

BS - Information Technology Program Handbook



DEPARTMENT OF INFORMATION TECHNOLOGY & SECURITY
College of Computer Science & Information Technology
JAZAN UNIVERSITY

رؤية
VISION
2030
المملكة العربية السعودية
KINGDOM OF SAUDI ARABIA

P.O. Box 114 Jazan, KSA
Postal Code 45142, Jazan, Saudi Arabia
Tel: 073230029, 073230028 | Fax: 073211052



Table of Contents:

MESSAGE FROM THE DEAN OF THE COLLEGE	3	Program required – Core Courses	11
MESSAGE FROM THE HEAD OF THE DEPARTMENT	4	Program required – Elective Courses	12
ABOUT THE COLLEGE	5	Semester wise Study Plan	13
History	5	Course Descriptions – Core & Elective Courses	14
Vision	5	FACULTY MEMBERS	20
Mission	5	Male Faculty Members	20
DEPARTMENT OF INFORMATION TECHNOLOGY & SECURITY	6	Female Faculty Members	22
About the Department	6	STUDENT ASSESSMENTS	24
Chronological order of Head of the Departments	6	Student Assessment Schemes	24
BS INFORMATION TECHNOLOGY PROGRAM	7	Grade Point Average (GPA) Calculation	25
Reason for Program Establishment	7	STUDENT AFFAIRS & ACADEMIC ADVISING	26
Program Vision	8	TRAINING OPPORTUNITIES	27
Program Mission	8	COLLEGE FACILITIES	28
Strategic Directions	8	FEMALE CAMPUSES	32
Program Goals	8	ADMISSION & REGISTRATION	33
Program Educational Objectives (PEOs)	9		
Program Learning Outcomes (PLOs)	9		
IT Degree Plan	10		
University Required Courses	10		
College Required Courses	10		
Program required – General Courses	10		



Message from the Dean:



Production in the old economy was based on three main factors: land, labor and capital while the new economy depends solely on the technical knowledge, creativity, intelligence and information. And also intelligence embodied in the computer and technology programs across a wide range of products have become more important than capital, materials or labor. The United Nations estimates that knowledge economies now account for 7% of global GDP and growing at 10% per annum. It is worth mentioning that 50% of productivity growth in the EU is a direct result of the use and production of information and communication technology. And the economies of knowledge depend on the availability of information and communication technologies and the use of innovation and digitization. Our country's granular began to shift to the economy built on knowledge which will increase the national revenue. The quality and quantity of this transformation is accompanied by providing different programs as a College of Computer Science and Information Systems at the University of Jazan so as to achieve considerable IT knowledge base in the country. With this broad objective the college is working to make a quantum leap in teaching methods, curriculum review and enhancing student support to learn the latest technologies and the newest ways to build a generation capable of achieving the plans and methodologies for the transition to the knowledge economy for economic productivity and competitiveness. As a part of this mission, our college strives to provide knowledgeable, skilled and creative personal capable of incorporating new technologies in practice. The growing need to integrate information and communication technology and creative skills are being adopted through program curricula for progressive learning. By this way we are working with the ambition to achieve technical acceleration and rehabilitation of the students to be ready to meet the labour market demands.

Dr. BASSEM IBRAHIM ABU MESMAR

Dean - Faculty of Computer Science and Information Technology



Message from the Head of the Department:



Specialization like Information Systems and Technology is to mould the students to provide effective technical solutions of the problems that might hinder the organizations, as well as to help them meet their needs and achieve its objectives effectively. It gives technical solution for the firms to deal with their day to day needs. Having information systems is essential to keep track of the firm's database and information which will facilitate decision making process. Our university and the college have sensed the requirements in the field of information systems in the kingdom. Widespread job requirements reported over the years by various public and private firms as business analyst, data architect, database developer and administrator, web engineers, it project manager, system analysts & designer, it & security manager, it & security auditor, system and network security advisors, cyber security specialist, system administrator and datacentre supervisor. Students are being groomed to equip themselves for both technical and managerial positions. In fact, information systems specialist plays a vital role in determining the IT requirements of an organization including identifying, designing and implementation of such systems. The department, in line with the vision, mission, and goals of the college, is working on preparing distinctive competencies in the field of design and development of information systems to supply the market with its needs of developers of systems of smart phones, electronic games, Web, distributed systems, e-commerce, Intelligent Systems and Management Information Systems. I cordially welcome the prospective students towards this program.

Dr. AHMAD KHAWAJI

Head - Department of Information Technology & Security



About the College:

History

The College was established according to the approval of His Majesty the King, No. 7 / B / 24 232 dated 11/5/1425 H. It began under the umbrella of King Khalid University, the Dean of the College at that time was Dr. Abdullah Bin Yahya Al-Hussein. The College was separated from King Khalid University and joined Jazan University on 01/12/1427 H. First decision was issued by the appointment of first Dean of the college at the University of Jazan on 04/06/1429 H Dr. Omar Al Mushayt. The College began to admit students in the first semester of the academic year 1426 - 1427H. The number of students admitted in the first semester was 68 students. At the present time the number of students reached 1762, 160 of them being students at the female section. The College started with only two specializations, Information systems and Computer Sciences. The Department of Computer Networks was established at the beginning of the first semester of the academic year 1429/1430 H. The female students section was opened at the beginning of the first semester of the academic year 1431/1432 H with two departments, Information systems and Computer Science. A decision was issued for the appointment of Dr. Mohamed Bin Yahya AlSalem as the Dean of the College of Computer Sciences and Information Systems.

College Vision

The College of Computer Science and Information Systems will strive to get recognized nationally and internationally for academic excellence, production of skilled graduates and research in the field of computing which will serve the community development socially and economically in Jazan province and the kingdom.

College Mission

The Mission of the college of Computer Science and Information Systems is to:

- Prepare technologists and skilled graduates for attaining academic excellence in the field of computer science and technology.
- Serve the community by using computing technologies to support social and economic development.
- Produce nationally and internationally recognized research in computing technology.

