# STUDENT HANDBOOK
# Version 3.0

## BACHELOR IN COMPUTER & NETWORK ENGINEERING PROGRAM


DEPARTMENT OF COMPUTER AND NETWORK ENGINEERING
COLLEGE OF COMPUTER SCIENCE & INFORMATION TECHNOLOGY
JAZAN UNIVERSITY
KINGDOM OF SAUDI ARABIA.

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## 1. MESSAGE FROM THE DEPARTMENT HEAD

Kingdom of Saudi Arabia has a mission and vision in terms of the development of its governmental sectors for increasing the economy and building citizens knowledge and awareness. Jazan University is considered one of these sectors. Computer and network engineering department is one of Jazan university colleges departments which has to contribute in this development. However, this mission and vision will not be achievable without students and faculty members help to the administration of the department. In this occasion, I would encourage the transparency and collaborative work among staff. Students themselves need to participate in this development by following all instructions and academic advising are offering to them from the department and respect the regulations of the university. The students also have to attend their classes and to be very close to their instructors by visiting them regularly in their office hours. In addition, I would love to advise each member of the department, whether that member is a student or a teacher, of knowing his responsibilities and getting benefit from any mistake he has in his work so we can achieve the aims of the department, the university and the government since without correcting our mistakes or limitations there would not be any development neither for ourselves nor for the government. By the end, I would love to thank the university and the college for its continuous support and thank everybody in the department for all their efforts towards teaching and collaborative work and I hope for them more progress.

**Dr. Abdoh Jabbari**
**Head of Computer and Network Engineering Department**

## 2. INTRODUCTION

### 2.1 Background

The department of Computer and Network Engineering is one of the core Departments of college of Compute Science & Information Technology, Jazan University and was started in the year 2009. The Department offers a Bachelor's Degree in Computer and Network Engineering.

The Department has highly Competent Academic Staff which comprises of 29 full time teaching staff out of which, there is 1 Associate Professor, 8 Assistant Professors, 20 Lecturers. The Current numbers of Students in the Department are 690.

The Courses offered in the Department, comprise of 4 Tracks namely Hardware Engineering, Communication System, Net-Centric Computing and Advance Networking. The Department is offering Courses in the Area of Networks such as Computer Networks, Network Administration, Network Architecture & Design, Network Programming, Cloud Computing, Routing & Switching, Cisco Networking, Wireless Networks, Network Operating Systems, Network Security, and Introduction to CCNA.

### 2.2 GOALS:

1. To prepare skilled graduates in the field of computer and network engineering.
2. To assist the students to acquire the values of continuous learning and self-development.
3. To contribute in effective research in the field of Computer and Network engineering
4. To contribute in the social needs of the community in the field of computer and network engineering.

## VISION:

We aim at building a competitive environment of education, research, innovation and entrepreneurship in the field of Computer and Network Engineering to help the community.

## MISSION:

To provide best practices of education, research, innovation and entrepreneurship to our students in the field of computer engineering and networks, so they contribute in building a vibrant society.

### 3. CONTACT INFORMATION

**Department Name:** Department of Computer and Network Engineering

**Department Contact Information:**

Phone number: 0173295000 Ext. 6663

Office location: College of Computer Science and Information Technology, Jazan University, Main Campus, Jazan, Kingdom of Saudi Arabia

For more information about the Department and to look at the home pages of faculty members, please visit the Department website:

https://www.jazanu.edu.sa/en/colleges/csit/cent

# 4. STUDENTS REGULATIONS AND POLICIES

## 4.1 Admission requirements and registration

### 4.1.1 Requirements

1- The Student must be a Saudi citizen or have a Saudi mother.

2-The student must have obtained a high school diploma or academic equivalent from inside the Kingdom or abroad.

3- Student must take general aptitude exam.

4- The student must not have been dismissed from the university or any other university due to academic or behavioral reasons. It is required of any student who has previously studied at any university or college to provide documentation that he has not been dismissed academically.

5-No high school diploma will be accepted in which 5 or more years have passed.

6-The student must obtain permission from the concerned party that he is free to study if he is employed either in the government sector or the private sector.

7- Acceptance is based on the set percentage that is determined by the University.

8- Any other conditions will be placed by the University at the time of application.

### 4.1.2 Admission and Registration procedure

1. Upon primary online nomination, applicant will see three options:

A) **(Accept and Confirm)**

Pressing this option means that the applicant is accepting the offered primary nomination and confirms it as final acceptance without any competition for other specialty in case seats are available.

B) **(Accept and Upgrade)**

Pressing this option means that the applicant is accepting the offered primary nomination with and authorizes the university to upgrade their admission to another program if a seat becomes available.

C) **(Withdraw)**

Pressing this option means that the applicant does not accept the offered primary nomination. This is considered a final withdrawal and a withdrawal form can then be printed online.

2. Not confirming primary nomination within the allowed time means that the applicant does not wish to join Jazan University. This will cause the applicant to lose their right to admission and as will as their access to their online account.

