University of Tabuk

Faculty of Computers and Information Technology

Department of Information Technology

Bachelor's in Information Technology (IT) Program Handbook

2023

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Head of Department Message

In the name of God, praise be to God, and blessings and peace be upon the Messenger of God (may God bless him and grant him peace) and his family, companions, and those who follow him. In my name and the name of my fellow faculty members in the department, we are pleased to welcome you to the website of the Department of Information Technology at the College of Computers and Information Technology at the University of Tabuk, as the site aims to introduce the Department of Information Technology and the plans and courses it provides, scientific research and research projects, as well as scientific activities and others in the department. I also hope that this site will be a window to highlight the scientific and research development of the Technology Department and that it will contribute to the efforts made by the university towards excellence and universality. The department offers a Bachelor of Information Technology program (currently only students), where aspects of quality and academic accreditation are approved in the department's plan, and English is the language in which all major subjects are taught in the department, and the department includes many faculty members who have experience and competence. Contributes to the achievement of the department's vision and goals that were drawn for it. And with best wishes to all students for success and success in serving our Saudi nation.

Department of Information Technology

https://www.ut.edu.sa/en/Faculties/computer-and-information-technology/Department-Information-Technology/Pages/default.aspx#

Establishment

The Faculty of Computing and Information Technology FCIT at the University of Tabuk was established in 2008. The college adopts the vision of the University of Tabuk, where it is expected that its graduates will be highly qualified to participate positively in the development of the Kingdom. In addition, the college aims to act as a means of spreading knowledge, incubation for professions and training the workforce in the Tabuk region in an effective and good manner. At the founding of FCIT, there were three departments: Computer Science, Information Systems, and Information Technology. In 2010, the Faculty of Computers and Information Technology at the university expanded where the Department of Computer Engineering was established.

The Department of Information Technology was established along with the start of FCIT in 2008, and the students are being admitted to the program of Information Technology since 2009. The department aims to graduate qualified IT professionals. The department devotes its efforts to meet the scientific and educational challenges and canith the rapid development of the field of information technology to provide the latest technical knowledge to its students.

The IT Department aims to provide quality education that contributes in lifelong learning and professional development for graduates; and to participate in both scientific research and community services.

The Information Technology Department offers two programs: a Bachelor's in Information Technology and a Master`s of Science in Information Security, according to the best international and local standards in higher education.

Vision

The IT Department aspires to maintain regionally leading and internationally recognized reputation in the areas of information technology. The program will produce successful and productive information technology professionals.

(IT) Program Mission Bachelor's in Information Technology

Provide a stimulating academic environment that graduates Information Technology professionals equipped with the necessary knowledge, skills, and professional ethics to meet labor market needs, advance their careers, serve the community, and engage in scientific research.

IT Program Goals

The Goals of the IT program are summarized as follows:

Goal 1: Provide students with a solid understanding of fundamental concepts, theories, and principles in the field of Information Technology.

Goal 2: Develop students' technical skills and competencies necessary for designing, developing, and managing IT solutions.

Goal 3: Enhance students' communication and teamwork skills, enabling them to collaborate effectively in IT projects, while raising their awareness about ethical and legal considerations.

Goal 4: Cultivate a sense of social responsibility and sustainability in the use of Information Technology.

Goal 5: Provide opportunities for continuous learning, research and professional development to keep up with the rapidly evolving IT landscape.

Program Learning Outcomes

The IT Program has adopted the following student outcomes:

Knowledge and Understanding: The Graduate will be able to	
K1	Identify and describe in-depth principles, concepts, methodologies, tools, and relevant Knowledge related to theoretical and technical topics in the field of Information Technology.
K2	Illustrate state-of-the-art theories, processes, techniques, models, materials, and practices in Information Technology domains.
K3	Recognize the essential requirements, approaches, and practices involved in the implementation of integrated solutions, research, and projects in the field of Information Technology.
Skills: The Graduate will be able to	
S1	Apply relevant concepts and methods from computing and other related disciplines in diverse contexts within the field of Information Technology.
S2	Utilize the adequate and up-to-date theories, tools, methods, practices, and procedures in Information Technology domains.
S3	Construct and implement integral solutions, models, applications, and projects in the Information Technology field, as well as appraise the resulting outcomes and contributions.
S4	Develop applications, software systems, or processes by applying IT and computing principles, analyzing and interpreting data, and fulfilling specified requirements within given limitations.
S5	Communicate effectively and skillfully in a range of professional contexts within the realm of Information Technology.
Values: The Graduate will be able to	
V1	Adhere by professional and ethical practices, responsibilities, and values within the domain of the Information Technology.
V2	Collaborate effectively and with responsibility within a team to establish and achieve goals, as well as successfully complete tasks and activities within the realm of Information Technology.
V3	Engage proficiency in self-learning, proactive planning, and continuous professional development, while actively contributing to the advancement of the field of Information Technology and society.

Career Opportunities

- Software designer;
- IT specialist;
- Multimedia designer
- Web sites designers and administrator;
- Information System Analyst, designer and programmer
- Database administrator;
- Networking administrator;
- Networking security designer, and administrator;
- Information system security
- Programming languages and IT trainer.

Graduate Attributes

The Graduate Attributes of the Program are as follows:

1. Technical Competence: Possess a strong foundation of technical knowledge and skills in various areas of Information Technology, including programming, database management, networking, and systems analysis.

2. Problem-solving Skills: Demonstrate the ability to analyze complex problems, identify solutions, and implement effective strategies using IT tools and techniques.

3. Adaptability: Adapt to new technologies and stay updated with the latest advancements in the field of Information Technology.

4. Collaboration: Work effectively as part of a team, communicate ideas clearly, and contribute to the achievement of team goals in IT projects.

5. Ethical and Professional Behavior: Exhibit ethical conduct, integrity, and professionalism in all aspects of their work, including respecting confidentiality, data privacy, and intellectual property rights.

6. Continuous Learning: Display a commitment to lifelong learning and professional development by actively seeking opportunities to enhance their skills and knowledge in the ever-evolving field of Information Technology.

7. Communication Skills: Possess excellent verbal and written communication skills to effectively convey technical information to both technical and non-technical stakeholders.

8. Problem Management: Demonstrate the ability to identify, analyze, and resolve IT-related problems efficiently, minimizing disruption to business operations.