Department of Information Technology & Security



About the Department:

The Information Technology and Security (IT&S) was formally known as **Information Systems** department. The Information Systems (IS) Department was the oldest and reputed department of Jazan University. It was one of the two early established departments under the College of CS and IS even before the establishment of Jazan University, while drawing patronage of KKU and later KAAU before getting transferred to Jazan University. Information Systems is one of the much sort after areas along with other computing domains locally in Saudi Arabia, regionally in the Middle East and internationally worldwide. Currently, there is a critical shortage of computer professionals who can bridge between computing specializations and modern organizational operations. The Kingdom of Saudi Arabia has focused on computing technology and its application as one of the fundamental tools to modernize its industry and to cope up with advances in modern technology and the pressing demand of survival in ever increasing competitive business culture. To fulfill this mandate the IT&S Dept. at Jazan University focuses on preparing highly qualified information Systems graduates who are capable of analyzing, designing, developing, and operating information systems and then utilizing them in any type of public or private organizational operations.

Chronological order of Head of the Departments:



Dr. Ahmad Khawaji
(May 2017 - Till date)



Mr. Megrin Hakami
(Nov 2012 - May 2017)



Dr. Mohiuddin Ahmed
(Jan 2011 - Nov 2012)



Dr. Fauzan Noordin
(Feb 2010 - Jan 2011)



Mr. Haytham Fawzi Al Qudah
(Nov 2007 - Feb 2010)



B.S Information Technology Program:

Department of Information Technology & Security designed a bachelor's degree program, titled as Bachelor of Science in Information Technology (BS-IT) to replace with existing Bachelor of Science in Information System (BS-IS). With this major update department may position itself at the intersection of human, technological and organizational systems to meet international standards for IT Education through educational innovations, research and strategic collaborations. Also, to meet the requirement of secure and scalable automated and paperless environment in the civil services, organizations and industries of Jazan .

Due to job market around Jazan region, Department of Information Technology & Security launched BS(IT) because a lot of changes are happening in IT industry, and this new program is designed in accordance with the future projections and expectations in the field. BS(IT) is a four-year program, and is compliant with ACM, NCAAA and ABET requirement so student can complete their degrees in suitable time period without any wastage of time.

REASONS FOR PROGRAM ESTABLISHMENT

Economic reasons

- IT can be used to make the information accurate, readily available, and easily accessible.
- An organization can have better decision-making, better planning, and ultimately better results with the help of the effectiveness of IT based systems.
- IT is the foundation of new applications and services to help firms manage their knowledge assets.
- Supplying highly qualified system analyst/technologist for research and development.
- Predictable demand for IT professional due to economic growth in and around the kingdom.
- Solving the IT related problems that concern to the immediate needs of the country.
- Creating a chance for the students to pursue their higher studies in various domains of IT.

Social/Cultural reasons

- To provide greater opportunity for the better business strategy with the help of IT for the growth of the Kingdom.
- To provide a greater forecast for Saudis to become a IT Professional to contribute to the growth of the kingdom.
- To provide a good platform for the students who will function in their profession with social awareness and responsibility.
- Understand the ethical, legal, and professional responsibilities in the field of IS & IT which has a direct impact on society.

Technological developments

- To create research and development centres in various fields of IT.



- To help the students to choose their path in research and carrier by means of pursuing higher studies.
- To create a software development hub where the outsourcing of work for various concerns can be carried out.
- Preparing professionals empowered with the knowledge, skills, values, and confidence to take a leadership role in the development of IT systems.

Graduate Job options

Graduates of IT program may pursue the following career paths but not limited to:

Business Analyst		Data architect		Database Developer and Administrator		Web Engineers
IT Project Manager		System Analysts & Designer		IT & Security Manager		IT & Security Auditor
Cyber Security Specialist		Datacentre Supervisor.		System and Network Security Advisors		System Administrator

PROGRAM VISION

Program of BS-IT will help the department to be recognized nationally, regionally and internationally by providing academic excellence and quality-based education and research to serve business, enterprises and society.

PROGRAM MISSION

Program of BS-IT will help the department to be recognized nationally, regionally and internationally by providing academic excellence and quality-based education and research to serve business, enterprises and society.

STRATEGIC - DIRECTIONS:

- Enhance students ICT skills through refined teaching, and add value to their personal and professional life.
- Strengthen academic faculty to excel in teaching, learning and research.
- Leverage society with IT enabled system and support knowledge economy through technology.

PROGRAM GOALS:

- Goal 1: To provide environment to enhance student learning and boost up student success rate.
- Goal 2: Support innovative teaching and learning through state-of-the-art technology.
- Goal 3: To improve student's academic experience and personality development through co-curricular activities.
- Goal 4: Establish department partnership with industrial sectors and societal activity.
- Goal 5: Support through consultancy and IT enabled services for economic development.



PROGRAM EDUCATIONAL OBJECTIVES (PEOs):

- Students will be educated with the concepts of mathematics, basic science and computing science to successfully apply them in the field of IT.
- Students will be trained with essential ICT skills to manage IT based applications.
- Students will be equipped with analytical techniques to identify the problems where IT based systems can be developed as alternative solution.
- Students will be encouraged to involve in scientific research and innovative thinking in the field of IT.
- Students will be prepared for professional interaction and leadership qualities, and effective oral and written communication.
- Students will be incorporated with inspirations about professional development through lifelong learning or entrepreneurship in the field of IT.
- Student will be trained with practical experience and embodied with the professional code of conduct to participate in professional community activities.

PROGRAM LEARNING OUTCOMES (PLOS):

1.0 Knowledge

- K1. Demonstrate sound knowledge of principles of computing and mathematics required for the field of IT
- K2: Relate the recent trends and current research in the field of IT.

2.0 Skills

- S1. Analyze a complex computing problem to apply principles of computing and other relevant disciplines to identify solutions.
- S2. Design and implement computing-based solution to meet given set of computing requirements in the context of IT discipline.
- S3. Identify and analyze user needs and to take them into account in the selection, creation, integration, evaluation, and administration of IT based systems.
- S4. Apply security principles and practices to the environment, hardware, software, and human aspects of a system.
- S5. Communicate effectively in a variety of professional contexts.

3.0 Competence

- C1. Recognize professional responsibilities and make informed judgments in computing practice based on legal and ethical principles.
- C2. Demonstrate the ability to function effectively as a member or leader of a team, engaged in activities appropriate to the IT discipline.
- C3. Appraise the need for an ability to engage in continuing professional development.



