Faculty Contact:
Dean’s Office
6952000 Ext:67508  Fax: 6952000 Ext:67437
E-mail : ialbidewi@kau.edu.sa
Website : http://computing.kau.edu.sa

History:
The faculty was established in 2006. It is comprised of three departments: Information Systems, Information Technology and Computer Science.

Vision:
To become a highly competent provider of education, research, and consultation in computing and information technology in the region.

Mission:
The college is committed to providing preeminent educational, research, and consultancy programs.

Unique Features:
The faculty contributes to the community’s evolution by conducting research and consultancy and by organizing educational training programs. It is the official host of the Saudi Society for Information Technology recognized throughout Saudi Arabia. The college also supervises the Computer Skills Courses taught to all KAU students.
Faculty of Computing and Information Technology

Graduation Requirements:
To earn a degree in Computing & Information Technology, students are required to complete 140 credit hours distributed as follows:

- 15 hours of prep year courses,
- 2 credit hours of free courses (university)
- 24 credit hours of faculty courses,
- 33 hours of faculty requirements
- 66 credit hours of departmental requirements.

Faculty Requirements (Credit Hours 24) All CIT students study 24 credit hours of the fl. courses:

<table>
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<tr>
<th>No.</th>
<th>Course Code</th>
<th>Course No.</th>
<th>Course Title</th>
<th>Credit</th>
<th>HOURS</th>
<th>Prerequisite</th>
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<tr>
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<td>201</td>
<td>Introduction To Computing</td>
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<td>202</td>
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<td>7</td>
<td>CPIS</td>
<td>334</td>
<td>Introductio to Software Project Mangement</td>
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<td>CPIS</td>
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<td>Professional Computing Issues</td>
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Affiliated Centers:

Center Name : Society of Saudi Information Technology
Background : Established in 2007 with His Royal Highness Prince Muqrin bin Abdulaziz as Honorary Pres. of the society.
Contact No. : Tel No.6952000  Ext No.67479
Email : fest.ogsr@kau.edu.sa
Website : http://computing.kau.edu.sa

Center Name : Computer Club
Background : The club serves as a community center for technology awareness and provision
Contact No. : Tel No.6952000  Ext No.67433
Email : mhaddad@kau.edu.sa
Website : http://computing.kau.edu.sa

Center Name : Computer Skills Unit
Background : The unit serves to supervise Computer Skills Courses (CPIT 100) taught to all KAU students.
Contact No. : Tel No. 6952000  Ext No. 51434
Email : ghaltalhi@kau.edu.sa
Website : http://computing.kau.edu.sa
**Department Contact:**
Chairman’s Office  
6952000 Ext:67969  Fax: 6952000 Ext:67997  
E-mail: ambarnawi@kau.edu.sa  
Website: http://computing.kau.edu.sa

**History:**  
The department was established in 2006.

**Vision:**  
To be recognized as the preeminent Computer Science Department in the region, known for its scientific innovation and commitment in delivering high-quality, industry-responsive, and technically oriented education, researches and services that fulfill the country needs.

**Mission:**  
To provide superior, cutting-edge educational experiences in areas related to Computer Science at both undergraduate and graduate levels.

**Departmental Requirements:**  
To earn a B.Sc. in Computer Science, students are required to complete 140 credit hours distributed as follows:  
- (41) hours of university courses,  
- (33) hours of faculty courses,  
- (66) credit hours of departmental courses,  
- (57) credit hours of core courses,  
- (9) credit hours of electives,  
- (2) credit hours of free courses (university).

**Department Core Courses** (Credit Hours 57)

<table>
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<th>No.</th>
<th>Course Code</th>
<th>Course No.</th>
<th>Course Title</th>
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<td>CPCS 241</td>
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**Total**  
57 54 21 3
Elective Courses: (Credit Hours 9) Students select 9 credit hours form the following courses:

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<th>No.</th>
<th>Course Code</th>
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<th>Course Title</th>
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<th>Lab</th>
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Course Descriptions:

**CPCS 202: Programming I**
This course is an introduction to programming, data types, basic instructions functions, recursion, dimensional arrays and algorithms of sort and search.

**Prerequisites:** CPIT 201

**CPCS 203: Programming II**
The course covers the characteristics of Object Oriented Programming: objects, encapsulation, inheritance, polymorphism, classes, and inheritance functions.

**Prerequisites:** CPIT 202

**CPCS 204: Data Structures I**
The course covers the abstraction of data types, arrays and link lists, stack, queues, trees, tables, sort and search and complexity analysis.

**Prerequisites:** CPCS 203

**CPCS 211: Digital Logic Design**
The course covers the logic circuits, Boolean algebra, logical equations and simplifies, registers, counters, design and integrated circuits.

**Prerequisites:** CPIT 201

**CPCS 214: Computer Organization and Architecture I**
The course covers representation and organization of data, instructions of the machine and memory systems, machine performance and digital logic.

**Prerequisites:** CPCS 211

**CPCS 222: Discrete Structures I**
The course covers the basic concepts of set theory, Boolean algebra, functions and relations, methods of proof, theory of numbers, counting techniques and graphs and trees.

**CPCS 223: Analysis and Design of Algorithms**
The course covers strategies and tools used in the analysis and design of algorithms using the knowledge and experience gained in previous courses.

**Prerequisites:** CPCS 204

**CPCS 241: Database 1**
The course covers the relational models and basic concepts and methods of analysis and design of databases, query language and applications.