9. Information Security Awareness: Understand the importance of information security, data protection, and privacy, and apply appropriate measures to safeguard information assets.

10. Innovation and Creativity: Embrace a mindset of innovation, thinking creatively to develop novel solutions and approaches to address IT challenges.

Department Committee

1. **Committee of curriculums and study plan at IT department**

The mission of the Curriculum Committee is to prepare and develop programs and study plans and review the characterization of the curricula, their objectives, their vocabulary and references, and then periodically evaluate them to keep abreast of developments in the field of computer and information technology. And continuous

coordination with the College Quality Committee to identify the relevant requirements and models as well as the outputs, methods of teaching and evaluation and determine their compatibility with the outputs of the learning outcomes have the following functions:

- Preparation and development of study plans for academic programs in Arabic and English versions in accordance with the standards of the curriculum unit and the university plans, the models specified in the procedural guide to the programs and the academic plans of the university, the standards and requirements of the ABET and the general guidelines for ACM / IEEE Taking into account the views of faculty member market and the community.
- Continuous coordination with the curriculum committee and the curriculum unit at the college and university.
- Determine the joint courses between the various programs within the college (college requirements) based on the recommendations of the councils of the scientific departments.
- Review, develop and study the coding, content and characterization of courses and prerequisites and the extent to which it is compatible expected educational outcomes, and with the objectives and vision of the department, college and university.
- Review, develop and study the compatibility and harmony between the curriculum and methods of teaching and evaluation with the expected outputs of education and with the objectives and vision of the department, college and university.
- Periodic review of the appropriateness of the knowledge and skills acquired by the student during his studies in the department with the requirements of the labor market.
- Determine the department's elective courses and submit recommendations to the department's scientific council.

2. **Committee of curriculums and study plan at FCIT**

The committee allows the development of the study plans for the programs and verifies their compatibility with the new changes in education, reviewing the study plan for the graduate

program and directing the approval of the completed plan, and presenting it to the Graduate Plans and Curricula Unit at the university.

The Committee shall have the following functions:

- Review the results of the periodic evaluation and submit the necessary proposals for improvement.
- Review the learning outcomes and approve the appropriate evaluation strategies and verify that this is compatible with the goals and vision of the college.
- Selection of internal and external arbitrators for developed and developed programs
- Supervise the continuous evaluation of study plans and curricula and review any change in the program and course descriptions.
- Provide the necessary recommendations regarding the discontinuation, development or development of future study programs.
- Study what is referred to it by the Dean of the College and submit appropriate recommendations.

3. Exams Committee at the department

The committee contributes to raising the level of education through quality in all procedures of testing.

The Committee shall have the following functions:

- General supervision of the conduct of final examinations in all departments of the College.
- Applying the systems and regulations of quality, evaluation and academic accreditation in the conduct of tests.
- Organizing the conduct of tests through the development of tables and the preparation of test committees.
- Follow up the work of the control in receiving the tests from the members and the formation of the monitoring committees.
- Supervise the delivery and receipt of test papers (questions - answer).
- To overcome all the difficulties faced by students during the tests to provide an environment suited to their needs.
- Educating and providing faculty members with the rules and regulations governing the conduct of tests.
- Raising cases of fraud and violations committed by students to the disciplinary committee.
- Submit periodic reports to pass the tests to the college agent.

4. Committee of students' instructions

The **committee of students' instruction** in IT department aims to supervise the students' affairs from instructions, directions and the student's complaints in addition to the several activities. The tasks of this committee can be summarized as follows:

- Directing and instructing the students in the department concerning the subjects and the necessary skills and monitoring the weak students and instructing them academically and psychologically.
- Studying the problems of students and suggesting solutions to them.

- Receiving the students' complaints concerning the curricula or teaching staff members .
- Presenting suggestions.

5. The defense/examination committee

The defense/examination committee is identified by the Vice-Dean for Graduate Studies and Research, FCIT, and IT department. The number of committee members must be at least three with supervisor.

6. Committee of labs, equipment and services at the department

The committee of Labs, Equipment and services in IT department takes a care to the affairs of the labs, equipment and services which is presents. The committee tasks can be summarized as follows:

- Ascertaining providing the lab equipment and the students services of the program.
- Ascertaining providing the maintenance plans to the labs, the equipment and the students' services.
- Presenting periodical reports to the department head at the end of every academic year to perform the necessary repairs/amendments.
- Supervising providing the procedures of the safety and security of the labs and the lesson halls and presenting the report about them to the department head.
- Spreading the awareness, preparing and distributing the instructional pamphlets to the students for different risks such as electrical and radiation at the start of the year.

7. Committee of development and quality at the department

Committee of development and quality gets feedback from students through surveys regarding the program's strengths and weaknesses. This feedback is used for program improvement.

8. Advisory Committee

Administratively, the committee reports to the head of the department and technically to the vice deanship for development and quality in the college. The advisory board committee aims to set plans, draw up policies and developing methodologies, contribute to development of strategic and academic plans of the faculty in accordance with the college's Quality Assurance Department policies and the labor needs. It also builds partnerships with the public and private sectors and determines their needs for hiring well-trained, qualified staff, through college graduates.

- The advisory committee comprises of members from program, Stakeholders, employees and experts in the relevant field. The role of the committee is to have holistic view of the program, the potential of its graduates, their employability and the overview of the global status of the industry with-in the KSA, regionally and globally.
- The advisory committee aims to have an oversight on the overall performance of the program and provide recommendation to the program academia which will help them in

tailoring the program to suit the demands of industry and also to provide them with guidance about the future challenges related to the program.

- The advisory committee also provides insight and feedback about the future development of the research and academic direction of the program, the need to offer higher education etc. It also serves as a platform/link between the academia and industry.
- Committee of curriculums and study plan at CS department.

9. Community Service and Skills Development Unit

Community Service and Skills development Unit is responsible for creating, writing, and implementing the Skills Plan for the college. The unit also supports the various community service events throughout the year by encouraging both students and staff members to participate in community services. The unit is also responsible of analyzing the skills requirements within the college and coordinates the execution of the personal skill development plans of staff and monitors the implementation of the skills plan and reports accordingly.