Information Technology (IT) Degree Plan:

UNIVERSITY REQUIRED COURSES

Course Codes	Course Title	Pre-Req.	Cr. Hrs.	Level
SLM-101	Islamic Culture – 1	-	2	1
ARB-102	Arabic Writing	-	2	1
SLM-102	Islamic Culture – 2	-	2	3

COLLEGE REQUIRED COURSES

Course Codes	Course Title	Pre-Req.	Cr. Hrs.	Level
COMP-111	Introduction to Computing	-	3	1
COMP 112	Programming 1		3	2
COMP 213	Programming 2	COMP 112	3	3
COMP 214	Object Oriented Programming	COMP 213	3	4
COMP 321	Data Structures & Algorithms	COMP 213	3	5
COMP 333	Operating Systems		3	6
CNET 411	Network Security	-	3	7
COMP 452	Cloud Computing	-	3	7

PROGRAM REQUIRED - GENERAL COURSES

Course Codes	Course Title	Pre-Req.	Cr. Hrs.	Level
ENG 101	English 1	-	6	1
MATH 105	Calculus	-	4	1
ENG 102	English 2	-	6	2
MATH 106	Matrix Algebra	-	3	2
MATH 107	Discrete Mathematics	MATH 105	2	2



MATH 262	Statistics and Probability	-	3	3
PHYS 204	Principles of Physics 1	-	4	3

PROGRAM REQUIRED - CORE COURSES

Course Code	Course Title	Cr. Hrs	Prerequisites	Level
ITEC 211	Database Concepts and Design	3	-	3
ITEC 212	Database Management Systems	3	ITEC 211	4
ITEC 241	Multimedia Applications	3	-	4
ITEC 251	Data Communication & Computer Networks	3	-	4
ITEC 252	Digital Design & Computer Architecture	3	-	4
ITEC 321	Human-Computer Interaction	3	-	5
ITEC 313	Introduction to Data Science	3	-	5
ITEC 322	Software Engineering	3	-	5
ITEC 331	Fundamentals of IT Security	3	-	5
ITEC 342	Web Technologies	3	-	5
ITEC 323	IT Project Management	3	-	6
ITEC 332	Cryptography & Data Security	3	-	6
ITEC 343	Mobile Application Development	3	-	6
ITEC 353	Wireless Technologies	3	ITEC 251	6
ITEC 361	Cooperative Training	3	-	Summer
ITEC 424	Interaction Design	3	ITEC 321	7
ITEC 454	System Administration	3	-	7
ITEC 425	Graduation Project (Phase-1)	2	-	7
ITEC 426	System Integration and Architecture	3	ITEC 322	8
ITEC 455	Data Center Design & Administration	3	ITEC 454	8
ITEC 456	Internet of Things	3	-	8
ITEC 462	Computer Ethics & Society	3	-	8
ITEC 427	Graduation Project (Phase-2)	3	ITEC 425	8



PROGRAM REQUIRED - ELECTIVE COURSES

Course Code	Course Name	Cr. Hrs.	Prerequisite
ITEC 314	Machine Learning	3	-
ITEC 415	Data Mining	3	-
ITEC 416	Big Data Analytics	3	ITEC 313
ITEC 344	Web Design	3	-
ITEC 445	Applied Web Programming	3	ITEC 342
ITEC 446	Web Intelligence	3	-
ITEC 333	Cyber Security & Cyber Crime	3	ITEC 331
ITEC 434	Software Security	3	-
ITEC 435	Digital Forensics	3	ITEC 331



Semester wise Study Plan

#	Course Code	Course Name	Pre. Req.	Contact Hrs.		Cr. Hrs.	#	Course Code	Course Name	Pre. Req.	Contact Hrs.		Cr. Hrs.		
				T	P						T	P			
Level – 1							Level – 2								
1	COMP 111	Introduction to Computing	-	2	2	3	1	COMP 112	Programming 1	-	2	2	3		
2	MATH 105	Calculus	-	4	0	4	2	MATH 106	Matrix Algebra	-	3	0	3		
3	ENG 101	English 1	-	18	0	6	3	MATH 107	Discrete Mathematics	MATH 105	3	0	3		
4	ARB 102	Arabic Writing	-	2	0	2	4	ENG 102	English 2	ENG 101	18	0	6		
5	SLM 101	Islamic Culture 1	-	2	0	2	Total						26	2	15
Level – 3							Level – 4								
1	ITEC 211	Database Concepts & Design	-	2	2	3	1	ITEC 212	Database Management Systems	ITEC 211	2	2	3		
2	COMP 213	Programming 2	COMP 112	2	2	3	2	ITEC 241	Multimedia Applications	-	2	2	3		
3	PHYS 204	Principles of Physics 1	-	3	2	4	3	ITEC 251	Data Communication & Comp. Networks	-	2	2	3		
4	MATH 262	Statistics and Probability	-	3	0	3	4	ITEC 252	Digital Design & Comp. Architecture	-	2	2	3		
5	SLM 102	Islamic Culture 2	-	2	0	2	5	COMP 214	Object Oriented Programming	COMP 213	2	2	3		
Total							Total						10	10	15
Level – 5							Level – 6								
1	ITEC 321	Human-Computer Interaction	-	2	2	3	1	ITEC 323	IT Project Management	-	2	2	3		
2	ITEC 313	Introduction to Data Science	-	2	2	3	2	ITEC 332	Cryptography & Data Security	-	2	2	3		
3	ITEC 331	Fundamentals of IT Security	-	2	2	3	3	ITEC 343	Mobile Application Development	-	2	2	3		
4	ITEC 342	Web Technologies	-	2	2	3	4	ITEC 353	Wireless Technologies	ITEC 251	2	2	3		
5	COMP 321	Data Structures & Algorithms	COMP 213	2	2	3	5	COMP 333	Operating Systems	-	2	2	3		
6	ITEC 322	Software Engineering	-	2	2	3	6	ITEC ***	Elective 1	-	2	2	3		
Total							Total						12	12	18
Level – 7							Summer Term								
							ITEC-361								
							Level – 8								
							ITEC-361								
							Level – 8								
1	ITEC 424	Interaction Design	ITEC 321	2	2	3	1	ITEC 426	System Integration and Architecture	ITEC 322	2	2	3		
2	CNET 411	Network Security	-	2	2	3	2	ITEC 462	Computer Ethics & Society	-	2	2	3		
3	COMP 452	Cloud Computing	-	2	2	3	3	ITEC 455	Datacenter Design & Administration	ITEC 454	2	2	3		
4	ITEC 454	System Administration	-	2	2	3	4	ITEC 456	Internet of Things	-	2	2	3		
5	ITEC 425	Graduation Project (Phase 1)	-	3	0	3	5	ITEC 427	Graduation Project (Phase 2)	ITEC 425	3	0	3		
6	ITEC ***	Elective 2	-	2	2	3	6	ITEC ***	Elective 3	-	2	2	3		
Total							Total						13	10	18
TOTAL CREDIT HOURS = 137															



COURSE DESCRIPTIONS (Core and Elective Courses)

ITEC-211 DATABASE CONCEPTS AND DESIGN

This course introduces the fundamental concepts necessary for designing, using and implementing database systems and applications. Emphasis is placed on data dictionaries, entity relationship, relational data model, logical database design, relational algebra, normalization, basic commands and functions of SQL to create database tables, its constraints and queries. Students will be trained on Oracle DBMS to solve case studies on the environment systems from the real world.