3. At the end of acceptance process applicant's state online is changed to (primarily accepted) or (finally accepted) and receives college, specialty, and student number online.

4. An applicant can withdraw after receiving student number by printing a Withdrawal form (a Clearance form) online. In this case the current admission will be terminated and the applicant will be eligible for admission after two academic years.

5. Accepted students should complete the final acceptance procedure by making reservation for issuing University Student card following these steps:

- *sign in to the online account.*
- *access the University Student Card page (using student number or national id number)*
- *select a date for issuing student card*
- *print out student card issue date slip*
- *print out notice of admission slip having met these conditions, the final admission is confirmed.*

### 4.1.3 Readmission

1. A dropped-out student can apply for readmission at the Deanship of Admission and Registration according to these rules:

- A readmission request should be submitted prior to the intended readmission semester
- A readmission request has to be approved by the student's college council or any third party authorized by this council.
- If the expulsion occurred four semesters prior to the intended readmission semester (or two academic years in colleges that follow the full year system), a student can then apply for a new admission where admission conditions apply and a new university ID is issued.
- Readmission is allowed only once and University Board has authority to make exceptions.
- Readmission is not allowed for students expelled for academic or disciplinary reasons.

## 4.2 STUDENT SERVICES

The Department of Computer and Network Engineering provides excellent students services like Advanced Laboratories, Smart classrooms, Library, Academic advising, Cafeteria, students parking, services for students with special needs include Elevators, special parking, ramps, toilets specially designed for students with special needs apart from all the services offered from college and Jazan University listed below.

### 4.2.1 Student Activities (Extra Curricular & Curricular)

Student activities are one of the most important issues of the university. The Deanship of Student Affairs endeavors hard to provide excellent student services and care including accommodation, food, and university book centers. In addition, the Deanship organizes various cultural, social, and sports programs and arts with an objective to build strong student personality and refine their talents through engaging in useful activities. Student activities include two main lines:

**A. Central Activities:**

University activities and events designed and organized by the Deanship of Student Affairs.

**B. Peripheral Activities:**

Activities organized and executed separately by Faculties and Colleges under supervision of the Deanship of Student Affairs.

The Department conducts seminars, training programs and workshops regularly for students to gain knowledge in current technologies and trends in the Job market, apart from these competitions for programming is conducted at interdepartmental, intercollege as well university level.

Mini projects are developed related to several courses, at the end of every semester best mini projects from these courses are displayed in an exhibition at department level, best 3 mini projects are chosen for intercollege mini project exhibition and competition, where the best projects are awarded with certificates and prizes.

***Student Clubs***

1. Jazan University Scouts Clan.
2. Theatre Club.
3. Computer Club.

### 4.2.3 Accommodation and Food

#### 4.2.3.1 Accommodation Office

In addition to providing amicable learning environment and cordial social university life, the Deanship of Student Affairs is also keen to provide comfortable student accommodation. Jazan University accommodation is best known for cleanliness, quietness, and comfort.

#### 4.2.3.2 Accommodation Requirements

1. Regular students, and when there is vacancies, post-graduate and visiting students.
2. Applicant's hometown is beyond 70 kms from the campus. When there are limits in vacancies priority is given to the farthest.
3. Applicant has not previously been dismissed from the university housing.
4. Applicant must sign form to adhere to student accommodation regulations and rules.
5. Applicant is free from infectious diseases according to a medical certificate.
6. Applicant pays accommodation fees via one of the national banks as instructed by the Deanship of Student Affairs.
7. Applicant has no previous record of misconduct.

### 4.2.4 Food Administration

Food Administration supervises food services for resident students as well as services, monitoring caterer's services, licenses, and contracts. The administration also organizes official banquets and ceremonies. In addition, the administration manages university cafeterias, restaurants, and canteens, and organizes events on healthy nutrition habits in consultation with expert health nutritionists.

### 4.2.5 Medical Service General Administration

The department comprises of several units including university medical care centers, ambulance units, university mobile clinics, university medical committee, and university health enhancement unit.

### 4.2.6 Central Library

The Central Library is the center of learning resources in Jazan University. The library holds a huge collection of Arabic and foreign literature resources and books. It also contains specialized departments for periodicals and automated indexing system that facilitates search for library resources and loans. For the benefit of users, the library provides special reading cabins with internet access points.

The Central Library aims to:

1. Provide excellent up-to-date learning resources.
2. Facilitate scientific research literature.
3. Adopt cutting-edge technologies in library management.
4. Acquire latest IT as a means of communication.
5. Establish cooperation links with international libraries.