10. Scientific Research Unit

The Scientific Research Unit is responsible about the different research activities in the college including conferences, workshop, etc.. in an away that achieves the goals of scientific research. This can be acquired by encouraging faculty members and students to produce high quality research.

Programming Club

The "Programming Club" is a student-led organization within the faculty dedicated to fostering programming skills and knowledge among its members. It provides a platform for students interested in coding and software development to collaborate, learn, and engage in coding challenges, workshops, hackathons, and other programming-related activities.

The club aims to create a supportive community where members can share ideas, projects, and resources while enhancing their technical skills and networking with peers and professionals in the field.

Research activities

In keeping with the vision and mission of the Faculty of Computers and Information Technology, the IT program at the IT department supports and encourages department members to pursuance innovative scientific research that covering many areas of research related to Information Technology. Over the past three years, the faculty members have published many scientific papers in peer reviewed scientific journals, and have also participated in many research activities, conferences and workshops related to the following research areas:

- Artificial Intelligence;
- Pattern Recognition;
- E- learning; Mobile Applications;
- Software engineering;
- Mobile Applications;
- Natural Language Processing;
- Natural Language Processing;
- Networking security;
- Health Information Systems.

Requirements for Obtaining a Bachelor's Degree in Information Technology

To obtain a Bachelor's Degree in Information Technology from Information Technology Department, the student must complete (139) study hours as follows:

#	Requirements	Credit Hours
1	The Courses Required by the University	20
2	The Courses Required by the College	25
3	The Courses Required by IT Program	82
4	Elective Courses for IT Program	12
Tot l		**139**

The Courses Required by the University (20 Credit Hours)

Code		Nam e	Lec	Lab	Tut	CH	Prerequisite	
ISLS	**101**	**Islamic Culture(1)**	**2**	**0**	**0**	**2**	**N/A**	
ARB	**101**	**Arabic Language Skills**	**2**	**0**	**0**	**2**	**N/A**	
ISLS	**201**	**Islamic Culture (2)**	**2**	**0**	**0**	**2**	**ISL**	**101**
ARB	**201**	**Arabic Writing Skills**	**2**	**0**	**0**	**2**	**ARB**	**101**
ISLS	**301**	**Islamic Culture (3)**	**2**	**0**	**0**	**2**	**ISL**	**201**
ISLS	**401**	**Islamic Culture (4)**	**2**	**0**	**0**	**2**	**ISL**	**301**
CSC	**001**	**Computer Skills & Applications**	**4**	**0**	**0**	**3**	**N/A**	
LTS	**001**	**Learning Thinking & Research Skills**	**4**	**0**	**0**	**3**	**N/A**	
COMM	**001**	**Communication Skills**	**2**	**0**	**0**	**2**	**N/A**	
						20		

The Courses Required by the College (25 Credit Hours)

Code		Name	Lec	Lab	Tut	CH	Prerequisite	
MATH	100	Mathematics (1)	3	0	2	3	N/A	
PHYS	101	General Physics	3	0	0	3	N/A	
ELS	001	English Language Skills (1)	15	0	0	5	N/A	
ELS	002	English Language Skills (2)	15	0	0	5	ELS	001
BIO	101	General Biology	3	0	0	3	N/A	
CHEM	101	General Chemistry	3	0	0	3	N/A	
MATH	101	Mathematics (2)	3	0	2	3	MATH	100
						25		

The Courses Required by IT Program (82 Credit Hours)

Code		Name	Lec	Lab	Tut	CH	Prerequisite	
PHYS	281	General Physics Lab	0	2	0	1	PHYS	101
CSC	101	Computer Programming (1)	3	2	0	4	CSC	001
MATH	200	Fundamental of Integral Calculus	4	0	2	4	MATH	101
STAT	201	General Statistics	4	0	2	4	MATH	100
ELS	210	English for Computer Students	3	0	0	3	ELS	102
CSC	102	Computer Programming (2)	3	2	2	4	CSC	101
CSC	109	Computer Ethics	1	0	0	1	CSC	001
CIT	200	Fundamentals of Information Technology	3	0	0	3	CSC	001
CIT	240	E-Commerce	3	0	0	3	CIT CIT	200 230
MATH	251	Discrete Structures	3	0	2	3	MATH	101
ELS	301	Technical Writing	3	0	0	3	ELS	210
CSC	301	Visual Programming	2	2	0	3	CSC	1 02
STAT	311	Probability Theory	3	0	0	3	STAT	201
CEN	330	Computer Networks	3	2	0	4	CSC	210
CIS	340	Database Systems	3	2	0	4	CSC	220
CIT	341	IT Project Management	3	0	0	3	CSC	221
CSC	410	Operating Systems	3	0	0	3	CSC	210
CIT	420	Systems Integration and Architecture	3	0	0	3	CSC	221
CIT	450	Human Computer Interaction	3	0	0	3	CSC	301
CIT	453	Multimedia Systems	3	0	0	3	CIT	450
		Computer and Inform tion						
CIT	460	Security	3	0	0	3	CSC	220
CIT	491	IT Project (2)	1	4	0	3	CIT	490
						82		

Elective Courses of IT Program (12 Credit Hours)

Code		Name	Lec	Lab	Tut	CH	Prerequisite	
CSC	423	Advanced Software Engin ering	3	0	0	3	CSC	21
CIT	430	Advanced Internet and W b Technology	3	0	0	3	CIT	30
CIT	431	Website Management and Design	3	0	0	3	CIT	30
CEN	432	Advanced Computer Networks	3	0	0	3	CEN	30
CIT	433	Network Programming	3	0	0	3	CEN	30
CIT	434	Network Management and Planning	3	0	0	3	CEN	30
CIT	435	Network Operating Syste s	3	0	0	3	CEN	30
CIT	436	Network Servers	3	0	0	3	CEN	30
CIT	437	Multimedia Networking	3	0	0	3	CEN	30
CIS	440	Advanced Database Syste s	3	0	0	3	CIS	40
CIT	461	Advanced Information Security	3	0	0	3	CIT	60
CIT	462	Computer Forensics and Crimes	3	0	0	3	CIT	60
CIT	463	Network Security	3	0	0	3	CIT	60
CIT	464	Database Security	3	0	0	3	CIT	60
CIT	495	Special Topics in Information Technology	3	0	0	3	Departent's Appro val	