ITEC-212 DATABASE MANAGEMENT SYSTEMS

This course covers the topics including: Storing data: disks and files which include the memory hierarchy, RAID, disk space management, buffer management, file and indexes, page formats and record formats; file organization and indexes which introduce cost modelling, comparison of three file organizations, overview of indexes and properties of indexes. Three-structured indexing, hash-based indexing and database design security; transaction management which introduce to transactions and schedules, concurrent execution of transaction, lock-based concurrency control and crash recovery. Crash recovery includes introduction to ARIES, recovery from a system crash and media recovery. It also covers advanced topics such as: Distributed database including distributed DBMS architectures, storing data in distributed DBMS, distributed catalog management and query processing, updating distributed data, distributed transactions and concurrency and recovery. Students will be trained on some software tools such as: Oracle, Sybase, DB2, and Informix.

ITEC-241 MULTIMEDIA APPLICATIONS

This course is designed to provide the fundamental concepts and techniques of multimedia system components e.g. text, image, sound, animation, and video. Some of the key areas covered by the course are: Multimedia authoring and tools, hypertext and hypermedia content creation and delivery, media representations, user interfaces design and development, multimedia skills, animation principle, multimedia project requirements,

planning, costing, designing and producing, and recent trends in multimedia. The techniques and tools for producing, designing, and implementing interactive multimedia applications will also be covered. Students will be trained on a range of authoring, editing, and scripting tools for multimedia development.

ITEC-251 DATA COMMUNICATION & COMPUTER NETWORKS

Fundamentals of data communications: Essential Elements of Data Communications: Simplex, Half-Duplex and Full Duplex Transmission, Basic concepts of networking: network concepts, network criteria, network applications and benefits. Configurations, topologies and categories of networks: line configuration, network topologies (mesh, star, tree, bus, ring, hybrid), internetwork or internet, types of network connection (peer-to-peer network, server-based network, combined network), intranet and extranet. Introduction to OSI and TCP/IP models: The OSI Model, The OSI layers, TCP/IP Protocol Suite. Physical layer and media: Analogue and Digital Signals, Periodic and Non-Periodic Signals, Signal Parameters, Time and Frequency Domains Concepts, Types of Channels, Transmission Impairment, Transmission Media: Guided Media, Unguided Media, Circuit and packet switching. Data link layer control: framing, error control and flow control, Error detection and correction techniques: VRC, LRC, CRC, Checksum and Hamming code techniques. Networking and internetworking devices. Student will be trained on the existing components and product related to Cisco such as wireless networking, Switches, routers, etc.

ITEC-252 DIGITAL DESIGN & COMPUTER ARCHITECTURE

This is the basic course which includes the components such as: fundamentals of digital computer design; quantifying cost and performance; instruction set architecture; program behavior and measurement of instruction set use; processor data paths and control; pipelining, handling pipeline hazards; memory hierarchies and performance; I/O devices, controllers and drivers; I/O and system performance.



ITEC-321 HUMAN-COMPUTER INTERACTION

This course provides a comprehensive, authoritative introduction to the dynamic field of human-computer interaction (HCI). Students will learn practical principles and guidelines needed to develop high quality interface designs—ones that users can understand, predict, and control. It covers theoretical foundations, and design processes such as expert reviews and usability testing. Numerous examples of direct manipulation, menu selection, and form fill-in give students an understanding of excellence in design. It also provides updates on current HCI topics with balanced emphasis on mobile devices, Web, and desktop platforms.

ITEC-313 INTRODUCTION TO DATA SCIENCE

Data Science is the study of the generalizable extraction of knowledge from data. Being a data scientist requires an integrated skill set spanning mathematics, statistics, databases and other branches of computer science along with a good understanding of the craft of problem formulation to engineer effective solutions. This course will introduce students to this rapidly growing field and equip them with some of its basic principles and tools as well as its general mindset. Students will learn concepts, techniques and tools they need to deal with various facets of data science practice, including data collection and integration, exploratory data analysis, predictive modeling, descriptive modeling, data product creation, evaluation, and effective communication. The focus in the treatment of these topics will be on breadth, rather than depth, and emphasis will be placed on integration and synthesis of concepts and their application to solving problems. To make the learning contextual, real datasets from a variety of disciplines will be used.

ITEC-331 FUNDAMENTALS OF IT SECURITY

This introductory course will provide learners with principles of data and technology that frame and define cyber security. Students will gain insight into the importance of cyber security and the integral role of cyber security professionals. This course will provide a dynamic learning experience for the students with foundational cyber security principles, security architecture, risk management, attacks, incidents, and emerging IT security technologies. Topics may include confidentiality, integrity, and availability; security

architecture; security policies; authentication; access control; risk management; threat and vulnerability assessment; common attack/defense methods; ethical issues.

ITEC-342 WEB TECHNOLOGIES

This course is an overview of the modern Web technologies used for the Web development. The purpose of this course is to give students the basic understanding of how things work in the Web world from the technology point of view as well as to give the basic overview of the different technologies. The topics include: Introducing WWW, Hypertext Markup Language (HTML) and Cascading Style Sheets (CSS). We will follow the guidance of the World Wide Web Consortium (W3C) to create interoperable and functional websites.

ITEC-322 SOFTWARE ENGINEERING

Software engineering is a major branch of computing science that deals with the development of software systems as practical and cost-effective solutions for individuals and society. This course covers the fundamentals of software engineering like software life cycle, requirements engineering, system development paradigm, and system modeling using UML. It also covers software verification & validation, important implementation issues, open source development and concepts of software re-engineering. The course has a strong technical relation with graduation project providing the opportunity to practice software engineering knowledge, skills, and practices in a realistic development setting with a real client.