### 4.2.7 Graduate Relations and Employment Unit

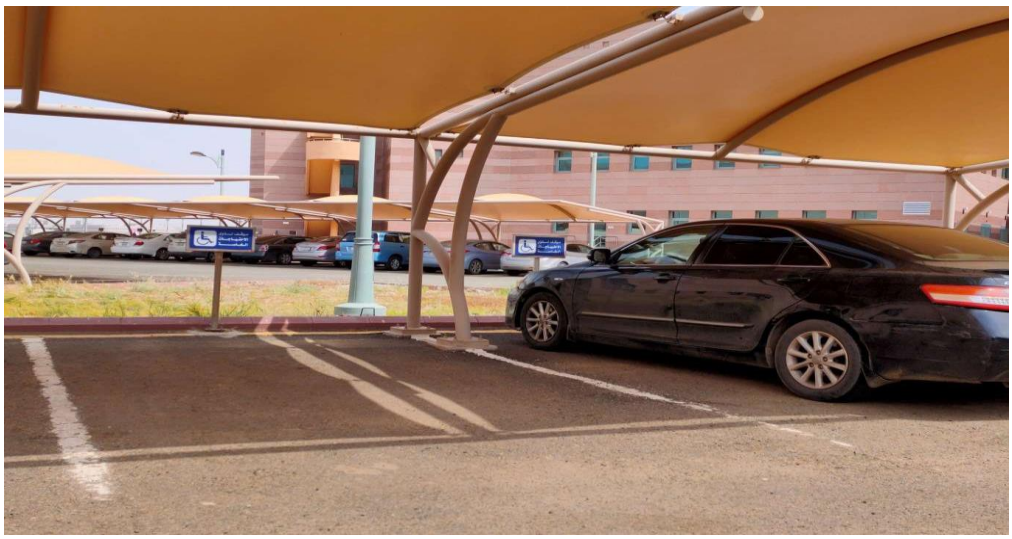
The unit serves achieving national qualifications framework, provision of graduate professional guidance, and establishing fruitful partnerships with local employers and labour market. Other major functions of the unit include professional training via e-training system, training workshops, and brochures, fliers and placards. The unit also organizes Annual Employment Day and graduation ceremonies.

### 4.2.8 Innovation and Entrepreneurship Centre

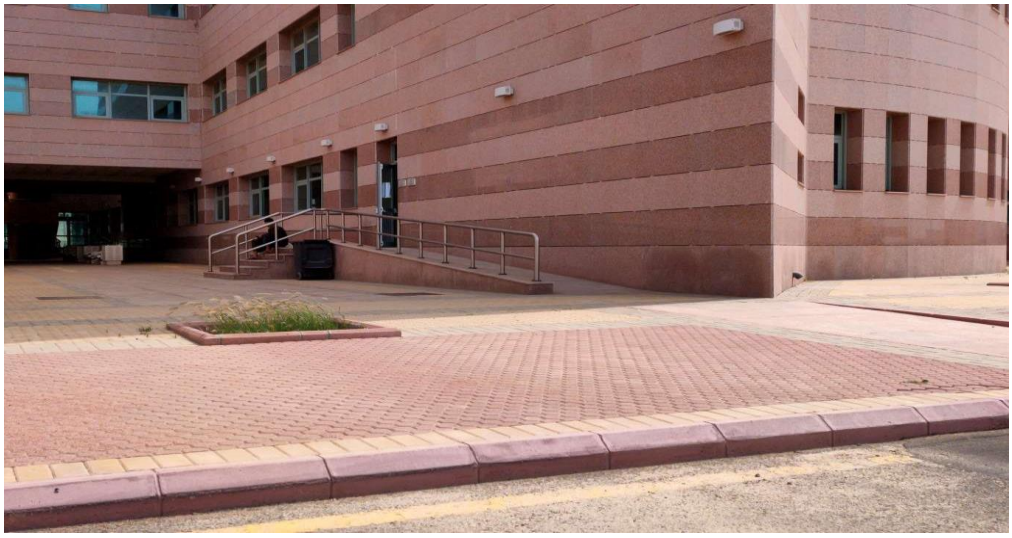
The center was established in 1435H to achieve university's excellence in innovation and entrepreneurship. It supervises and encourages student innovative ideas and initiatives. It is one of the basic pillars of knowledge economy that strives to identify and build talented students. The center aims at nourishing innovation, encouraging students to submit their innovative ideas, facilitating application of student creative thoughts, caring for talented students, and marketing of student research results. The center accommodates several units to support innivative and entrepreneurial culture on campus.

### 4.2.9 Special Needs for Students

The college has many facilities for the special need of its students like Special parking, Ramp for wheelchair facility, elevators, washrooms for special needs etc. The facilities are provided as per International Standards with the quality and adequacy and are monitored by the specialized team on a regular basis. The proper notices and equipment's for the health and safety have been provided in due locations.



*Car Parking for special needs students*



*Ramps for special needs students*


*Bathrooms for special needs students*

*Elevators*

## 4.3 Study Cost

Jazan university is a government university and it offers free education to all Saudi national students who fulfil all the admission requirements, apart from free education it also provides scholarships and all other facilities as per the guidelines of ministry of education.