Courses Distribution based on Program Levels

Preparatory Year

Semester 1						
Code	*Name*	*Lec*	*Lab*	*Tut*	*CH*	*Pre*
COMM001	Communication Skills	2	0	0	2	N/A
CSC001	Computer Skills & Applications	4	0	0	3	N/A
MATH100	Mathematics (1)	3	0	0	3	N/A
ELS001	English Langauge Skills (1)	15	0	0	5	N/A
PHYS101	General Physics	3	0	0	3	N/A
Semester 2						
Code	*Name*	*Lec*	*Lab*	*Tut*	*CH*	*Pre*
LTS001	Learning, Thinking & Research Skills	4	0	0	3	N/A
MATH101	Mathematics (2)	3	0	0	3	MATH100
BIO101	General Biology	3	0	0	3	N/A
CHEM101	General Chemistry	3	0	0	3	N/A
ELS002	English Language Skills (2)	15	0	0	5	ELS0 1

Second Year

Semester 3						
Code	*Name*	*Lec*	*Lab*	*Tut*	*CH*	*Pre*
ISLS101	Islamic Culture (1)	2	0	0	2	N/A
CSC101	Computer Programming (1)	3	2	0	4	CSC001
ARB101	Arabic Language Skills	2	0	0	2	N/A
MATH200	Fundamental of Integral Calculus	4	0	0	4	MATH101
ELS210	English for Computer Students	3	0	0	3	ELS0 2
MATH251	Discrete Structures	3	0	2	3	MATH101

Semester 4						
Code	*Name*			*Tut*	*CH*	*Pre*
CSC102	Computer Programmin g (2)	3	2	0	4	CSC101
CSC109		1	0	0	1	CSC001
STAT201	Computer Ethics	4	0	2	4	MATH100
ARB201	General Statistics	2	0	0	2	ARB101
ISLS201	Arabic	2	0	0	2	ISLS101
CSC210	Writing Skills Islamic Culture (2) Computer	3	2	0	4	CSC101
PHYS 281	Organizatio n and	0	2	0	1	PHYS 01

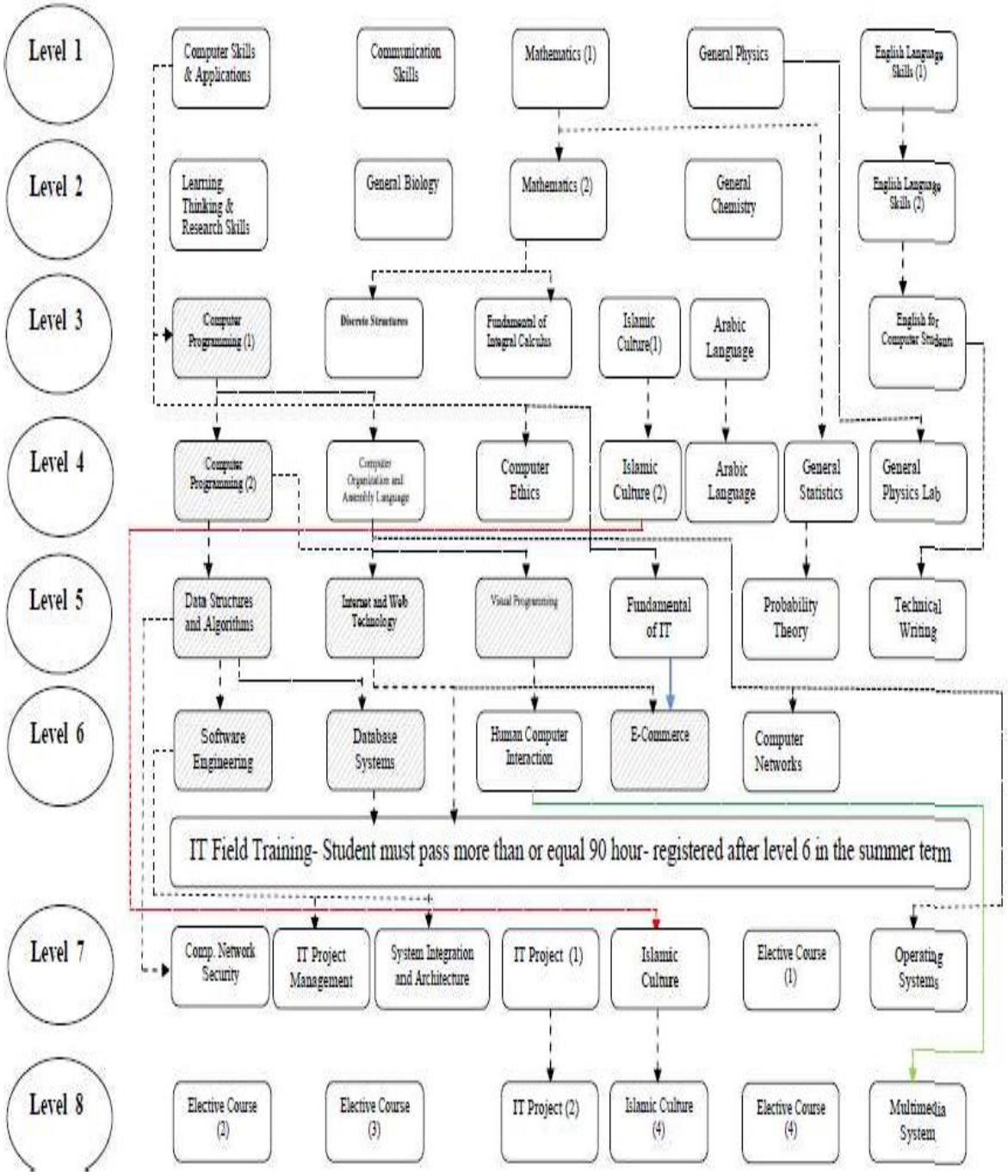
Third Year

Semester 5						
Code	***Name***	***Lec***	***Lab***	***Tut***	***CH***	***Pre***
CIT200	**Fundamentals of Information Technology**	**3**	**0**	**0**	**3**	**CSC001**
CSC301	**Visual Programming**	**2**	**2**	**0**	**3**	**CSC102**
CSC220	**Data Structures and Algorithms**	**3**	**0**	**2**	**3**	**CSC102**
CIT230	**Internet and Web Technology**	**2**	**2**	**0**	**3**	**CSC102**
ELS301	**Technical Writing**	**3**	**0**	**0**	**3**	**ELS21**
STAT311	**Probability Theory**	**3**	**0**	**0**	**3**	**STAT201**
Semester 6						
Code	***Name***	***Lec***	***Lab***	***Tut***	***CH***	***Pre*** n
CSC221	**Software Engineering**	**3**	**0**	**2**	**3**	**CSC22**
CIT240	**E-Commerce**	**3**	**0**	**0**	**3**	**CIT200** **CIT230**
CEN330	**Computer Networks**	**3**	**2**	**0**	**4**	**CSC21**
CIS340	**Database Systems**	**3**	**2**	**0**	**4**	**CSC22**
CIT450	**Human Computer Interaction**	**3**	**0**	**0**	**3**	**CSC30**
CIT390	**IT Field Training**	**0**	**0**	**0**	**0**	**Department Approval**