ITEC-323 IT PROJECT MANAGEMENT

This course will start to commence by reviewing management and project management principles. It continues by studying the project management knowledge areas, the triple constraint, what is a Project?, difference between Program and project, project manager, skills of project manager, Project life cycle: analysis (requirements determination), Project Scope management, project time management, project cost management, project quality management, designing, implementation; system and database integration issues; project tracking techniques, metrics, and system performance evaluation; managing expectations of managers, clients, team



members, and others; determining skill requirements and staffing; cost-effectiveness analysis; management of behavioral and technical aspects of the project; change management. Project risk management, project procurement management, project communications management, project human resource management. This course teaches about software tools for project tracking and monitoring. Team collaboration techniques and tools. Also, this course will introduce students to project-time scheduling methods. Students will be trained to use project management software tools such as MS-Project.

ITEC-332 CRYPTOGRAPHY & DATA SECURITY

Cryptography is a tool for data security. It is used to provide data confidentiality, integrity, and availability. It supports the authentication of data and enhances privacy. Cryptography is a component of a security system that can be integrate in hardware or software systems for personal, social and political issues. This course provides a broad view of security with practical applications of cryptography to data security. Specific topics include classical and modern encryption techniques, steganography, and human factors.

ITEC-343 MOBILE APPLICATION DEVELOPMENT

This course introduces mobile application development for the Android platform. Android is a software stack for mobile devices that includes an operating system, middleware and key applications. The Android SDK provides the tools and APIs necessary to begin developing applications on the Android platform. Students will learn skills for creating and deploying Android applications, with particular emphasis on software engineering.

ITEC-353 WIRELESS TECHNOLOGIES

This course introduces the concept of wireless world through wireless networking and wireless communication to the students. The course presents the major wireless concepts like signals and transmission, access points, wireless routing, WLANs, speed spectrum, channel capacity (Nyquist bandwidth and Shanon Capacity formulas), FHSS, DSSS, OFDM, IR and Wireless standards. The course further takes the students in the depth of core wireless concepts like ad hoc networking. Wireless application

protocols, Bluetooth and multiple access techniques (FDMA, TDMA and CDMA). Lately, the course covers the concepts of Microwave and Satellite based communication with the focus on service types and classification of orbits. In addition, the course highlights the 5G communication systems prospects and challenges.

ITEC-361 COOPERATIVE TRAINING

The cooperative training at the faculty of computer science and information technology is an important part of student's academic plan that is considered as a basic requirement for graduation. This program shared between the various departments of (Computer Science, Computer Engineering and Network, Information Technology and Security). The cooperative training includes either international or national training; Some distinguish students will be nominated for international training (outside Kingdome) on advance topic in the computer fields, other students will join national training program on any governmental or privet institution that specialized in Information technology and security services to give the students practical experience on their career. the trainees considered as a staff member on the place where he training during training period time.

ITEC-424 INTERACTION DESIGN

The goal of this course is to provide students basic techniques and expertise to create and evaluate the design of interactive digital products, environments, systems, and services. It includes a study of interaction design for a variety of applications. The students will learn principles, patterns and process for interaction design, rapid prototyping, user interface (UI) and user experience (UX) design - skills that can be applied to desktop apps, web and mobile app development, game development, entertainment and artistic performances.

ITEC-454 SYSTEM ADMINISTRATION

System administration is an essential ingredient of modern computing practice. Knowledge of this topic can be helpful in managing a home computer network, a small business network, or enterprise systems. In addition, knowledge of system administration is a necessary aspect of experimental computing, including embedded software development, cluster



computing, and distributed systems, where users often need to set up their own systems software. This course addresses the basic principles of system administration focusing on contemporary operating systems such as Linux or Microsoft Windows.

ITEC-426 SYSTEM INTEGRATION AND ARCHITECTURE

This course is designed to provide students with an understanding of Systems Integration (SI) process, approaches, drivers, tools and techniques required for successful SI, critical success factors, and best practices. The course focuses on how a proposed system will be integrated with other existing or planned systems. It addresses the System Integration problem using architectures as the basis and then addresses the evaluation of the architectures in terms of the capabilities they provide. Case studies and examples from the Information Technology (IT), energy, and financial services industry will be used to illustrate the concepts discussed. The students will learn the theory and practice of business process integration, legacy integration, new systems integration, business-to-business integration, integration of commercial-off-the-shelf (COTS) products, interface control and management, testing, integrated program management, integrated Business Continuity Planning (BCP). Specific focus will be given to issues of interface integration and interoperability of systems.

ITEC-462 COMPUTER ETHICS & SOCIETY

This course will examine the ethical issues that arise as a result of increasing use of computers, and the responsibilities of those who work with computers, either as computer science professionals or end users. This course will stress the ways in which computers challenge traditional ethical and philosophical concepts, and raise old issues in a new way. This course is designed to educate existing and future business managers and IT professionals on the tremendous impact ethical issues play in the use of information technology in the modern business world. The topics covered in this course are extremely current and relevant to anyone preparing to enter the field of IT. This course will give students the foundation they need to make appropriate decisions when faced with difficult situations and make a positive impact in the field of information technology.

ITEC-455 DATACENTER DESIGN & ADMINISTRATION

This course is intended to study data center principles and operational issues, including design, build, configure, deploy, and maintain the critical assets that comprise your data center, environmental controls, power supplies, backup, data communications, and security standards to assure business continuity. It also discusses emerging trends and technologies in areas including cloud computing, virtualization, middleware, databases, data centers, green grids, and corporate and environmental social responsibility.

ITEC-456 INTERNET OF THINGS

The Internet of Things (IoT) course will teach you how to program with current and leading IoT technologies for building IoT solutions for Smart Homes, Smart Campus etc., using IoT sensor and devices. In the course, we will examine the concept of IoT. We will look at the 'things' that make up the Internet of Things, including how those components are connected together, how they communicate, and how they value add to the data generated. We will also examine cyber security and privacy issues, and highlight how IoT can optimize processes and improve efficiencies in your business. They also learn to capture data using sensors, and the basics of analysis and visualization of the data in the cloud and its security.

ITEC-425 GRADUATION PROJECT (PHASE-1)

In this course, students choose a project subject and define the objectives of the project under the supervision of a faculty member, and prepare the project proposal including: defining the statement of the problem, defining system requirements, defining different candidate solutions for the problem of study, making feasibility study for different candidate solutions, defining the best candidate solution, defining time table schedule. The Project Design phase allow senior level students to integrate their Information Systems Analysis and design knowledge and produce a useful artifact while working on the design and analysis phase of their capstone project. They practice major activities in information systems development process, including communication, planning, modeling, system architecture design, logical database design, physical database design, user interface design etc.