For more information visit:

https://www.moe.gov.sa/en/HigherEducation/ResidentsandVisitors/Pages/ScholarshipstoNon-Saudis.aspx

Scholarships to Non-Saudis
Saudi Arabian government offers two types of scholarships to non-Saudis to get higher education in Saudi Arabian universities, as follows:
Internal Scholarships:
To non-Saudi students legally residing in KSA.
Overseas Scholarships:
To non-Saudis from outside KSA.

There are three types of scholarships to join Saudi universities given their various benefits as follows:
Full Scholarships:
In this type, students enjoy all the benefits.
Partial Scholarships:
In this type, students enjoy some benefits; in it, the educational institutions offers the recipients of partial scholarships, a seat or a seat and accommodation.
Paid Scholarships:

Donors who are not universities pay for these scholarships.

Scholarships are granted in accordance with the rules and regulations that are set by the board of directors of the concerned educational institution and they do not contradict with existing regulations applicable in this regard.

#### 4.3.1 Student Educational Fund

Student Education Fund is a fundamental administration within the Deanship of Student Affairs through which all of student activities are funded and run. This is done with close cooperation with University Financial Management Department. In addition to financing all student activities, the Student Fund also provides for other student services including loans, subventions, and subsidies. The Fund also finances Student Part-time Job Project within campus. In this project five male and five female students are hired to take up paid part-time jobs within campus in their colleges or at different university Administrative Departments and Deanships.

### 4.4 Ethics awareness for students (honesty, copyright, cheating, maintaining facilities)

# Student Rights and Duties

## *Student Rights*

According to rules and regulations, the student is entitled to:

1. Amicable learning environment and quality education in view of Jazan University vision 2020.
2. University ID card to use on and outside campus.
3. Graduation Certificate.
4. Care, safety, social security, and health care.
5. Use of facilities and services including accommodation, library, activities centre, restaurants, and parking.
6. Security and privacy of information and academic record.
7. Access to academic and administrative departments.
8. Free thinking within Islamic teachings and traditions.
9. Academic counselling with professional academic adviser.
10. Information of study plans, curricula, and time tables.
11. Easy access to course registration and learning resources.

12. Clear exam regulations, time tables, and model answers.
13. Access to all student facilities, events, and activities.
14. Promptness of teaching staff in class and office hours.
15. Special need student facilities and care.
16. Membership of student committees.
17. Access to incentives and rewards.
18. Notification of substandard academic performance.
19. Justice with disciplinary committee actions.
20. Right to defend in disciplinary hearings.

### *Student Duties*

1. Comply with University rules and regulations.
2. Avoid misconduct on and off the campus.
3. Attendance of lectures and activities.
4. Show student ID card upon demand.
5. Adhere to proper traditional uniform on campus.
6. Avoid cheating and plagiarism.
7. Protect University property, equipment, and facilities.
8. Proper use of University computing and internet.
9. Abstain from unauthorized activities and associations.
10. Refrain from issuing unauthorized leaflets and brochures.
11. Refrain from unauthorized fund raising.
12. Kind treatment of faculty, staff, and employees.
13. Keep and maintain official email address.
14. Follow up University announcement and information.
15. Sincerity in pursuing learning activities.
16. Keep time frame for academic services.
17. Bring no dangerous material and weapons on campus.

## 4.5 VIOLATIONS AND PENALTIES

### Violations and Penalties

#### *A. Violations*

Infractions include all violations of Islamic faith teachings, laws, University rules, government regulations. Student committing such infractions and violations will be subjected to disciplinary action by College and/or University Disciplinary committees.

1. Violation of University regulations and damage its property.
2. Intended disruption of education activities and exams.
3. Actions and words that threaten dignity and honour.
4. Cheating and plagiarism.
5. Attending exams on behalf of others.
6. Formation of unauthorized associations.
7. Assembling unauthorized events.
8. Vandalizing University property, facilities, and equipment.
9. Unauthorized and unapproved distribution of leaflets and brochures.
10. Unauthorized and unapproved collection of donation.
11. Unauthorized and unapproved use of camera and filming equipment.
12. Forgery in all sorts and forms.
13. Contravening University smoking regulations.
14. Profane treatment with other students, faculty, staff, and employees.
15. Possession of hazardous material and weapons on campus.
16. Absence from University accommodation without notice.
17. Failure to comply traditional uniform and attire

### *B. Penalties*

1. Verbal or written notice with a copy placed in academic file.
2. Written warning with a copy to parent.
3. Denial of some University benefits (e.g. accommodation)
4. Denial of one or more final exams.
5. Suspension for one semester or more.
6. expulsion from university.

In all cases, a violating student is liable for all damaged properties replacements, repairs, instalments as well as punitive damages.

## 4.4.1 Students Responsibilities

- Comply with University rules and regulations.
- Attendance of lectures and activities.
- Show student ID card upon demand.
- Adhere to proper traditional uniform on campus.
- Avoid cheating and plagiarism.
- Proper use of University computing and internet.
- Abstain from unauthorized activities and associations.
- Kind treatment of faculty, staff, and employees.
- Keep and maintain official email address.
- Follow up University announcement and information.
- Sincerity in pursuing learning activities.
- Keep time frame for academic services.