Fourth Years

Semester 7						
Code	***Name***	***Lec***	***Lab***	***Tut***	***CH***	***Pre***
ISLS301	**Islamic Culture (3)**	**2**	**0**	**0**	**2**	**ISLS20**
CSC410	**Operating Systems**	**3**	**0**	**0**	**3**	**CSC210**
CIT341	**IT Project Management**	**3**	**0**	**0**	**3**	**CSC221**
CIT420	**Systems Integration and Architecture**	**3**	**0**	**0**	**3**	**CSC221**
CIT460	**Computer and Information Security**	**3**	**0**	**0**	**3**	**CSC220**
CIT490	**IT Project (1)**	**1**	**0**	**0**	**1**	**Departme t's Approval**
Cxxxxx	**Elective Course (1)**	**3**	**0**	**0**	**3**	**Cxxxxx**
Semester 8						
Code	***Name***	***Lec***	***Lab***	***Tut***	***CH***	***Pre***
ISLS401	**Islamic Culture (4)**	**2**	**0**	**0**	**2**	**ISLS301**
CIT453	**Multimedia Systems**	**3**	**0**	**0**	**3**	**CIT450**
Cxxxxx	**Elective Course (2)**	**3**	**0**	**0**	**3**	**Cxxxxx**
Cxxxxx	**Elective Course (3)**	**3**	**0**	**0**	**3**	**Cxxxxx**
Cxxxxx	**Elective Course (4)**	**3**	**0**	**0**	**3**	**Cxxxxx**
CIT491	**IT Project (2)**	**1**	**4**	**0**	**3**	**CIT490**

Prerequisites Chart



Course Description for Bachelor of IT

Computer Skills and Applications: CSC-001: This course is an introduction to computer skills and applications. The course will cover basic concepts of computers and application programs. Topics covered include introduction: computer hardware, software and information technology, windows, word, excel, power point, access and the internet.

Computer Programming (1): CSC-101: The course introduces the students to the concepts of problem and the basic principles of programming. Then students proceeds with applications of that knowledge to develop algorithms and write computer C# code. Fundamentals of data storing and manipulation are explained. Students gain hand-on experience in the use of structured programming tools including compilers, linkers, and debuggers.

Computer Programming (2): CSC-102: This course provides an introduction to object-oriented programming. Topics include classes and objects: a deeper look, inheritance, polymorphism, interfaces & operator overloading, exception handling, graphical user interface concepts, strings, files and streams.

Computer Ethics: CSC-109: Computer technology is remarkably affecting every human being on the earth in a multitude of ways. Traditional ethical issues like security, privacy, integrity, responsibility, anonymity, property rights, and related social concerns are also greatly affected by our highly technological environment. This course analyzes the impacts of computer technology on traditional ethical and social issues. It explores the consequences of relatively new computer technologies, such as virtual reality, artificial intelligence, and the Internet.

Fundamental of Information Technology: CIT-200: Thiscourse provides knowledge about computer structure categories, computer applications, basic concepts of computing, components of the System, operating system, programing languages, databases, networks configuration, Internet, and information system development.

Computer Organization and Assembly Language: CSC-210: The course provides a comprehensive and up-to-date coverage of computer organization and Assembly language programming. Students are introduced to data representation, microprocessor functionality, memory organization, external storage, bus architecture, and input/output devices. Furthermore, the students learn nature of assembly language and how to write an assembly program. They will develop a simple application in assembly on different computational platforms.

Data Structures and Algorithms: CSC-220: The course introduces the main characteristics of different Abstract data types ADT as: Linked Lists, stack, queue, binary trees, and graphs. Determination of pre- and post-conditions for operations on an ADT. Study the complexity analysis using Generic Big Oh. The course introduces different elementary and advanced sorting algorithms. The different searching algorithms are presented as well as the recursive algorithms. Building dictionaries using different hash tables with different hashing functions, with the study the different techniques to resolving the collisions. The trees, its operations, and applications are introduced. The presentation of the graphs, graph algorithms as: graph traversal algorithms as DFS, BFS, the shortest paths using Dijkstra's algorithm, minimal spanning tree.

Software Engineering: CSC-221: The course gives an introduction to the principles and techniques used in software engineering. The course presents the Software Processes, Project Management, Software Requirements and specifications, System Models, Formal Specifications, Application Architecture, Object Oriented Design, User Interface Design, software testing and validation. Working in teams where students organize, manage and develop a software engineering project. Internet and Web Technology: CIT-230: This course is an introduction to various internet and web technologies. Topics include internet and web basics, World Wide Web, HTML, XHTML, cascading style sheets, web page design and java script.

Electronic Commerce: CIT-240: This course provides knowledge and understanding of main technologies behind electronic systems, interactions between these electronic systems, understanding designing of e-commerce and web based applications, and understanding of technical infrastructure of e-commerce sites.

Visual Programming: CSC-301: This course is a study of graphical-user-interface (GUI) and component-based programming. The course covers visual programming skills needed for modern software development. Topics will include event handling and event procedures, problem solving, business applications, game applications, database interface, and software design.

Computer Networks: CEN-330: This is a fundamental course designed to introduce current networking technologies, models and concepts in network communications. The course focuses on network terminology, protocols, and local area networks (LANs), wide-area networks (WANs), and Open System Interconnection (OSI) models and Ethernet standards. Up to date technologies ADSL, cable modems technologies are surveyed and its features explained including switches, hubs, routers and network cabling is introduced with Internet Protocol (IP) addressing, and OSI layers and network standards.