Students get experience working in teams, participating in project planning and scheduling, and writing reports. Students should present the project interim report at the end of the semester, Assessment Methods will be obtained by oral examination to be held by a committee from faculty members. Students will be allowed to work individually or in groups.

ITEC-427 GRADUATION PROJECT (PHASE-2)

Project implementation course offers students an opportunity to assemble their knowledge acquired throughout their BS curriculum to realize a final project. This course allows the senior level students to implement their IS Project designed in the Project Design course. This would require them to gather information about the proposed subject and realize a final report as well as to develop a system practically. At this stage, students must carry on all phases of system development of the subject already defined in the precedent course (Project Design), and under the supervision of the same supervisor (as possible). Implementation of the project include: Hardware preparation, component implementation, coding and development, testing, system integration, verification and validation, and Documentation. At the end of the semester, students are asked to make an oral presentation with the presence of faculty members as referees. The students are also required to submit their thesis by the end of semester.

ITEC-314 MACHINE LEARNING

With the increased availability of data from varied sources there has been increasing attention paid to the various data driven disciplines such as analytics and machine learning. This course is intended to introduce some of the basic concepts of machine learning in algorithmic perspective. This course will familiarize students with a broad cross-section of models and algorithms for machine learning, and prepare students for the application of machine learning techniques. Topics covered in this course include, Machine learning types, linear and non-linear regression, nonparametric methods, Bayesian methods, support vector machines, kernel methods, Artificial Neural Networks, model selection, learning theory, VC dimension, clustering, EM, dimensionality reduction, PCA, SVD, and reinforcement learning. The course will also facilitate the students to solve real world problems using machine learning techniques.

ITEC-415 DATA MINING

As an introductory course on data mining, this course introduces the key concepts, principles, algorithms, and systems of data mining, including: what is data mining? get to know your data, data preprocessing, integration and transformation, data warehousing and OLAP, data cube and also the fundamental principles of frequent patterns, classification, and cluster analysis. It will also explain implementations in open source software.

ITEC-416 BIG DATA ANALYTICS

Big Data is the term for a collection of datasets so large and complex that they become difficult to process using on-hand database management tools or traditional data processing applications. The challenges include capture, storage, search, sharing, transfer, analysis, and visualization. This Big Data Analytics course will first introduce the overview applications, market trend, and the things to learn. Then, it will introduce the fundamental platforms, such as Hadoop, Spark, and other tools, such as IBM System G for Linked Big Data. Afterwards, the course will introduce several data storage methods and how to upload, distribute, and process them. This will include HDFS, HBase, KV stores, document database, and graph database. The course will go on to introduce different ways of handling analytics algorithms on different platforms. Then, it will introduce visualization issues and mobile issues on Big Data Analytics. Students will then have fundamental knowledge on big data analytics to handle various real-world challenges.

ITEC-344 WEB DESIGN

This course is designed to start you on a path toward future studies in web development and design, no matter how little experience or technical knowledge you currently have. This course introduces students to general information of web design environment, including the various roles that he can play, technologies he can learn and tools he can use. In this course student will learn web design using HTML (Hypertext Markup Language) for structure, CSS (Cascading Style Sheets) for presentation and JavaScript for behavior. In HTML section, students will learn about creating simple page, marking up text, adding links and images, table markup and forms. In CSS



section, student will learn CSS orientation, formatting text, colors and background, floating, positioning, page layout with CSS and animation. In the JavaScript section and web graphics section, student will learn how to use JavaScript and web graphic basics.

ITEC-445 APPLIED WEB PROGRAMMING

This course is designed to give students the opportunity to enhance and enrich their skills in Web programming. Students will learn to develop Web applications that use three-tier architecture, session management, object-oriented techniques, and advance database interactions. Concepts such as advanced CSS concepts, rich interactive Web environments, authentication, and security will also be explored. The main objective of the Applied Web Programming course is to discuss state of the art technologies in Web Programming and some open research issues of the domain. It represents the next generation of Internet applications, business strategy and technologies that supports contribution to the online community.

ITEC-446 WEB INTELLIGENCE

This course aims to achieve a multi-disciplinary balance between research advances in the fields of collective intelligence, data science, human-centric computing, knowledge management, and network science. It is committed to addressing research that deepens the understanding of computational, logical, cognitive, physical as well as business and social foundations of the future Web, and enables the development and application of intelligent technologies.

ITEC-333 CYBER SECURITY AND CYBER CRIME

This course explores cyber-security measures and the different forms of cybercrime and emergent forms of cyber-warfare. Students will learn challenges to cyber-security and examine the nature, prevalence, scope and the means by which criminals perform these crimes. The course also provides

the impact of cybercrime on victims, business, and the state, and the responses of information security providers and police agencies. The course concludes with a critical assessment of the threats to rights posed by the emergent new digital age of surveillance.

ITEC-434 SOFTWARE SECURITY

The course will go through all the phases in the secure software development lifecycle (requirements, design, implementation and testing) focusing on how to incorporate security in each phase and what techniques to use. The main focus is on web-based applications, mobile apps, and cloud security.

ITEC-435 DIGITAL FORENSICS


This course introduces the basic concepts of computer forensics, principles, techniques, special software tools and practical skills necessary to perform digital investigation of incidents in which computers or other digital devices play a significant or interesting role. Students will learn skills for the most important parts of digital crime scene investigation process, which has several phases, from initial system preservation through evidence searching to event reconstruction. Students will learn how to create an incident response plan and implement a computer forensics incident response strategy. Furthermore, through practical lab exercises, students will also learn how to conduct “Live” investigation including acquisition, examination, analysis, and evidence preservation, and documentation of computer evidence stored as data or computer encoded information. This course also covers state-of-the-art techniques for digital investigation analysis, including file carving, multimedia forensics, memory analysis, mobile device forensics, anti-forensics and counter anti-forensics, and log analysis and correlation.