### 4.4.2 Students Misconduct (destroying, defacing, damaging, or misusing)

- Avoid misconduct on and off the campus.
- Protect University property, equipment, and facilities.
- Refrain from issuing unauthorized leaflets and brochures.
- Refrain from unauthorized fund raising.
- Bring no dangerous material and weapons on campus

## 4.6 Student Assessment

Student assessment is the process of judgment of students' skills and knowledge at course and program levels. Effective assessment helps to improve student's learning. Towards meeting the objectives of teaching and learning and improving the quality of teaching and learning it's vital to ensure effective assessment procedure throughout the program. The college of Computer Science and Information Technology at Jazan University is therefore confidently assessing all students' activities at program and course levels. In Computer Science program faculty use a range of assessment measures including Case studies, Mini Projects, Assignments, Internal-exams, Lab exams and Final written examinations in order to obtain a clear picture of what students have learned; utilizing this variety of methods also avoids the potential weaknesses and give the chance for further improvement.

### Student Assessment Schemes

The following assessment schemes are being guided by the current reviewed curriculum.
Scheme-1: For the courses with Lab

| | | |
|---|---|---|
| 1 | Midterm Exam | 20% |
| 2 | Assignments / Mini-project | 20% |
| 4 | Final Lab Exam | 20% |
| 5 | Final Exam | 40% |

Scheme-2: For the courses with Lab (Programming)

| | | |
|---|---|---|
| 1 | Midterm Exam | 20% |
| 2 | Assignments | 10% |
| 3 | Mini Project | 10% |
| 4 | Final Lab Exam | 20% |
| 5 | Final Written Exam | 40% |

Scheme-3: For the courses without Lab

| | | |
|---|---|---|
| 1 | Midterm Exam | 20% |
| 2 | Assignments | 20% |
| 4 | Paper / Case studies Presentation | 20% |
| 5 | Final Written Exam | 40% |

## 4.7 Grade Point Average (GPA) Calculation

a. oral and practical exams, research, and curricular activities, or a selection of this in addition to one written test, or

b. A minimum of two written exams.

2. Faculty Board approves Department Board recommendation to include oral/practical parts in final exam.

3. Department Board allows student to complete a prerequisite course on recommendation of teaching faculty.

4. General grade for GPA upon graduation is as follows:

- (Excellent) GPA no less than 4.50
- (Very Good) GPA 3.75-4.49
- (Good) GPA 2.75-3.74
- (Pass)GPA 2.00-2.74

5. Honours are granted according to GPA on conditions that:

- Student has not failed courses in Jazan University or elsewhere.
- Student completed graduation requirement within time frame.
- Student completed 60% of graduation requirements in Jazan University

## 4.8 Students Attendance Policies

1. Regular student is denied attending final exam if attended less than 75% of lectures and practical/clinical lessons during semester. Course work marks are added to denied student academic record and appear as (DN). Denial is approved by Faculty Board before start of final exams.
2. Faculty Board cancels denial for acceptable reasons made in application by student who attended at least 50%.

## 4.9 Academic Advising

### 4.9.1 Psychologically

### 4.9.2 Professionally

### 4.9.3 Socially

- Assign Teaching staff member as academic advisor to a group of students.
- Announce reminder about the meeting between advisor and the student
- Monitor student attendance record.
- The academic advisor is expected to deal with student's academic, career, and personal problems.
- The academic advisor helps his students examine the course offerings in their major and understand their graduation requirements.
- The academic advisor helps the student explore the career fields within his/her major, and obtain related career information and survey job opportunities.
- The academic advisor serves as a link between the student and the administration by counseling the student on matters of failure, on the procedures for dropping and adding courses, course scheduling, and academic progress.
- The academic advisor must alarm students of the exclusion procedure well in advance, and of any subsequent changes that might be enforced during the course of their studies.

## 4.10 TRANSFER POLICIES

### 4.10.1 Course Equivalence

Courses completed in university of origin and valued by Department Board and are approved by Faculty Board and added to applicant's academic record and accounted for in GPA. The courses that the student study outside university should be equivalent to a core course in the student study plan. A student is transferred in any given semester from one university to another according to announced procedures and dates in the target university and within general transfer regulations

### 4.10.2 Transfer from National and International Universities

1. Transfer to Jazan University is allowed by acceptance of Dean of Faculty to which transfer is required according and the rules:

- Applicant was enrolled in an approved college/university.
- Applicant was not dismissed for academic or disciplinary reasons from college/university of origin.
- Applicant meets requirements set by Faculty Board and has GPA no less than 3.0 Out of 5.00.
- Application is made during time set for transfer during academic calendar.
- Applicant should have at least 60% of units left to study in Jazan University.

2. Applicant will be denied admission in case it was revealed that he/she was dismissed for academic or disciplinary reasons from university of origin.

3. A student is transferred in any given semester from one university to another according to announced procedures and dates in the target university and within general transfer regulations.