Database Systems: CIS-340: This course covers fundamentals of database architecture and systems. Topics system concepts and architecture, include databases and database users, database relational data model, the relational algebra and relational calculus, data modeling using the entity-relationship model, structured query language, functional dependency and normalization.

Operating System: CSC-410: This introductory course in operating systems provides a description of the concepts that underlie modern operating systems. The fundamental concepts covered in this course are based on those found in existing commercial operating systems in particular UNIX/Linux, and Microsoft Windows.

Human Computer Interaction: CIT450: This course provides an introduction to and overview of the field of human-computer interaction (HCI). HCI is an interdisciplinary field that integrates theories and methodologies from computer science, cognitive psychology, design, and many other areas. Course readings will span current theory and practice in interface specification, design and evaluation. Students will work on both individual and team projects to design, implement and evaluate computer interfaces.

Computer and Information Security: CIT-460: This course is intended to teach introduction to computer and information security, aspects of security, topics include cryptography, program security, operating system security, Database security, Network security, Web security, Management of security.

Multimedia Systems: CIT-453: This course is an introduction to the study and creation of multimedia (text, audio, images and graphics, and video) using various software programs. Students will learn both the aesthetic and technical aspects of multimedia design and production. Students will be introduced to animation and Web authoring and the business technology related to multimedia, working in teams to produce a full working multimedia systems. Students will use software programs such as Macromedia Dreamweaver, Flash, and Adobe Photoshop. Topics include Creating Multimedia, Text, Sound, Images, Moving Multimedia, Animation, Video, and multimedia's hardware. Students are also introduced to compression concepts and its relevance to multimedia.

Information Technology Project Management: CIT 341: This course is an introduction to the study of Information Technology project management. The course provides knowledge about time, cost, quality, communication, human resources, support, risk, and finalizing project management. In addition, the course explains the context of It project management with the organization and how to control information flow with different stakeholder.

System Integration and Architecture: CIT 420: This course is provides knowledge of systems' integration in terms of prerequisite operations, understanding front need to factor in the integration, test, verification and validation of a system in determining the system requirements, role of backend databases, Understand the criticality of defining, documenting and managing interfaces during system development, understanding system architecture, select suitable system architecture, understand fault diagnosis techniques, and applying suitable API techniques.

Information Technology Project (1): CIT 490: The graduation project challenges students to go beyond the learning that occurs as the result of their prescribed educational program by developing projects that demonstrate their intellectual, technical and creative abilities. Students shall complete their projects in areas of concentrated study under the direction and supervision of faculty members. The projects will demonstrate the students' ability to apply, analyze, synthesize, evaluate information, and communicate significant knowledge and comprehension. Personal growth and satisfaction are associated with the graduation projects. Students will derive sense of accomplishment through the completion and "ownership" of bodies of works that are reflections of their interests and abilities. Opportunities to expand their personal knowledge and explore careers and apply learning to real life situations will serve to benefit the students' growth and promote lifelong learning.

Information Technology Project (2): CIT 491: The graduation project challenges students to go beyond the learning that occurs as the result of their prescribed educational program by developing technical and creative abilities. Students shall complete their projects in areas al, of concentrated study under the direction and supervision of faculty members. The projects will demonstrate the students' ability to apply, analyze, synthesize, evaluate information, and communicate significant knowledge and comprehension. Personal growth and satisfaction are associated with the graduation projects. Students will derive sense of accomplishment through the completion and "ownership" of bodies of works that are reflections of their interests and abilities. Opportunities to expand their personal knowledge, explore careers, and apply learning to real life situations will serve to benefit the students' growth and promote lifelong learning.

Field Training: CIT-390: The course lasts 8 weeks to cover the training period of the third year during which students will undergo a practical training at an approval private, government or semi-government agency.

Advanced Database Systems: CIS-440: This course provides a comprehensive overview of the internal mechanisms of Database Management Systems (DBMS) and other systems that manage large data collections. The main topics include: Database Security and Authorization, Concepts for Object Databases, Enhanced Data Models for Advanced Applications, Distributed Databases and Client - Server Architectures, xml and Internet Databases, Data Mining Concepts, Data Warehousing and OLAP, Emerging Database Technologies and Applications.

Advanced Computer Networks: CEN-432: This course provides a comprehensive overview of principles of advanced computer networks, IP addressing, forwarding, and routing, BGP and adaptive routing, Multi-Protocol Label Switching (MPLS), Transport protocols and congestion control, Virtual Private Networks (L2, L3, and Hybrid), Metro Networks, Optical Networks, GMPLS (Generalized MPLS), and Other Hot Topics (Time permitting).

Advanced Software Engineering: CSC-423: The course will build on the knowledge and experience the student has acquired in CSC 221, Software Engineering I. It will further assist in understanding the principles and complexities regarding the software engineering life cycle of large software projects, and to experience and develop skills for working in a large group on a small to medium scale software project. Specific topics covered will include verification/validation, software quality, documentation, and maintenance.

Advanced Internet and Web Technology: CIT-430: This course highlights the code separation and modularity features that ASP.NET allows the student to create solid, easily-maintainable Web sites. In addition, ASP.NET's new Web Controls will be covered, including list, and grid controls along with postback and session features that maintain state and advanced repeater. Database access with ADO.NET is demonstrated, as disconnected data is read and updated via objects such as datasets and data views. As well giving students practical experience in creating common Internet applications since the underlying data format managed by ASP.NET is XML, the course includes coverage of how to work with and transform XML data using new objects, the document object model, or XSL.

Database Security: CIT-464: This subject focuses on security issues related to data and databases. In particular, the subject reviews practical security mechanisms and solutions, such as identity and access management (ex: grant/revoke model; security by views; query modification; auditing in databases; multi-level database security), cryptography (ex: watermarking and fingerprinting databases), secure communications and secure web applications (ex: XML database security; encrypted databases; SQL injection attack; anomaly detection in databases). It is also focusing on vulnerabilities and attacks that exist within various database environments or that have been used to attack databases.