**Prerequisites:** CPCS 204

**CPCS 301: Programming Languages**
The course is a comparative study between different languages in terms of philosophical, structural design

**Prerequisites:** CPCS 204, CPCS 222

**CPCS 302: Compiler Construction**
The course covers the analysis of structural and linguistic/syntax structure, stages of the compiler, Development and building of translation engines.

**Prerequisites:** CPCS 301
CPCS 323: Summer (Workplace) Training I
The course introduces students to the working environment in the area of specialization.

CPCS 324: Algorithms and Data Structures 2
The course covers advanced topics in algorithms and data structures, balanced tree, degree of complexity, with applications in different areas.
Prerequisites: CPCS 222, CPCS 223

CPCS 331: Artificial Intelligence 1
The course covers the historical roots of AI, Intelligence models - research methods and their limitations, fuzzy logic, extraction and machine learning.
Prerequisites: CPCS 204, CPCS 223

CPCS 351: Software Engineering 1
The course covers the concepts of Software Engineering, SDLC, tools and techniques used, identification requirements, structural design.
Prerequisites: CPCS 204

CPCS 353: Software Eng. Practices
The course covers the practical and operational aspects of software engineering projects and methodologies to develop software engineering projects.
Prerequisites: CPCS 351

CPCS 361: Operating Systems 1
The course covers the management and organization of computing processes and address issues of concurrent synchronization, scheduling and security.
Prerequisites: CPCS 214, CPCS 204

CPCS 371: Computer Networks 1
The course covers digital communication, networking technology and OSI/TCPIP layers, protocols. Local networks, access points, wireless networks, network security.
Prerequisites: CPCS 214

CPCS 372: Computer Networks 2
The course covers the advanced technologies in the media used in the transfer of information on networks, network programming, design applications on networks and management.
Prerequisites: CPCS 371

CPCS 381: Human-Computer Interaction 1
The course covers the understandings of the human element and its interaction and cooperation with the interfaces. direct application with graphical user interfaces and the Internet network.
Prerequisites: CPCS 204

CPCS 391: Computer Graphics 1
The course covers the basics ideas related to computer graphics, Techniques used to represent three-dimensional graphics, used Software packages
Prerequisites: CPCS 204, CPCS 212

CPCS 403: Internet Application Programming
The course covers the development of some commercial applications. Software in an environment of server / client. Structure of software applications for the Internet
Prerequisites: CPCS 371, CPCS 324

CPCS 404: Component-Based Computing
The course covers the basics components, access to various tools of technology in the components, verification of cost-saving industry, the future of programming using software components
Prerequisites: CPCS 351

CPCS 405: Software Technology Topics
The course focuses on techniques for software and programming like programming language design, software model, and their applications.
Prerequisites: CPCS 351

CPCS 413: Computer Architecture 2
The course covers the methods of design advanced instructions, sequences flow, methods of managing and measurement performance of processors, memory building, and simulation tools.
Prerequisites: CPCS 241

CPCS 414: High Performance Computing
The course covers the needs for high-performance computers, existing systems, measurement performance, and bottlenecks and applications.
Prerequisites: CPCS 361

CPCS 424: Theory of Computation
The course covers the concept of the theory of computation and its importance, and its different rules, mechanisms, languages.
Prerequisites: CPCS 222, CPCS 212

CPCS 425: Information Security
The course covers the encryption, software and algorithms of security, encryption by the private key, key exchange problems and the public key, and digital signature and security protocols.
Prerequisites: CPCS 361, CPCS 371

CPCS 432: Artificial Intelligence 2
The course covers advanced intelligence models and its applications, advanced topics in expert systems, recognition, advanced applications on them.
Prerequisites: CPCS 331

CPCS 433: Artificial Intelligence Topics
The course focuses on specialized topics: expert systems - Neural Networks - Pattern Recognition - Education machine - Normal speech processing
Prerequisites: CPCS 331

CPCS 442: Database 2
The course focuses on: distributed and parallel DBMS’s, methods of implementation, performance and its enhancement, security, data warehouse and data mining.
Prerequisites: CPCS 241
CPCS 454: Object-Oriented Analysis and Design
The course covers the description of the problem, preparing the diagrams that defining the relationship between the components of the system.
Prerequisites: CPCS 351

CPCS 457: Software Engineering Theory
The course covers the management software engineering, risk identification, scheduling operations, quality assurance, and design methods.
Prerequisites: CPCS 351

CPCS 462: Operating Systems 2
The course covers virtual memory study, scheduling, distributed and parallel processing systems, protection, performance and reliability.
Prerequisites: CPCS 361

CPCS 463: Computing Systems Security
The course covers security, risks and threats. It also covers security of network, internet management systems, and the future trends of security.
Prerequisites: CPCS 361, CPCS 371

CPCS 464: Dependable Computing
The course covers the high reliability systems, applications, mobile client system, security protocols, multi-distribution system, reliability of wireless networks.
Prerequisites: CPCS 463

The course covers computer systems, methods of measuring performance, measure the computer performance, computer modeling and modeling software.
Prerequisites: CPCS 324, CPCS 361

CPCS 466: Systems Programming
The course covers the software systems and application software in terms of construction, properties and areas of use.
Prerequisites: CPCS 361

CPCS 473: Computer Network Practice
The course covers the planning, designing and implementation of networks, and the protection of the network, and the evaluation network performance.
Prerequisites: CPCS 371

CPCS 474: TCP/IP & Web Networking
The course covers the TCP/IP and the Web, Protocols HTTP and related websites, Services and standards TCP/IP networks and the Web.
Prerequisites: CPCS 371

CPCS 482: Multimedia and User Interface Design
The course covers the use of multimedia in the design, implementation and interaction with the user interfaces of different media.
Prerequisites: CPCS 381

CPCS 494: Special Selected Topics
Students choose topics not included in their previous coursework, especially new and emerging topics in computer science.