4. Courses completed in university of origin and valued by Department Board and are approved by Faculty Board and added to applicant's academic record and accounted for in GPA.

### 4.10.3 Internal Transfer

1. Internal transfer in Jazan University is granted upon approval of Deans of both Faculties.

2. Internal transfer is allowed only once.
3. Applicant should have GPA not less than 2.00 out of 5.00.
4. Applicant should not have exceeded 4 semesters in Faculty of origin.
5. Applicant should fulfill requirements for Faculty to which internal transfer is required.
6. Applicant finished courses are added to academic record including grades and GPA.

### 4.10.4 Visiting Student

A visiting student is a student who studies some courses in another university or in one of the branches of his own university without transfer. A visiting student is credited for his/her studied courses according to the following rose rules

- Approval of the original college in which he/she studies at
- Study should be in a recognized university or college
- The course that the student studies outside the university should be equivalent to one of his courses in the original university
- If the student studies in another branch in his own university then he is processed according to article 47
- The university council determine the maximum number of units that can be credited for visiting students
- The causes that the stools division because is that a visit in student study are not included in his GPA
- Any other regulations that the university determines

### 4.10.5 Condition for visiting students

**First: A student from Jazan University wishing to study as a visiting student in another university**

1. A student must have an academic record showing no less than 2 semesters in his original college prior to the visiting student status request
2. A student must obtain approval from his/her college to study as a visiting student noting the courses that he/she would be studying, and the college has the right to set a minimum GPA to credit the student for his studied courses. Based on a recommendation from the student's college the student is handed an official letter from the Deanship of Admission and Registration before the end of the first week of the semester.
3. A visiting student studies must be taken in a recognized university
4. The courses that the student study outside university should be equivalent to a core course in the student study plan.
5. The maximum number of credited units for a visiting student is 40% of the total number of units required for graduation at Jazan University.
6. Credited courses are not included in the student GPA yet they are recorded in his/her academic record.
7. A student must provide proof of his results in the first week of semester that follows his/her study as a visiting student. Failure to do so the student is then
8. considered dropped-out during the in which he/she was registered as a visiting student, and he is process according to article 15.
2. A student is paid his/her monthly allowance after providing proof of study to the deanship of admission registration.

**Second: A student from another university wishing to register as a visiting student at Jazan University**

1. Student must have an academic record showing no less than 2 semesters in his original college prior to the visiting student status request at Jazan University
2. A visiting student must not be expelled based on academic or disciplinary reasons.
3. A student must produce a written letter of approval from his/her original university stating that he is allowed to study as a visiting student at Jazan University. The letter must mention the courses that the student will register for at Jazan University
4. Visiting student must obtain approval of the targeted college
5. The maximum number of semesters a visiting student is allowed to register for is 2
6. A visiting student is not entitled to housing or monthly and allowance at the Jazan University
7. A visiting student courses are registered in his targeted college in accordance with registration regulations

## 4.11 STUDENTS GRIEVANCE AND APPEAL

### Students Request

- A request is made in writing to the unit concerned.
- A request is examined by the relevant committee.
- Decision is made by the Faculty Board.
- Applicant is notified of the decision in writing

### Grievance (Complaints)

- Complaints are made in writing to Dean or Vice Dean
- Complaints are transferred to Academic Department.
- Complaints are reviewed by an academic committee and decision is raised to the Dean
- The Dean makes decision about sanction according to committee recommendation.

- Malicious complaints are transferred to the University Permanent Student Affairs Committee of the University Vice-President for Academic Affairs to decide on proper action towards malicious complaints.
- Decision about complaint becomes final when seen by University Board and the Board Meeting Minutes is approved by University President.

**Appeals**

Student is entitled to appeal against disciplinary actions as follows:

1. First Appeal

Appeal against a Faculty Unit is made to the Dean who forwards to the Student Affairs Committee for review and recommendation. The Dean makes a decision/disciplinary action.

2. Final Appeal

Appeal against second level action by Permanent Student Affairs Committee is made directly to University President within time frame for final appeal.

## 4.12 SAFETY REGULATIONS

### 4.12.1 Fire Safety

Policies dealing with fire safety are life and death matters. Everyone at the college campus must take the policies regarding this area with the utmost seriousness. Anyone violating these policies is subject to possible prosecution from both the college and local authorities. In addition, individuals can be legally liable for other civil and criminal negligence should a fire or other related problem occurs. Certain doors are designated for "Emergency Exit Only." These doors are clearly identified, and are to be used only in cases of a true emergency, such as a fire, fire drill, tornado, etc. Students who violate the "emergency exit only" restriction will be subject to disciplinary action

Fire safety equipment, including extinguishers, exit signs, fire doors, and smoke alarms should be in working order at all times. Tampering with these safety devices is a violation of state law and can endanger lives and property. Individuals found to be responsible for such actions as pulling fire alarms, dispensing fire extinguishers, and disabling smoke detectors will be dealt with severely, including possible criminal prosecution.

