, and validating mathematical models for decision problems, and their systematic solution. The course will involve programming and mathematical analysis.			

Objective	<p>Upon completion of this course, the students will be able to:</p> <ul style="list-style-type: none"> Solve business problems and apply it's applications by using computer programming and mathematical analysis Develop the ideas of developing, analyzing, and validating mathematical models for decision problems, and their systematic solution Understand the main concepts of OR. 			
Outcomes	<ol style="list-style-type: none"> Linear and non Linear Programming Linear Programming: Graphical and Algebraic Solution Duality and Sensitivity analysis Transportation Model Integer and Dynamic Programming Ability to set up a cognitive schemes Discovery of the emotional aspects of learning Knowing how the brain works Be able to implement practical cases, by using TORA, Excel and Matlab. 			
Year 4 Term 1	Course Name	Human Resource Management		
	Type :	specialization		
	Course ID	TMIS 4315	Hours	3
Disc	<p>The course will contain the main topics of human resources management – the planning – organizing – leading and controlling to achieve the maximum efficiency and effectiveness to the most important resource in the organization. How to manage the relationships between the individuals for the benefit of the organization will be essential. This course is a critical look at organizations’ principles, methods and resources. Topics covered include strategic human resources development and management for effective employee training and education. It also discusses management issues on employment recruiting, testing, selection and placement, job evaluation, wage and salary administration, labor relations and communication, performance evaluation, benefits and services, discipline, motivation, morale, accident prevention and safety</p>			
Objective	<p>After covering this module, students should be able to:</p> <ol style="list-style-type: none"> Discuss the main activities & objectives of Human Resources Management (HRM) in the field of any organization Recruit employees Summarize the major responsibilities of all managers (planning, evaluation, training, development) Diagram the relationship among basic functions of HRM Explain the effect of equal employment laws on the role of human resources specialists Recommend solutions to shortages or surpluses of human resources 			
Outcomes	<ol style="list-style-type: none"> Upon successful completion of this module students will be able to: recognize the appropriate recruiting methods for finding and attracting different types of recruits, and explain the personnel department’s role in separation decisions. 			

	2. Distinguish between training and development of human resources			
Year 4 Term 1	Course Name	E- Business		
	Type :	specialization		
	Course ID	TMIS 4311	Hours	3
Disc	This course examines the linkage of organizational strategy and electronic methods of delivering products, services and exchanges in inter-organizational, national, and global environments. Information technology strategy and technological solutions for enabling effective business processes within and between organizations in a global environment are considered.			
Objective	This course aims to enhance the competitiveness of an organization by deploying innovative information and communication technology throughout an organization and beyond, through links to partners and customers.			
Outcomes	<ul style="list-style-type: none"> • Understanding of the changes in the business environment enabled by modern information and communication technologies • Understanding how e-business systems are linked to the organizational environment and how they affect and are affected by the context in which they are built. • Have a skills for how design technology and communications ways for publishing business • Have an introduction to the technical architecture and the detailed technology solutions that are required to implement reliable and efficient e-business solutions. 			
Year 4 Term 1	Course Name	E- Business LAB		
	Type :	specialization		
	Course ID	TMIS 4113	Hours	1
Disc	<p>This course examines the linkage of organizational strategy and electronic methods of delivering products, services and exchanges in inter-organizational, national, and global environments.</p> <p>There is a plication for students known as (Open card), where the student through site design to the idea of a specific project is documented during the first document and then begin the design in accordance with the applicable rules.</p>			
Objective	<ul style="list-style-type: none"> • To understand the research principles and concept. <p>To understand the research components.</p>			
Outcomes	<ul style="list-style-type: none"> • To understandhow to write a document proper form during the sequential units. <p>To understand how to deal with the program Open card .</p>			
Year 4 Term 1	Course Name	Knowledge and data Engineering		
	Type :	specialization		
	Course ID	TMIS 4309	Hours	3
Disc	This course delivers techniques and tools for making Knowledge Management happen in an organization. Thoroughly revised to reflect today's latest tools, technologies, and best practices, this hands-on guide walks students through the development of a state-of-the-art enterprise Knowledge Management Platform that can leverage a company's existing investments in intranets, data warehousing, data mining, groupware, and other technologies.			