CPCS 498: Graduation Project-1
This course gives students the opportunity to prepare project proposals and presentations.
Prerequisites: Year of Graduation

CPCS 499: Graduation Project-2
This course gives students the opportunity to demonstrate their knowledge of writing the final reports of their graduation projects.
Prerequisites: CPCS 498

FACULTY MEMBERS

Professors

Fadi Fouad Fouz
Computer Architecture and Networks
1981 Sheffield, UK
ffouz@kau.edu.sa
http://ffouz.kau.edu.sa/

Kamal Mansour Jambi
Computer Science
1991 Illinois Institute of Technology, USA
kjambi@kau.edu.sa
http://kjambi.kau.edu.sa/

Osama Ahmad Abulnaja
System Programming
1996 Wisconsin, USA
abulnaja@kau.edu.sa
http://abulnaja.kau.edu.sa/

Radi Abdulrahman Talab
Software Engineering
1990 Illinois, USA
rteleb@kau.edu.sa
http://rteleb.kau.edu.sa/

Fathy Elbouraey Eassa
Software Engineering
1989 Al-Azhar, Egypt
feassa@kau.edu.sa
http://feassa.kau.edu.sa/

Abdel-Fattah Mahmood Fares
Operating Systems and Distributed Systems
1992 Lviv Polytechnic National, France
afares@kau.edu.sa
http://afares.kau.edu.sa/

Arwa Yousef Al-Aama
Multimedia
2003 George Washington, USA
aalaama@kau.edu.sa
http://aalaama.kau.edu.sa/

Associate Professors

Kamal Mansour Jambi
Computer Science
1991 Illinois Institute of Technology, USA
kjambi@kau.edu.sa
http://kjambi.kau.edu.sa/

Fathy Elbouraey Eassa
Software Engineering
1989 Al-Azhar, Egypt
feassa@kau.edu.sa
http://feassa.kau.edu.sa/

Osama Ahmad Abulnaja
System Programming
1996 Wisconsin, USA
abulnaja@kau.edu.sa
http://abulnaja.kau.edu.sa/

Radi Abdulrahman Talab
Software Engineering
1990 Illinois, USA
rteleb@kau.edu.sa
http://rteleb.kau.edu.sa/

Abdel-Fattah Mahmood Fares
Operating Systems and Distributed Systems
1992 Lviv Polytechnic National, France
afares@kau.edu.sa
http://afares.kau.edu.sa/

Arwa Yousef Al-Aama
Multimedia
2003 George Washington, USA
aalaama@kau.edu.sa
http://aalaama.kau.edu.sa/
## Assistant Professors

<table>
<thead>
<tr>
<th>Name</th>
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<th>Degree</th>
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<tr>
<td>Abdullah Ahmad Basohail</td>
<td>Computer Science</td>
<td>1998 University of Florida, USA</td>
<td><a href="http://ezz.kau.edu.sa">ezz@kau.edu.sa</a></td>
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<td><a href="http://ezz.kau.edu.sa">ezz@kau.edu.sa</a></td>
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<tr>
<td>Ahmed Ezz Al-deen Ahmed</td>
<td>Artificial Intelligence</td>
<td>1997 Azhar University, Egypt</td>
<td><a href="http://ezz.kau.edu.sa">ezz@kau.edu.sa</a></td>
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<tr>
<td>Amin Yousef Noaman</td>
<td>Distributed Data and Warehouse Architecture and Design</td>
<td>1999 University of Manitoba, Canada</td>
<td><a href="http://anoaman.kau.edu.sa">anoaman@kau.edu.sa</a></td>
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<td><a href="http://anoaman.kau.edu.sa">anoaman@kau.edu.sa</a></td>
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<tr>
<td>Eitimad Ahmed Fadel</td>
<td>Computer Science</td>
<td>2007 De Montfort, UK</td>
<td><a href="http://anoaman.kau.edu.sa">anoaman@kau.edu.sa</a></td>
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<td>Farag Ibrahim Elnaghy</td>
<td>Computer Science</td>
<td>2004 Czech Technical University, Egypt</td>
<td><a href="http://felnaghy.kau.edu.sa">felnaghy@kau.edu.sa</a></td>
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<td>Hana Abdullah Al-Nuaim</td>
<td>Multimedia Design</td>
<td>2000 George Washington University, USA</td>
<td><a href="http://hnuaim.kau.edu.sa">hnuaim@kau.edu.sa</a></td>
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<td>Khalid Omar Thabit</td>
<td>Computer Science</td>
<td>1981 Rice University, USA</td>
<td><a href="http://drthabit.kau.edu.sa">drthabit@kau.edu.sa</a></td>
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<tr>
<td>Lamia Fattouh Hasssan</td>
<td>Data Mining and Artificial Intelligence</td>
<td>1999 Al-Azhar University, Egypt</td>
<td><a href="http://librahim.kau.edu.sa">librahim@kau.edu.sa</a></td>
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<td>Mai Ahmed Fadel</td>
<td>Design Patterns and Software agents</td>
<td>2007 Exeter University, UK</td>
<td><a href="http://mfadel.kau.edu.sa">mfadel@kau.edu.sa</a></td>
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<td>Manal Abdulaziz Abdullah</td>
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<td>Mohammad Abdul-hameed Hashimi</td>
<td>Computer Science</td>
<td>2000 University of Texas, USA</td>
<td><a href="http://mheshimi.kau.edu.sa">mheshimi@kau.edu.sa</a></td>
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<td><a href="http://mheshimi.kau.edu.sa">mheshimi@kau.edu.sa</a></td>
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<td>Mohammad Emran Khan</td>
<td>Computer Science</td>
<td>1997 Kaid-i-Azam University, Pakistan</td>
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<td>Nada Omar Bajnaid</td>
<td>Computer Science</td>
<td>2003 Wisconsin-Milwaukee, USA</td>
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<td>Nofe Atek Alganmi</td>
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<td>Samar Abdullah Babrouk</td>
<td>Computer Science</td>
<td>1994 University of Newcastle, UK</td>
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<td>Mohammad Abdul-shakor Amin</td>
<td>Computer Science</td>
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<td>Mohammad Yahya Dhahab</td>
<td>Computer Science</td>
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<tr>
<td>Nadine Akkari</td>
<td>Next Generation Networks: Mobility Management</td>
<td>2007 Ecole Nationale Superieure des Telecommunications, France</td>
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<td>Omaima Omar Bamasak</td>
<td>Mobile Agent Security and E-commerce</td>
<td>2006 Manchester University, UK</td>
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<td>Zaynab Elsayed Eyid</td>
<td>Automation</td>
<td>1991 University of Alexandria, Egypt</td>
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## Lecturers