Network Security: CIT-463 : Principles of network security and management. Review of network vulnerabilities, security at the link, network and transport layers; dial-up security (PAP, CHAP, Radius, Diameter), Keys distribution, IPSEC, SSL, SSH, and VPNS. Email security (PGP, S/MIME); Kerberos; X.509 certificates; SNMP security; firewalls; filters and gateways; policies and implementation of firewall policies.

Network Programming: CIT-433: The course build skills in writing networking programs (socket programming) to design new network services, components, client's applications, server programs, peer-to-peer services, and network maintenance. Understanding main principles of Internet like: addresses, routers, levels of network and transport layers protocols, How TCP protocol works: port numbers, active and passive opening, establishing connections.

Website Management and Design:CIT-431:The course introduces principles and approaches used to plan, design, create, manage, and enhance Web sites. Topics cover Web Sites Architecture, Web page elements: text, images, tables, forms, frames, hyperlinks and so on. Web page authoring tools, using multimedia, Cascading Style Sheets, Scripting languages, and managing web site content.

Network Management and Planning: CIT-434: Provide analytical and practical capabilities to design, deploy, and manage computer networks. Topics include: basic foundations of network management, the Simple Network Management Protocol in its different versions (SNMPv1, SNMPv2, and SNMPv3), Remote network Monitoring Management Information Base (RMON1 MIB, RMON2 MIB, and SMON MIB). Telecommunications Management Network (TMN), management tools and statistics measurement, management applications including: configuration, performance, event correlation, security, reports and serve levels.

Network Operating Systems: CIT-435: This course is an intensive introduction to multiuser, multitasking network operating systems. Characteristics of the Linux, Windows 2000, NT, and XP network operating systems will be discussed. Students will explore a variety of topics including installation procedures, security issues, back up procedures and remote access.

Network Servers: CIT-436: This course will explain to students important issues about server hardware technologies, including installation, configuring, and upgrading server hardware; preventive maintenance, troubleshooting, and disaster-recovery techniques for servers. It helps individuals certify their advanced technical knowledge of planning, installing, configuring, and maintaining servers.

Multimedia Networking: CIT-437: This course introduces current techniques in multimedia communications. It will introduce the main issues in multimedia communications and networking and it will introduce Multimedia compression, image, audio, video; Standards for multimedia communications; and broadband ATM networks; and Packet video in the Network environment.

Advanced Information Security: CIT-461: This course discusses the advanced Advance encryption: block and product ciphers, public key ciphers, crypto analysis methods, Key distribution, Data integrity, Methods of authentication, Digital signature.

Computer Forensics and Cyber Crimes: CIT-462: This course focuses on access control, forensic science principles, recovery, computer forensics, cyber-crime, digital evidence, digital forensics, evidence analysis, fingerprint recognition, forensic analysis, fraud detection, identification, information retrieval.

Special Topics in Information Technology: CIT-495: The course contents will be periodically reviewed by the instructors and the Undergraduate Committee to include new structural materials and test methods, as and when necessary. By the instructor and students with: Internet Searching, Class – workshops, Projects development and Technical reports and papers preparation.

Student Admission and Support

1. Student Admission Requirements

Admission requirements can be found at the following link:

https://www.ut.edu.sa/en/Deanship/dar/Pages/default.aspx

2. Guidance and Orientation Programs for New Students

There are several orientation workshops during the first week of the semester to guide new students about university and faculty regulations.

3. Student Counseling Services

Each student will be assigned an academic advisor who will act as a mentor, providing academic and career advice, and general counseling. Each student is required to meet his advisor at least once a week, during the semester. The Department will provide support to the students in the form of hosting extracurricular activities, field trips, and seminars by inviting guest speakers and providing an interactive learning environment. The Head of the Department is available to meet the students and listen to their academic problems and concerns. The faculty clubs are formed to help students undertake their activities.

Student counseling handbook: https://www.ut.edu.sa/ar/administration/vice-rector-for-academic-affairs/Documents/%D8%A7%D8%AF%D9%84%D8%A9/%D8%AF%D9%84%D9%8A%D9%84%20%D8%A7%D9%84%D8%B7%D8%A7%D9%84%D8%A8%20%D9%84%D9%84%D8%A5%D8%B1%D8%B4%D8%A7%D8%AF.pdf

Achievements

- Information Technology program in the department obtained international academic accreditation from the Academic Accreditation Commission for Engineering and Technical Sciences (ABET).
- Launching new program in department: Master in Information Security
- The department organized in collaboration with the college units in the college a number of scientific workshops.
- The Department organized a number of short training courses to enhance students' practical skills.
- The department organized IT day for its graduated students.

Aspirations

- Leadership and excellence in the field of information technology at the regional and international levels.
- Continue to create and publish innovative scientific research.
- Obtaining national and international academic accreditation.
- Continue in community service.

General Admission Criteria

The General Admission Criteria for the Academic Year 1443 H is:

1. The applicant must be a Saudi or of a Saudi mother.

2. The applicant must have a high school certificate or equivalent from inside or outside the Kingdom.

3. If a high school certificate is issued from outside the Kingdom of Saudi Arabia, it should be equalized by the Ministry of Education's Certificate Equivalency Committee.

4. The system of study in the high-school stage should be a full-time study system.

5. The high school certificate should not have passed more than five years. That is, the certificate was issued in the academic year 1437 AH - 1438 AH and onwards, taking into account the special conditions of health specialization.

6. The applicant's age should not be more than 25 years, i.e. born in 1996 AD and later.

7. The Standard Achievement Admission Test (SAAT) score should not be less than 50% (the available score will be approved during application).

8. The General Aptitude Test (GAT) score shall not be less than 50% (the available score will be approved during application).

9. The validity of the SAAT and GAT is as determined by the Education and Training Evaluation Commission.

10. The applicant should not have a previous academic record at the University of Tabuk during the last four academic years. If it becomes apparent after the final acceptance that he/she has an academic record, his/her acceptance will be cancelled.

11. The applicant should not be dismissed from the university or any other university in an academic or disciplinary field. If it becomes apparent after the final acceptance that he/she has been dismissed, his/her acceptance will be cancelled.

The Admission Criteria and the Mechanism for Calculating the Weighted and Equivalent Percentages of the Academic Year 1443 H is detailed in the Admission Guide of University of Tabuk.

For more details see Appendix 1: Admission Guide.