FACULTY MEMBERS



MALE FACULTY MEMBERS

S. No.	Faculty Name	Designation	Nationality	Final Degree	Specialization	University (Graduated from)	Country
1	Dr. Ahmad Khawaji	Asst. Professor & HoD	Saudi	Ph. D.	Computer Science	University of New Southwales, Sydney	Australia
2	Dr. Abdul Rehman Al Ameer	Asst. Professor	Saudi	Ph. D.	IT Security	University of Ontario,	Canada
3	Dr. Fathe Jeribi	Asst. Professor	Saudi	Ph. D.	IT Security	Towson University, Maryland	USA
4	Dr. Sultan Basudan	Asst. Professor	Saudi	Ph. D.	Information Technology	University of Ontario,	Canada
5	Dr. Yahya Alqahtani	Asst. Professor	Saudi	Ph. D.	Health Informatics Data Mining	Towson University, Maryland	USA
6	Hasan Abu Aishah	Lecturer	Saudi	M.S.	Information Systems	Sacred Heart University,	USA
7	Ibrahim Daghri	Lecturer	Saudi	M.S.	Information Systems	Monmouth University,	USA
8	Yunus Al Qasim	Lecturer	Saudi	M.S.	Information Systems	Sacred Heart University,	USA
9	Mohammed Bashraheel	Lecturer	Saudi	M.S.	Information Systems	Sacred Heart University,	USA
10	Alaa Yousef	Lecturer	Saudi	M.S.	Information Systems	Sacred Heart University,	USA
11	Majed Alhazmi	Lecturer	Saudi	M.S.	Information Systems	University At Albany - State University of New York	USA
12	Mohammed Okmi	Lecturer	Saudi	M.S.	Information Systems	Clark Atlanta University	USA
13	Ali Hamoud Al Hazmi	Lecturer	Saudi	M.S.	Information Security	Concordia Univerity,	Canada
14	Dr. Mohammed Saad El Din	Asst. Professor & CEO	Egyptian	Ph. D.	Instructional Technology	Helwan University	Egypt
15	Dr. Muhammad Hassan Usman	Asst. Professor	Sudanese	Ph. D.	Artificial intelligence	El Neelain University	Sudan
16	Dr. Ali Ahmad	Asst. Professor	Pakistani	Ph. D.	Graph Theory	GC University, Lahore	Pakistan
17	Dr. Wali Ullah	Asst. Professor	Indian	Ph. D.	Software Engineering	Integral University, Liucknow	India




18	Dr. Jayabrabu Ramakrishnan	Asst. Professor	Indian	Ph. D.	Data Warehousing & Mining	Bharathiar University	India
19	Mohammad Sarfaraz	Lecturer & Secretary	Indian	MCA	Computer Science & Applications	Aligarh Muslim University	India
20	Ahsan Asim	Lecturer	Pakistani	MSCS	Software Engineering	Blekinge Institute of Technology	Sweden
21	Jorair Ahmad	Lecturer	Indian	MCA	Computer Applications	IGNOU	India
22	Agha Salman Haider	Lecturer	Indian	MCA	Computer Science & Applications	Aligarh Muslim University	India
23	Yasir Ahmad	Lecturer	Indian	M. Phil.	Digital Security	H.N.B. Garhwal University	India
24	Nadim Rana	Lecturer	Indian	MCA	Data Warehousing & Mining	Hamdard University, New Delhi	India
25	Haithum Ahmad El Hadi	Lecturer	Sudanese	MS	Computer Science	El Neelain University	Sudan
26	Syed Ghyasuddin Hashmi	Lecturer	Indian	MCA	Computer Applications	IGNOU	India
27	John Martin	Lecturer	Indian	M. Phil.	Computer Science / Machine Learning	Alagappa University	India
28	Ali Tahir	Lecturer	Pakistani	M. Sc.	Communications Engineering	Taxila University	Pakistan
29	Malek Mohammed Saleh Al Zoubi	Lecturer	Jordanian	M.S.	Computer Networks	University of Utara	Malaysia
30	Mohammed ElTahir	Lecturer	Sudanese	M.S.	Information Technology	El Neelain University	Sudan
31	Abdul Samad	Lecturer	Indian	M. Tech.	Computer Science and Engineering	Vishveshvaraiya Technical University	India
32	Ahamed Ali Shaik Meeran	Lecturer	Indian	MCA	Computer Applications	Andhra University	India
33	Abdulnasser AbdulWakil Metwally	Lecturer	Egyptian	M.S.	Education Technology		Egypt



FEMALE FACULTY MEMBERS

SNo.	Name of Faculty	Nationality	Academic Rank	General Specialization	Specific /Research Specialization	Institution Graduated From
1	Dr. Eshrag Rafie	Saudi	Assistant Professor	Computer Science	Computational Linguistics / NLP	Heriot Watt University
2	Dr. Amani Zafir Muhammad Al-Qarni	Saudi				
3	Dr. Sadia Husain	INDIAN	Assistant Professor	Computer Science	Fuzzy Databases	Jamia Hambard University
4	Ms. Ghofran Babeir	Saudi	Lecturer	Computer Information Systems	Machine Learning (NLP)	King Saud University
5	Ms. Halah Abker zain	Saudi				
6	Ms. Latifa Aal Amir	Saudi				
7	Ms. Rahab Najmi	Saudi				
8	Ms. Aisha Muhammad Ahmad Hamzi	Saudi				
9	Ms. Salmi Abdulaziz al Qehtani	Saudi				
10	Ms. Padmanayaki Selvarajan	Indian	Lecturer	Computer Science	Data Mining	Madurai Kamaraj University
11	Ms. Jarina Begum Mohamed Khan	Indian	Lecturer	Computer Science	Information Security	Madurai Kamaraj University
12	Ms. Vidya Sivalingam	Indian	Lecturer	Computer Science	Computer Networks	Bharathiyar University
13	Ms. Ahmed Unnisa Begum	Indian	Lecturer	Computer Science	Data Mining	Osmania University
14	Ms. Rahama Salman	Indian	Lecturer	Computer Science	Computer Networks	Osmania University
15	Ms. Rooby Jamal	Indian	Lecturer	Computer Science	Mobile Computing & Client Server Architecture	Maharaja satyajitrao University
16	Ms. Durdana Taranum	Indian	Lecturer	Computer Science	Programming Language	PUNE University
17	Ms. Manju Sharma	Indian	Lecturer	Computer Science	Data bases	MDU, NewDelhi
18	Ms. Naziya Parveen	Indian	Lecturer	Computer Science	Web Programming	JNTUH



19	Ms. Shazia Ali	Indian	Lecturer	Information System	Software Engineering	JNTUH
20	Ms. Masrath Sulthana	Indian	Lecturer	Computer Science	Computer Networks	Osmania University
21	Ms. Nithinshah	Indian	Lecturer	Computer Science	Artificial Intelligence	Noorul Islam University
22	Ms. Afsana Anjum	Indian	Lecturer	Computer Science	VLSI Design	Maharashi Dayanand University
23	Mrs. Huda Fatima	Indian	Lecturer	Computer Science	Operating System	Osmania University
24	Mrs. Haritha Doma	Indian	Lecturer	Computer Science	Network Security	Osmania University
25	Mrs. Tayyaba Rasheed	Indian	Lecturer	Computer Science	Computer networks	JNTU



STUDENT ASSESSMENTS

ASSESSMENT SCHEMES

The following assessment schemes are being guided by the current reviewed curriculum.