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<tr>
<td>Arwa Abdulaziz Al-ljinjawi</td>
<td>Computer Science</td>
<td>2007</td>
<td>King Abdul-aziz Univ., Saudi Arabia</td>
<td><a href="mailto:aalinjawi@kau.edu.sa">aalinjawi@kau.edu.sa</a></td>
<td><a href="http://aalinjawi.kau.edu.sa">aalinjawi.kau.edu.sa</a></td>
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<tr>
<td>Asef Arshad Khan</td>
<td>Computer Science</td>
<td>2000</td>
<td>University of India, India</td>
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<tr>
<td>Dalal Ibraheem Zahran</td>
<td>Government</td>
<td>2008</td>
<td>King Abdul-aziz Univ., Saudi Arabia</td>
<td><a href="mailto:dzahran@kau.edu.sa">dzahran@kau.edu.sa</a></td>
<td><a href="http://dzahran.kau.edu.sa">dzahran.kau.edu.sa</a></td>
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<tr>
<td>Manar Sayed Ali</td>
<td>Computer Science</td>
<td>2004</td>
<td>University of London, UK</td>
<td><a href="mailto:mali@kau.edu.sa">mali@kau.edu.sa</a></td>
<td><a href="http://mali.kau.edu.sa">mali.kau.edu.sa</a></td>
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<tr>
<td>Mohammad Ali-Taher</td>
<td>Software Engineering</td>
<td>2005</td>
<td>King Abdullah University, Jordan</td>
<td><a href="mailto:saltaher@kau.edu.sa">saltaher@kau.edu.sa</a></td>
<td><a href="http://saltaher.kau.edu.sa">saltaher.kau.edu.sa</a></td>
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<tr>
<td>Samar Mohammad Alkhurajji</td>
<td>Computer Science</td>
<td>1987</td>
<td>King Abdul-aziz Univ., Saudi Arabia</td>
<td><a href="mailto:salkhurajji@kau.edu.sa">salkhurajji@kau.edu.sa</a></td>
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<td>Soha Fauzi Hawamdah</td>
<td>Computer Science</td>
<td>2006</td>
<td>Jordanian University, Jordan</td>
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<tr>
<td>Sultanah Mohammad Al-Shammary</td>
<td>Computer Science</td>
<td>2007</td>
<td>King Abdul-aziz Univ., Saudi Arabia</td>
<td><a href="mailto:sshammary@kau.edu.sa">sshammary@kau.edu.sa</a></td>
<td><a href="http://sshammary@kau.edu.sa">sshammary@kau.edu.sa</a></td>
</tr>
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</table>
Department of Information Systems

Department Contact:
Chairman’s Office
Tel: 6952000 Ext: 67438 Fax: 6952000 Ext: 67437
E-mail: fcit.dcis@kau.edu.sa
Website: http://computing.kau.edu.sa

History:
The department was established in 2006.

Vision:
To be recognized as the preeminent Information Systems Department in the region, known for its scientific and practical innovations and commitment in delivering high-quality education and market-responsive researches and services, serving management purposes.

Mission:
To provide superior, cutting-edge educational experiences to students and provide them with the essential practical skills required to excel all areas related to Information Systems.

Departmental Requirements:
To earn a B.Sc. in Computer Science, students are required to complete 140 credit hours distributed as follows:
• 41 hours of university courses,
• 33 hours of faculty courses, and
• 24 hours of faculty courses (core)
• 66 credit hours of departmental courses,
• 9 hours of faculty courses (free)
• 57 hours of departmental courses (core)
• 9 hours of departmental courses (selective)
# Department of Information Systems

## Department Core Courses (Credit Hours 57)

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<th>No.</th>
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Students select 9 credit hours from the following courses: (Credit Hours 9)

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Course Description:

CPI 210: Computer Architecture and Organization
The course covers logic and digital design, processors structure, data organization, processor operations data flow and controls, memory structure, input output systems, processing types.
Prerequisites: CPCS 202

CPI 220: Principles of Information Systems
The course covers the information systems definition, design, use and components, decision theory, decision-making processing, importance of building and using databases.
Prerequisites: CPCS 202

CPI 222: Principles of Operating Systems
The course covers operating systems components, processes management, synchronous computing, processor and storage scheduling, memory management, file system, i/o system.
Prerequisites: CPCS 204 CPCS 210