Academic student guide

The Academic student guide aims to:

- Educating male and female students about academic rules and regulations.
- Helping male and female students comprehend and understand university systems in an easy way.
- Notifying male and female students of the timetables for registering courses and academic movements.
- Explaining the steps and procedures for applying for academic processes and movements.

For more details see Appendix 2: Academic Student Guide.

Study and Examination Regulations for Undergraduate Students and the University of Tabuk Executive Regulations

Definitions

Academic Year:

The academic year consists of two main semesters and a summer semester, if available.

Semester:

The semester is a term of no less than 15 weeks of instruction in which courses are taught, not including the registration and final examination periods.

Summer Semester:

The summer semester is a term of no more than (8) weeks of instruction, not including the registration and final examination periods whereby the teaching time allocated for each course is doubled.

Academic Level:

The academic level refers to the study level. The required levels for graduation are eight or more according to recognized study plans.

Study Plan:

The study plan is a group of required, elective, and baccalaureate core courses that, their credit hours form the graduation requirements, students need to successfully pass in order to obtain the degree in the relevant specialization.

Course:

The course is a subject of study within a certain academic level of the approved degree plan in each major. Each course has a number, code, detailed specifications description - which distinguishes it and its content from other courses within a level – A portfolio on each course is kept in the corresponding department for the purpose of following-up, evaluation, and development. Some courses may have requirements, prerequisites, or concurrent requirements.

Credit Hour:

The credit hour is a weekly theoretical lecture with a duration not less than 50 minutes or a laboratory session with a duration not less than 50 minutes or a field/practical study of not less than 100 minutes duration.

Academic Probation:

Academic probation is a notification given to a student with a cumulative GPA below the minimum acceptable limit as explained in these regulations.

Class Work Score:

Class work score is the score which reflects the student's standing during a semester according to his/her performance in the examinations, research and other activities related to a particular course.

Final Examination:

The final examination is an examination in the course to be conducted once at the end of every semester.

Final Examination Score:

The final examination score attained by the student in each course on the final examination.

Course Grade:

The course grade is a description of the percentage, or alphabetical letter for the final grade the student obtained in a course.

Incomplete Grade:

The Incomplete grade is a temporarily provisional grade assigned for each course in which a student fails to complete the requirements by the required date. This is indicated in the student academic record with the letter grade ―"IC".

In Progress Grade:

The In-progress grade is a provisional grade assigned for each course which requires more than one semester to complete. The letter grade "IP" is assigned in this case.

Semester GPA:

Semester GPA is the total number of quality points the student has achieved, divided by the total credit hours assigned for all the courses the student has taken in any semester. The quality points are calculated by multiplying the credit hours by the grade earned in each course.

Cumulative GPA:

Cumulative GPA is the total number of quality points the student has achieved in all courses he/she has taken since his/her enrollment at the University, divided by the total number of credit hours assigned for these courses.

Graduation Ranking:

Graduation ranking is a description of the assessment of the student's scholastic achievement during the period of his/her study at the University.

Academic Load/Minimum Load:

The academic load is what a student must take in a semester based on his/her GPA, as determined by the University Council.

For more details see Appendix 3: UT Study Rules.

Academic Advising Guide

Academic advising is an essential procedure in educating students and it is very important to achieve the requirement of high quality in the educational. The academic advising procedures are detailed in Appendix 4: Student Academic Advisory booklet.

Students Rights and duties

This document of Students' Rights and Duties aims to acknowledge students' academic and service rights provided by the university according to its capabilities, how to obtain these rights and the competent authority. It also aims to raise students' awareness of their obligations towards the university in order to ensure the quality of academic work and the strong connection between the students, on the one hand, and the university faculty members and its units on the other hand, and the transparency and clarity this relationship should be with the various components of university work in its various fields.

The Students' Rights and duties are detailed in Appendix 5: Students Rights and duties.

Executive Regulations for Students' Complaints at the University of Tabuk

The University of Tabuk is keen to provide an unbiased and prosperous environment for students. This matter enhances achievement as well as academic interaction between students and faculty members based on mutual respect, fairness and the fulfillment of obligations.

The university is committed to fulfilling its obligations by providing students with an optimum educational environment consisting of excellent facilities and outstanding academic experiences. Equipped with these two fundamental components, students are thus geared to meet the university's strategic educational system's expectations and goals. This is in line with the university's mission and vision, which all students are expected to play an active role in by complying with the executive regulations and policies. Furthermore, the university has a system in place through which the students may submit their observations about various aspects of the educational process, in the form of questionnaires to measure the students' satisfaction, the student electronic system, and the preparation of student complaints and official grievance boxes.

For more details see Appendix 6: Executive Regulations for Students' Complaints at the University of Tabuk.

Student Disciplinary Policy at the University of Tabuk

The Student Disciplinary Policy at the University of Tabuk is detailed in Appendix 3: Student Disciplinary Policy at the University of Tabuk.

The systems, regulations, and procedures approved by the institution/college, including those related to grievance, complaints, and disciplinary cases

Regarding faculty members and staff, the University of Tabuk has provided systems, regulations, and approved procedures related to grievances, complaints, and disciplinary issues. Here is a description of the key documents in this area:

- The Organizational Regulations for the Affairs of Saudi University Employees, including faculty members and those who are the like (*Appendix 7*), and the Executive Regulation for Human Resources (*Appendix 8*), outline the procedures for dealing with disciplinary issues.
- The university has established mechanisms for dealing with complaints and grievances. It has permanent institutional committees to address these matters, whether for faculty members and those who are the like (*Appendix 9*) or for administrative staff.

Regarding students, the University of Tabuk has provided systems, regulations, and approved procedures related to grievances, complaints, and disciplinary issues. Here is a description of the key documents in this area:

- The Student Discipline Regulations at the University of Tabuk (*Appendix 10*) define violations and disciplinary penalties, responsibilities for monitoring student violations, the formation of disciplinary committees, the authority to impose disciplinary penalties, and the procedures for appealing disciplinary decisions. The university has also introduced an electronic communication system aimed at submitting complaints and grievances through a student services application. The procedural steps for this are outlined in the procedural guide for the Deanship of Student Affairs, as detailed in the Student Services Guide at the Deanship of Student Affairs (*Appendix 11*), pages 21-23. These efforts reinforce the rights granted to students by the university, as outlined in its regulatory regulations (*Appendix 12*).

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