### 4.12.2 Door Access (Unauthorized entry)

Unauthorized entry or use of university facilities, the reproduction or unauthorized use of college keys, unauthorized accessing, destruction of, or interference with computer programs, computer data bases, computer files, or computerized information stored in college computer systems is prohibited. The use of force to open the main door of a building is considered vandalism. Students found doing this may be subject to this policy as well as costs associated with repair. Range of sanction: from disciplinary warning through expulsion.

Certain doors on campus are locked for purposes of security. Some doors are also required by fire code to remain closed except when in immediate use. The propping of any of these doors can seriously compromise the safety and security of others, and therefore cannot be tolerated. Anyone found propping one of these doors open would be subject to disciplinary action.

### 4.12.3 Labs Security and safety measures

Safe working conditions help prevent injury to people and damage to computer equipment. A safe workspace is clean, organized, and properly lighted. Everyone must understand and follow safety procedures.

Follow the basic safety guidelines to prevent cuts, burns, electrical shock, and damage to eyesight. As a best practice, make sure that a fire extinguisher and first-aid kit are available in case of fire or injury. Poorly placed or unsecured cables can cause tripping hazards in a network installation. Cables should be installed in conduit or cable trays to prevent hazards.

This is a partial list of basic safety precautions to use when working on a computer:

- Turn off the power and unplug equipment before performing service.
- Never open a power supply or a CRT monitor.
- Do not touch devices that are hot (soldering) or that use high voltage.
- Know where the fire extinguisher is located and how to use it.
- Keep food and drinks out of your workspace.
- Keep your workspace clean and free of clutter.

### 4.12.4 Handling of Electricity in specialized labs

Follow electrical safety guidelines to prevent electrical fires, injuries, and fatalities in specialized labs. Power supplies and CRT monitors, hardware and networking devices contain high voltage.

**CAUTION**

Do not wear the antistatic wrist strap when repairing power supplies or CRT monitors. Only experienced technicians should attempt to repair power supplies and CRT monitors.

Electrical devices have certain power requirements. For example, AC adapters are manufactured for specific machines or devices. Exchanging power cords with a different type of device may cause damage to both the AC adapter and the equipment in the lab.

## 5 JOB SECTORS OF PROGRAM

The Computer and Network Engineering program educate its students in the field of computer networking apart from giving them the concepts of various domain like database, operating system, electronics circuits etc. The students can have excellent job opportunities in government sector and private sector as well, there is a huge demand for network engineers in kingdom of Saudi Arabia and Globally. Our students are being trained with latest tools and technologies in networking field and our Alumni is employed in reputed companies like Aramco, Sabic, telecom industries etc. Apart from pursuing higher education like masters and PhD.

## 6 CURRICULUM

| Level | Course Code | Course Title | Required or Elective | Pre-Requisite Courses | Credit Hours | Type of requirements (Institution, College or Department) |
|---|---|---|---|---|---|---|
| Level 1 | 103ENG-6 | Intensive English Course -1 | Required | None | 6 | College |
| | 101CSC-3 | Introduction to Computer | Required | None | 3 | College |
| | 101SLM-2 | Islamic Culture I | Required | None | 2 | University |
| Level 2 | 100MATH-3 | Mathematics | Required | None | 3 | College |
| | 104ENG-6 | Intensive English Course -2 | Required | 103ENG-6 | 6 | College |
| | 102SLM-2 | Islamic Culture II | Required | None | 2 | University |
| Level 3 | 102MATH-3 | Matrix Algebra | Required | 100MATH-3 | 3 | College |
| | 011COMP-3 | Programming 1 | Required | None | 3 | College |
| | 103SLM-2 | Islamic Culture III | Required | None | 2 | University |
| Level 4 | 101ARB-2 | Arabic Language Skills | Required | None | 2 | University |
| | 111INFS-3 | Introduction to Information System | Required | None | 3 | College |
| | 201MATH-3 | Differentiation & Integration | Required | 100MATH-3 | 3 | College |
| Level 5 | 201PHYS-4 | Principles of Physics | Required | None | 4 | College |
| | 112COMP-3 | Programming 2 | Required | 011COMP-3 | 3 | College |
| | 112CNET-3 | Electronic Circuits 1 | Required | None | 3 | Department |
| Level 6 | 104SLM-2 | Islamic Culture IV | Required | None | 2 | University |
| | 206MATH-3 | Discrete mathematics | Required | 102MATH-3 | 3 | College |
| | 102ARB-2 | Arabic Writing | Required | None | 2 | University |
| | 214CNET-3 | Electronic Circuits 2 | Required | 112CNET-3 | 3 | Department |
| Level 7 | 221INFS-3 | Database Systems 1 | Required | 111INFS-3 | 3 | College |
| | 213COMP-3 | Object Oriented Programming | Required | 112COMP-3 | 3 | College |
| | 221COMP-3 | Algorithms & Data Structures 1 | Required | None | 3 | College |