CPI 240: Database Management Systems I
Relational models, relational algebra and database analysis design, normalization and analysis, data storage, model indexing and performance, SQL.
Prerequisites: CPCS 204

CPI 250: Software Engineering
The course covers the software engineering, software building management, analysis, design, testing, maintenance and improvement. Its also covers the estimated time and resources needed to build software.
Prerequisites: CPCS 204

CPI 312: Information and Computer Security
The course covers the information security, data networks security, encryption, digital signature and authentication, and security protocols.
Prerequisites: CPI 370

CPI 320: Decision Support Systems and Theory
The course covers the decision-making, players theory and Bi analysis, model sensitivity analysis, risk, and uncertainty analysis, software packages for supporting decisions.
Prerequisites: CPI 220

CPI 323: Summer (Workplace) Training I
The course introduces students to the working environment in the area of specialization. It provides them with some knowledge of the practical problems and applied research in the areas of Applied Information Systems.

CPI 330: Advanced Software Project and Quality Management
Project planning, budget estimation, standard measurements, project implementation and follow-up, quality standard operations.
Prerequisites: CPI 3340 CPI 357

CPI 333: Introduction to Software Project Management
The course covers software project management, phases, requirements estimation and project planning, programs quality, team identification and management risk identification.

CPI 340: Database Management Systems II
The course covers object oriented databases design. It presents the types of databases, distributed databases, measuring and improving performance of databases, synchronization, restoration, databases management.
Prerequisites: CPI 240

CPI 342: Data Warehousing and Mining
The course covers data warehousing and mining, extraction, transfer and download data, methods of mining, analytical methods for data mining, rules of engagement for mining.
Prerequisites: CPI 240

CPI 350: Systems Design Patterns
The course covers patterns, structure of the software, classical methods of software architecture, official forms, Software development(Multi Tier) Program design.
Prerequisites: CPI 250

CPI 351: Information System Analysis & Architecture Design
The course covers the methods of analysis, analysis tools, requirements identification, data collection, analysis of data, external design of the system, general structural design.
Prerequisites: CPI 250 BUS 232

CPI 352: IS Applications Design & Development
The course covers software components, development and models, software design for reuse, modeling, Object-Oriented Programming, infrastructure for advanced programming.
Prerequisites: CPI 351

CPI 354: Principles of Human Computer Interaction
The course covers human thinking and memory, factors of thinking, user requirements, concepts of interfaces design, interactive interfaces, user interface assessment.
Prerequisites: CPI 250

CPI 356: SW Metrics and Economics
The course covers human thinking and memory, factors of thinking, user requirements, concepts of interfaces design, interactive interfaces, user interface assessment.
Prerequisites: CPI 250

CPI 357: Software Quality and Testing
The course covers quality of software, testing methods, planning the tests and quality assurance conduct perform tests of different phases, proficiency tests.
Prerequisites: CPI 334 CPI 250

CPI 358: Internet Applications and Web Programming
The course covers software building, applications based on Internet services, the structure of server / client, databases for internet, XML and SOAP, managing the period of site visiting.
Prerequisites: CPI 250

CPI 360: Advanced Information Systems Technologies
The course covers object-oriented databases, distributed databases, repositories of data, methods of mining, analytical methods, SQL for data repositories, classification and prediction.
Prerequisites: CPI 240
**Department of Information Systems**

**CPIS 363: Intelligent Systems**
The course covers intelligent systems, working methods, use, purpose Design, and build applications methods of dissemination, the problems of assistant intelligent systems.

**Prerequisites:** CPIS 250

**CPIS 370: Fundamentals of Data Networks**
The course covers data transfer, structural model, data packets, protocols, hardware layer, encoding, data transfer, data flow, routing wireless networks, security installation, protocols testing.

**Prerequisites:** CPIS 222

**CPIS 380: Introduction to E-Business Systems**
The course presents the differences between traditional and e-business, building e-business, technology in businesses, e-business technologies, issues related to the use of e-business.

**Prerequisites:** CPIS 351 CPIS 358

**CPIS 424: Modeling and Simulations**
The course covers modeling, simulation, and generating random numbers, analysis of simulation results, random variable generating, generating distribution function, queues.

**Prerequisites:** CPIS 250

**CPIS 428: Professional Computing Issues**
Professional Computing Issues The course covers proliferation of computers, information age, areas of computers in the modern world, legal aspects, computer professionals associations, career and professional ethics.

**Prerequisites:** CPIS 323

**CPIS 430: Information Systems Change Management**
The course covers steps of changing the information systems, development of information systems management of sophisticated information systems, administrative steps.

**Prerequisites:** CPIS 330

**CPIS 434: Information Systems Strategies and Policies**
The course covers the triangle of strategic planning, managing the technical resources, evaluation of technology, strategic use of information technology, adoption of solutions and new ways of working.

**Prerequisites:** CPIS 220

**CPIS 444: Knowledge Management**
The course covers knowledge management, models, and requirements levels, types and methods of collection, and classification collection tools, participation and distribution.

**Prerequisites:** CPIS 240

**CPIS 461: Business Information Systems**
The course covers information systems in business, infrastructure, CRM systems, production systems and electronic distribution, support systems sales and marketing.

**Prerequisites:** CPIS 360

**CPIS 462: Information Systems Applications**
The system applications offered in the course are determined by the department in accordance with the requirements of the labor market, such as: geographic information systems - medical information systems.

**Prerequisites:** CPIS 461

**CPIS 464: Distributed Systems**
The course covers distributed systems, models, networks and intranets, operating systems, security, file systems. domain services and names, distributed operations, mobile and multimedia.