Objective	In this course, students will be introduced to thorough concepts on the implementation of knowledge management in an organization.			
Outcomes	At the end of this course, students will be able to analyze and implement the use Knowledge Management to make sure that every decision is fully informed as they build intranets, data warehouses and project management investments.			
Year 4 Term 2	Course Name	Enterprise Resources Planning system		
	Type :	specialization		
	Course ID	TMIS 4316	Hours	3
Disc	<p>This course examines the evolution of enterprise systems. and the types of issues that managers will need to consider in implementing cross-functional integrated enterprise systems. We will examine the general nature of enterprise computing, re-engineering principles and the foundations of enterprise information architectures.</p> <p>The course provides an overview of the planning and control systems used by manufacturing companies to manage their supply chains within a context of an ERP system.</p>			
Objective	<p>The primary objectives of the course is to analyze, design and propose IT solutions for the integration of business process throughout the enterprise through the following sub objectives :</p> <ul style="list-style-type: none"> • Introduce the student to the rationale for acquiring and implementing ERP systems, selection of ERP software, and integration of processes and transactions in the ERP system. • Enable the student to understand the challenges associated with the successful implementation of Supply Chain ERP software with an emphasis on leadership and managerial implications/actions and generating business value for the firm. • Develop the student's organizational and analytical skills through the use of business cases studies, articles and working in teams. • Learn principles of leading very large change initiatives by focusing on the rational and emotional aspects of organizational transformation. • Enable the student to practice critical leadership thinking, tolerance of ambiguity, communication and interpersonal skills, creativity and general business instincts. 			
Outcomes	<p>After successful completion of this course, students will be able to:</p> <ul style="list-style-type: none"> • Differentiate between a business process and a business function • Define integrated information systems, and explain why they are essential in today's globally competitive business environment design; • Identify the factors that led to the development of Enterprise Resource Planning (ERP) systems • Describe the benefits of customer relationship management (CRM) software • Explain how a structured supply chain management planning process enhances efficiency and decision making • Outline the accounting and management-reporting benefits that accrue from having an ERP system • Explain why the role of the human resources department is critical to the success of a company • Discuss the key issues in managing an ERP implementation project • Describe cloud computing and why it is becoming important for ERP providers 			

Year 4 Term 2	Course Name	E-documents and Records management		
	Type :	specialization		
	Course ID	TMIS 4312	Hours	3
Disc	This course discusses the electronic document management issues such as the components, processes, and systems. The course will cover these topics and issues: Documents computing: e-documents management technologies; Appropriate processing for creating; Accessing and publishing documents; Descriptions of the nature of documents; Their components and structure; and How they can be represented; how documents are used and controlled.			
Objective	<ul style="list-style-type: none"> To understand the principles and the of electronic document management. To understand the principles and the concepts of the security of electronic document management systems and identify the security levels. To understand the components of electronic document management systems. To understand the process to create electronic document management systems To define the components of electronic document management systems practically 			
Outcomes	<ul style="list-style-type: none"> To understand the principles and the of electronic document management. To understand the principles and the concepts of the security of electronic document management systems and identify the security levels. To understand the components of electronic document management systems. To understand the process to create electronic document management systems. To define the components of electronic document management systems practically. To be able to identify the needs of establishing electronic document management systems. To be able to identify the privacy and security levels for electronic document management systems. The student will manipulate with the various electronic document management systems. Use the software of electronic document management systems for business need. Student will use the electronic document management systems practically. Student will build an electronic document management system for special purpose 			
Year 4 Term 2	Course Name	IT Audit and Control		
	Type :	specialization		
	Course ID	TMIS 4314	Hours	3
Disc	This course presents information systems audit and control concepts and management practices. As business continues towards a more substantial reliance upon the capabilities of information systems, it becomes increasingly important for auditors to understand information systems and how they relate to financial and general organizational controls. Upon completion of this course students will be able to conduct audits of information systems. This course presumes prior exposure to general audit concepts and a general knowledge of information systems.			

Objective	<ul style="list-style-type: none"> • Understand the role of the IS auditor and the IS audit function. • Understand the purpose of controls in an information systems environment. • Learn how access to systems, resources, and data can be controlled. • Assess the design, placement, and quality of controls. • Understand some of the basic theory underlying computer security policies, models, and problems. Learn models for dealing with risk. • Understand the basic issues in auditing computer security policies and mechanisms. 			
Outcomes	Deal with the ins and outs of constantly changing information technology environments Deal with overall success of audit as a function in every industry.			
	Course Name	(Advanced Network) / Computer Network Security		
	Type :	specialization Elective course2		
	Course ID	GTEC 4320B	Hours	3
Disc	The course will give you knowledge of secure network infrastructure, understanding core security concepts, managing secure access, VPN encryption, firewalls, intrusion prevention, web and email content security, and endpoint security. This course validates skills for installation, troubleshooting, and monitoring of a secure network to maintain integrity, confidentiality, and availability of data and devices.			
Objective	<ul style="list-style-type: none"> • Describe common network security concepts; • Secure routing and switching infrastructure; • Deploy basic authentication, authorization and accounting services; • Deploy basic firewalling services 			
Outcomes	Upon successful completion of this course, students will be able to: Implementing Cisco Network Security			