Scheme-1: For the courses with Lab		
1	Internal Exam-1	10%
2	Assignments / Mini-project	20%
3	Internal Exam-2	10%
4	Final Lab Exam	20%
5	Final Written Exam	40%

Scheme-2: For the courses with Lab (Programming)		
1	Internal Exam	10%
2	Assignments	10%
3	Mini Project	20%
4	Final Lab Exam	20%
5	Final Written Exam	40%

Scheme-3: For the courses without Lab		
1	Internal Exam-1	10%
2	Assignments	20%
3	Internal Exam-2	10%
4	Paper / Case studies Presentation	20%
5	Final Written Exam	40%



GRADE POINT AVERAGE (GPA) CALCULATION

1. Faculty Board approves total marks for course recommended by Department Board between 40% and 50% of the total mark of the course, and the student class work mark is determined by one of two ways:
 - a. oral and practical exams, research, and curricular activities, or a selection of this in addition to one written test, or
 - b. A minimum of two written exams.
2. Faculty Board approves Department Board recommendation to include oral/practical parts in final exam.
3. Department Board allows student to complete a prerequisite course on recommendation of teaching faculty.
4. General grade for GPA upon graduation is as follows:
 - (Excellent) GPA no less than 4.50 (or 3.5 out of 4.0)
 - (Very Good) GPA 3.75-4.49 (or 2.5-3.49 out of 4.0)
 - (Good) GPA 2.75-3.74 (or 1.75-2.74 out of 4.0)
 - (Pass) GPA 2.00-2.74 (or 1.00-1.74 out of 4.0)
5. Honours are granted according to GPA on conditions that:
 - Student has not failed courses in Jazan University or elsewhere.
 - Student completed graduation requirement within time frame.
 - Student completed 60% of graduation requirements in Jazan University



STUDENT AFFAIRS & ACADEMIC ADVISING

College level Student Affairs Unit is coordinating following activities for our students:

- Academic Advising
- Complaints and Appeals
- Student Club
- Community Services
- Facilitating Summer Training

Deanship of Student Affairs dealing with the following things for the students:

- Financial Aid and Loans
- Student Club Subscription
- Student Services

For more information follow the link: <http://deanships.jazanu.edu.sa/sites/en/stu/Pages/Default.aspx>

TRAINING OPPORTUNITIES



- Java Fundamentals
- Java Foundations
- Java Programming
- Database Foundations
- Database Design and Programming with SQL
- Programming with PL/SQL
- Oracle 11g Database Administration

- Red Hat System Administration I (RH124)
- Red Hat System Administration II (RH134)



- Cyber security Foundation
- Cyber security Gateway
- Cyber security Essentials

- CCNA R&S: Introduction to Networks
- CCNA R&S: Routing and Switching Essentials
 - CCNA R&S: Scaling Networks
- CCNA R&S: Connecting Networks
 - Introduction to Cyber Security
 - IT Essentials



For more details Contact: **Excellence Unit, College of CS & IT**

FACILITIES

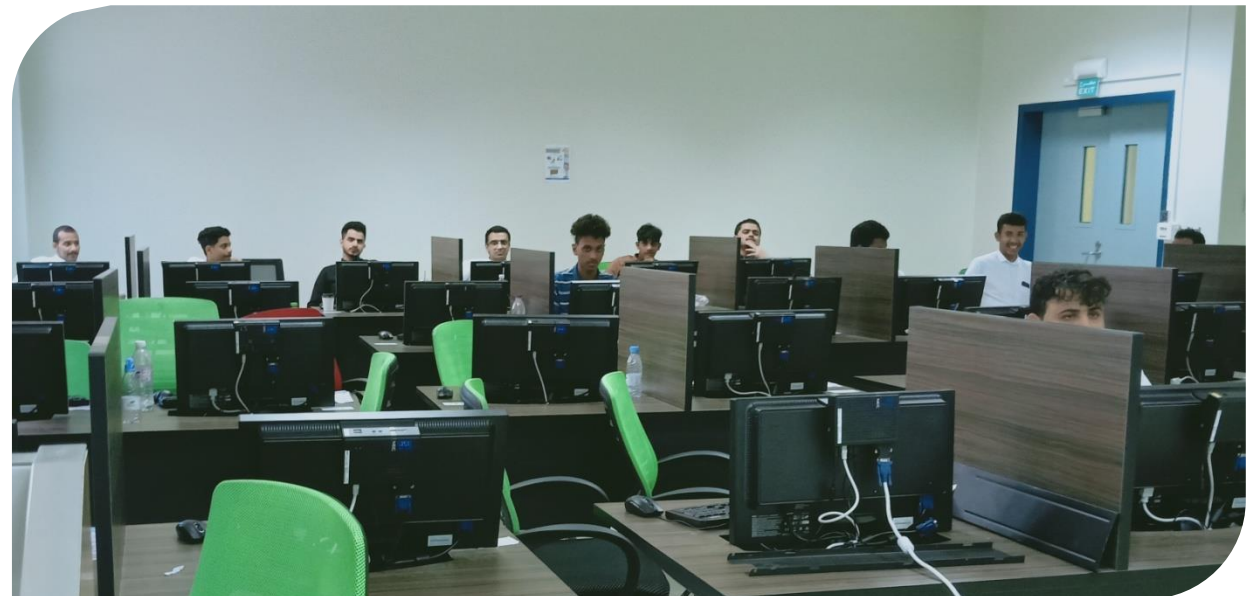


Classrooms





Laboratories





College Foyer



Innovation and Entrepreneurship Center



Faculty Meeting Room



Faculty Office

FEMALE CAMPUSES



College of CS & IT, Academic Campus for Girls-1 Jizan

University College for Girls - Abu Arish

College of CS & IT, University College - Female, Abu Arish



ADMISSION & REGISTRATION

For admission and registration follow the link:

DEANSHIP OF ADMISSION AND REGISTRATION

<http://deanships.jazanu.edu.sa/sites/en/adm/Pages/Default.aspx>