**Prerequisites:** CPIS 370

**CPIS 465: Geographic Information Systems**
The course covers geographic information systems, assessment, and applications, representation of geographical data, GIS software implement geographic information systems.

**Prerequisites:** CPIS 220

**CPIS 466: Office Automation Systems**
The course covers office automation planning and implementation, electronic storage systems communication systems, data networks in an office environment, human factor.

**Prerequisites:** BUS 232 CPIS 351

**CPIS 472: Data Networks Design and Management**
The course covers requirements of networks and users, technical and feasibility studies, data networks design performance assessment, permissions and distribute resources management.

**Prerequisites:** CPIS 370

**CPIS 483: E-Systems Applications**

**Prerequisites:** CPIS 482

**CPIS 486: E-Business Strategies**
The course covers e-business and virtual organization, globalization and e-business, strategies to change the e-business, virtual societies, the transition to e-business, internet and mobile work.

**Prerequisites:** BUS 232 CPIS 483

**CPIS 490: Selected Topics in IS**
Students choose topics not included in their coursework, especially new and emerging topics in information science.

**Prerequisites:**

**CPIS 498: Graduation Project-1**
This course provides students with the opportunity to prepare proposals of their graduation projects and presentations.

**Prerequisites:** Year of Graduation

**CPIS 499: Graduation Project-2**
This course provides students with the opportunity to demonstrate their knowledge of writing the final reports of their graduation projects.

**Prerequisites:**

**CPIS 358: Internet Applications and Web Programming**
The course covers software building, applications based on Internet services, the structure of server / client. databases for internet, XML and SOAP, managing the period of site visiting.

**Prerequisites:** CPIS 250

**CPIS 323: Summer (Workplace) Training I**
The course introduces students to the working environment in the area of specialization. It provides students with some knowledge of practical problems and applied research.
# Department of Information Systems

## Faculty Members

### Professors

**Abdul Hamid Mohamed Ragab**  
Electronic Systems Engineering  
1985 Essex, UK  
http://aragab.kau.edu.sa

**Mohammad Ahmad Alfayoumi**  
Mohammad Ahmad Alfayoumi  
Information Systems  
1981 Bukharest University, Romania  
m_fayoumi99@yahoo.com

**Shehab Ahmed Gamal el-Din**  
Intelligent Software Engineering  
1989 University of Colorado at Boulder, USA  
mostafa@kau.edu.sa  
http://mostafa.kau.edu.sa

**Khalid Abdullah Fakeeh**  
Information Computer Systems  
1993 George Washington University, USA  
kfakeeh@kau.edu.sa  
http://kfakeeh.kau.edu.sa

**Mohammad Ahmad Alfayoumi**  
Information Systems  
1981 Bukharest University, Romania  
m_fayoumi99@yahoo.com

**Shehab Ahmed Gamal el-Din**  
Intelligent Software Engineering  
1989 University of Colorado at Boulder, USA  
mostafa@kau.edu.sa  
http://mostafa.kau.edu.sa

**Associate Professors**

**Gibrael Al Amin Abo Samra**  
Artificial Intelligence  
1992 Cairo University, Egypt  
gabosamra@kau.edu.sa  
http://gabosamra.kau.edu.sa

**Ibrahim Abdul-mehsen Al-bidewi**  
Electrical and Electronic Engineering  
1993 Swansea University, UK  
ialbidewi@kau.edu.sa  
http://ialbidewi.kau.edu.sa

**Mostafa El-sayed El-Sherbini**  
System Analysis  
2000 Al-mansoora University, Egypt  
msherbini@kau.edu.sa  
http://msherbini.kau.edu.sa

**Saleh Mesbah Algaffas**  
Information Technology  
1993 Alexandria University, Egypt  
selkaffas@kau.edu.sa  
http://selkaffas.kau.edu.sa

**Ibrahim Abdul-mehsen Al-bidewi**  
Electrical and Electronic Engineering  
1993 Swansea University, UK  
ialbidewi@kau.edu.sa  
http://ialbidewi.kau.edu.sa

**Mostafa El-sayed El-Sherbini**  
System Analysis  
2000 Al-mansoora University, Egypt  
msherbini@kau.edu.sa  
http://msherbini.kau.edu.sa

**Saleh Mesbah Algaffas**  
Information Technology  
1993 Alexandria University, Egypt  
selkaffas@kau.edu.sa  
http://selkaffas.kau.edu.sa

**Associate Professors**

**Abdullah Saad AL-Ghamdi**  
Software Engineering  
2003 Georg Washington University, USA  
aalmalaise@kau.edu.sa  
http://aalmalaise.kau.edu.sa

**Adnan Mustafa Al-Bar**  
Software Development  
2004 University of Sussex, UK  
aminbar@kau.edu.sa  
http://aminbar.kau.edu.sa

**Ayman Ghazi Fayoumi**  
Computer Networks  
2005 Colorado State University, USA  
aafayoumi@kau.edu.sa  
http://aafayoumi.kau.edu.sa

**Daniyal Mohammed Alghazzawi**  
Artificial Intelligence and Computer Security  
2007 University of Kansas, USA  
dghazzawi@kau.edu.sa  
http://dghazzawi.kau.edu.sa

**Fatma Abdul-rahman Ba-othman**  
Artificial Intelligence  
2003 University of Huddersfield, UK  
bbaothman@kau.edu.sa  
http://bbaothman.kau.edu.sa

**Mahmood Ibraheem Kamel**  
Computer Engineering and systems  
1991 Cairo University, Egypt  
miali@kau.edu.sa  
http://miali.kau.edu.sa

**Manal Abdulkaziz Abdullah**  
Computer Engineering  
2002 Ein Shams University, Egypt  
maaabdullah@kau.edu.sa  
http://maaabdullah.kau.edu.sa

**Moatham Ahmad Sidiqi**  
Information Systems  
2008 University of Central Florida, USA  
muzezzam@gmail.com

**Nidal Abdul-rahman Yosef**  
Information Systems  
2008 Amman, Jordan  
mbzowef@kau.edu.sa  
http://mbzowef.kau.edu.sa

**Saleh Mohammad Al-Shomrani**  
Database Design  
2008 Kent State University, USA  
sbshomrani@kau.edu.sa  
http://sbshomrani.kau.edu.sa

**Assistant Professors**

**Faris Amin Abo-Hashish**  
Computer Science  
2004 University of Jordan, Jordan

**Farrukh Saleem Saleem**  
Computer Science  
2002 University of Karachi, Pakistan

**Mohammad Tayeb Wahid**  
Software Engineering  
1998 University of Malaysia, Malaysia  
mwahid@kau.edu.sa  
http://mwahid.kau.edu.sa

**Moadh Farouq Odeh**  
Information Systems  
2007 Al-Balqa Applied University, Jordan  
modeh@kau.edu.sa  
http://modeh.kau.edu.sa

**Rahathullah Khan**  
Maintenance and Programming  
2006 Othmania University, India  
rkhan@rckau.edu.sa  
http://rkhan1.kau.edu.sa

**Onsor Ghazal Ali**  
Computer Science  
1993 University of Panjab, India  
avgali@kau.edu.sa  
http://avgali.kau.edu.sa

**Sara Ali**  
Computer Applications  
2003 Othmania , India  
fsa@kau.edu.sa  
http://fsa@kau.edu.sa

**Lecturers**

**Saleh Mohammad Al-Shomrani**  
Database Design  
2008 Kent State University, USA  
sbshomrani@kau.edu.sa  
http://sbshomrani.kau.edu.sa

**Farrukh Saleem Saleem**  
Computer Science  
2002 University of Karachi, Pakistan

**Mohammad Tayeb Wahid**  
Software Engineering  
1998 University of Malaysia, Malaysia  
mwahid@kau.edu.sa  
http://mwahid.kau.edu.sa

**Moadh Farouq Odeh**  
Information Systems  
2007 Al-Balqa Applied University, Jordan  
modeh@kau.edu.sa  
http://modeh.kau.edu.sa

**Rahathullah Khan**  
Maintenance and Programming  
2006 Othmania University, India  
rkhan@rckau.edu.sa  
http://rkhan1.kau.edu.sa

**Onsor Ghazal Ali**  
Computer Science  
1993 University of Panjab, India  
avgali@kau.edu.sa  
http://avgali.kau.edu.sa

**Sara Ali**  
Computer Applications  
2003 Othmania , India  
fsa@kau.edu.sa  
http://fsa@kau.edu.sa
Department Contact:
Chairman’s Office
Tel: 6952000 Ext: 67433 Fax: 6952000 Ext: 67434
E-mail: malhaddad@kau.edu.sa
Website: http://computing.kau.edu.sa

History:
The department was established in 2006.

Vision:
To be recognized as the pre-eminent Information Technology Department in the region, known for its scientific innovation and commitment in delivering high-quality, industry-responsive, and practically oriented education, researches and services that fulfill the country’s needs.

Mission:
To provide superior, cutting-edge educational experiences in areas related to Information Technology at both undergraduate and graduate levels.

Departmental Requirements:
To earn a B.Sc. in Information Technology, students are required to complete 140 credit hours distributed as follows:
• (41) hours of university courses,
• (33) hours of faculty courses, and
• (66) credit hours of departmental courses,
  • (57) credit hours of which are core courses,
  • (9) credit hours of electives,
  • (2) credit hours of free courses (university).
# Department of Information Technology

## Department Core Courses (Credit Hours 57)

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Total 57 57 19 3

## Elective Courses

Students select 9 credit hours from the following courses. (Credit Hours 9)

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## Course Descriptions:

**CPIT 100: Computer Skills**
The course covers the essential IT knowledge and computer skills and the basics of eLearning and distant learning.

**CPIT 201: Introduction to computing**
The course covers the concepts of computing science, number representation, computer architecture, operation systems and algorithms.

**CPIT 210: Computer Architecture**
The course covers the microprocessor design, including CPU and memory, and interfacing between hardware and software.

**Prerequisites:** CPIT 201

**CPIT 220: Introduction to IT**
The course covers information technology, computers, and computer networks and their roles and application in modern digital society.

**Prerequisites:** CPIT 201

**CPIT 221: Technical Writing**
The course covers technical writing abilities, research methods, media and formats, and presentation skills.

**CPIT 323: Summer (Workplace) Training I**
The course introduces students to the working environment in the area of specialization and trains student to report on their observations of work systems.
CPIT 240: Databases I
This course introduces relational databases and SQL with the background to design, implement, and use database management systems.
Prerequisites: CPCS 204

CPIT 250: System Analysis and Design
This course provides a methodical approach to developing information systems including planning, analysis, design, and implementation.
Prerequisites: CPCS 204

CPIT 251: Software Engineering I
The course covers software specification, software design, implementation, software verification and testing and documentation.
Prerequisites: CPIT 250

CPIT 252: Software Design Patterns
This course introduces software design patterns, techniques for designing reusable and object-oriented components.
Prerequisites: CPIT 251

CPIT 260: Operating Systems
This course introduces operating systems concepts of process management, memory management, and storage management.
Prerequisites: CPIT 210 CPCS 204

CPIT 285: Computer Graphics
This course provides an introduction to the principles of computer graphics and the design of graphics software systems.
Prerequisites: CPCS 204

CPIT 280: Human-Computer Interaction
This course introduces students to Human-Computer Interaction (HCI), user interface design as well as ubiquitous computing.
Prerequisites: CPIT 250

CPIT 330: IT Planning and Designing
This course covers planning for information technology projects, their components and life cycle and practical evaluation of real projects.
Prerequisites: CPIT 220 CPIT 250

CPIT 340: Database II
This course covers the concepts of distributed databases and methods of design and implementation and Databases Security.
Prerequisites: CPIT 240

CPIT 345: Database Administration
The course covers relational and object-oriented database design and normalization and distributed databases security.
Prerequisites: CPIT 240

CPIT 370: Computer Networks
The course covers the standard models of networks, networks topology, wireless networks and network data security.
Prerequisites: CPIT 260

CPIT 375: Data Network Design and Evaluation
The course covers users’ requirements determination, concepts of data networks, privileges determination and network resources distribution.
Prerequisites: CPIT 370

CPIT 380: Multimedia Technologies
This course covers multimedia and multimedia components, design multimedia presentation, and multimedia applications and communications.
Prerequisites: CPIT 285

CPIT 405: Internet Applications
This course covers internet technologies, development of the internet server and programming for the web, Internet and web services.
Prerequisites: CPIT 250 CPIT 252

CPIT 425: Information Security
The course covers the basic concepts of information security, encryption techniques, distributed systems and e-commerce security.
Prerequisites: CPIT 370

CPIT 430: Decision Support Systems
The course covers the basic elements of the decision support systems process, models of DSS, and DSS supporting systems.
Prerequisites: CPIT 330

CPIT 435: Needs Assessment and Technology Evaluation
The course covers process analysis, techniques of data exploration and extraction, patterns of data warehouses and application areas.
Prerequisites: CPIT 340

CPIT 436: E-Business Technology
Prerequisites: CPIT 435

CPIT 440: Data Mining and Warehousing
The course covers process analysis, techniques of data exploration and extraction, patterns of data warehouses and application areas.
Prerequisites: CPIT 340

CPIT 445: Knowledge Engineering
The course covers quality assurance in software engineering, methods of software testing, and processes development in software production.
Prerequisites: CPIT 251

CPIT 455: Software Engineering II
The course covers quality assurance in software engineering, methods of software testing, and processes development in software production.
Prerequisites: CPIT 251

CPIT 456: SW Economics
The course covers economic concepts in the process of software development, models of integrated operations, and risk management in building software.
Prerequisites: CPIT 251
Department of
Information Technology

CPIT 470: Networks Administration
The course covers the basics of network management, techniques of network performance improvement, and network security.
Prerequisites: CPIT 370

CPIT 475: Wireless Data Networks
This course covers the basics of wireless communications technology and wireless transmissions, satellites and mobile Communications.
Prerequisites: CPIT 370

CPIT 480: Fundamentals of Instructional Technology
This course includes systematic methods in instruction design, objectives analysis procedures, and performance evaluation.
Prerequisites: CPIT 380

CPIT 485: User-Centered System Design
This course covers life cycle, components and techniques of the user-centered system design, and methods for assessing design effectiveness.
Prerequisites: CPIT 280

CPIT 490: Selected Topics in IT
This course aims to provide students with recent topics in the field and applications of information technology.

CPIT 498: Graduation Project-1
This course aims to give students the opportunity to demonstrate skills acquired during their study through writing project proposals.
Prerequisites: Graduation year

CPIT 499: Graduation Project-2
In this course, students submit their CPIT-498 projects. They are required to submit project documentation and present their findings in a seminar.
Prerequisites: CPIT 498

Hassanin Mohammad  
Al-Barhamtoshby  
Software Engineering  
1992 Al- Azhar University, Egypt  
hassanin@kau.edu.sa  
http://hassanin.kau.edu.sa/

Mohamed Ashraf Madkour  
Computer Networks Architecture and Protocols  
1981 Ain Shams University, Egypt  
mamadkour@kau.edu.sa  
http://mamadkour.kau.edu.sa/

Abdulfattah Suliman Mashat  
Computer Science  
1999 Leeds University, UK

Amr Abdel Aziz Sharaf  
Cryptography and E-Applications Development  
1987 Cairo University, Egypt  
amrsh@kau.edu.sa  
http://amrsh.kau.edu.sa/

Reda Mohamed Khalifa  
Computer Science  
1995 Kassel University, Germany  
rkhalifa@kau.edu.sa  
http://rkhalifa.kau.edu.sa/

Sami Mohammad Halwani  
Information Systems  
1996 George Washington University, USA  
halawani@kau.edu.sa  
http://halawani.kau.edu.sa/

Khalid Waheeb Magld  
Mobile Networking  
2007 Bradford, UK  
kmagld@kau.edu.sa  
http://kmagld.kau.edu.sa/

Mohamed Ahmed Khamis  
Computer Protocol and Client Server Application  
1996 University of Gent, Belgium  
mkhamis@kau.edu.sa  
http://mkhamis.kau.edu.sa/

Maysoon Fouad Abulkhair  
Multilingual & Web Usability  
2004 University of Sheffield, UK  
mabulkhair@kau.edu.sa  
http://mabulkhair.kau.edu.sa/

Tariq Fouad Hamdi  
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1998 George Washington University, USA

Wajdi Hamed Al-Jedaibi  
Software Testing and Engineering  
2001 George Mason University USA

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halawani@kau.edu.sa
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