| | | | | | | |
|---|---|---|---|---|---|---|
| | 213CNET-3 | Computer Organization and Architecture | Required | None | **3** | Department |
| **Level 8** | 111CNET-3 | Digital Logic | Required | None | **3** | Department |
| | 417COMP-3 | Java Programming | Required | 213COMP-3 | **3** | Department |
| | 221CNET-3 | Signals & Systems | Required | None | **3** | Department |
| **Level 9** | 222CNET-3 | Introduction to Communication System | Required | None | **3** | Department |
| | 241INFS-3 | Internet Technology | Required | None | **3** | College |
| | 231COMP-3 | Operating System | Required | None | **3** | College |
| **Level 10** | 331CNET-3 | Computer Networks | Required | None | **3** | College |
| | 323CNET-3 | Data Communications | Required | None | **3** | Department |
| | 315CNET-3 | Microprocessor and Assembly language | Required | 213CNET-3 | **3** | Department |
| **Level 11** | 326CNET-3 | Cryptographic Techniques | Required | None | **3** | Department |
| | 317CNET-3 | Elective 1 | Elective | None | **3** | Department |
| | 332CNET-3 | Network Operating System | Required | 231COMP-3 | **3** | Department |
| **Level 12** | 336INFS-3 | Human Computer Interaction | Required | None | **3** | College |
| | 334CNET-3 | Network Security | Required | 326CNET-3 | **3** | Department |
| | 334INFS-3 | Software Engineering | Required | None | **3** | College |
| | 390CNET-3 | Summer Training (Field Experience) | Required | None | 3 | Department |
| **Level 13** | 333CNET-3 | Wireless Networks | Required | 222CNET-3 | **3** | Department |
| | 442CNET-3 | Network Architecture Design | Required | 331CNET-3 | **3** | Department |
| | 443CNET-3 | Network Administration | Required | 331CNET-3 | **3** | Department |
| **Level 14** | 441CNET-3 | Network Programming | Required | 331CNET-3 | **3** | Department |
| | 435CNET-3 | Elective 2 | Elective | None | **3** | Department |
| | 447CNET-3 | Routing & Switching | Required | 331CNET-3 | **3** | Department |
| **Level 15** | 495CNET-3 | Final Project | Required | None | **3** | Department |
| | 452INFS-3 | Computer Ethics & Society | Required | None | **3** | College |
| | 448CNET-3 | CISCO Networking | Required | 331CNET-3 | **3** | Department |

## 6.1 University Level Common Courses

All students admitted to the Jazan University take the following courses during their graduation program. College of Computer Science and information Technology delivery plan of University level given. At University level 6 courses with 12 credits hours delivered to the students are mentioned semester wise.

## 6.2 College Level Common Courses

Students admitted to the College of Computer Science and Information Technology, take the following courses whether they want to get their graduation in Computer Science, Network Engineering or Information Technology. These are the common courses for all the students taking admission under any department in the college of College of Computer Science and Information Technology. Total 20 courses with 67 credits hours are delivered to the students at college level

## 6.3 Department Courses

| Course Code | Course Name | Credit Hours |
|---|---|---|
| CNET-111 | Digital Logic | 3 |
| CNET-112 | Electronic Circuit-I | 3 |
| CNET-213 | Computer Organization & Architecture | 3 |
| CNET-214 | Electronic Circuit-II | 3 |
| CNET-315 | Microprocessor & Assembly Language | 3 |
| CNET-317 | Elective-I (Cloud Computing) | 3 |
| CNET-221 | Signals & Systems | 3 |
| CNET-222 | Introduction to Communication System | 3 |
| CNET-323 | Data Communications | 3 |
| CNET-326 | Cryptographic Techniques | 3 |
| CNET-332 | Network Operating System | 3 |
| CNET-333 | Wireless Networks | 3 |
| CNET-334 | Network Security | 3 |

| | | |
|---|---|---|
| CNET-435 | Elective-II(Introduction to CCNA) | 3 |
| CNET-441 | Network Programming | 3 |
| CNET-442 | Network Architecture & Design | 3 |
| CNET-443 | Network Administration | 3 |
| CNET-447 | Routing & Switching | 3 |
| CNET-448 | CISCO Networking | 3 |

## 6.4 DEGREE PLAN

**خطة نظام الفصول الدراسية الثلاثة لبرنامج البكالوريوس في** Computer & Network Engineering

| السنة الأولى | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| المستوى الأول (Semester 1) | | | | | | | | | | |
| م | رقم ورمز المقرر | أسم المقرر | الساعات المعتمدة | | | | ساعات الاتصال | | | | المتطلب السابق |
| | | | نظري | تمارين | عملي | تدريب/ سريري | نظري | تمارين | عملي | تدريب/ سريري | |
| 1 | 101COMP-3 | Introduction to Computer | 2 | | 1 | | 2 | | 2 | | |
| 2 | 103ENG-6 | Intensive English Course 1 | 6 | | - | | 15 | | 3 | | |
| 3 | 101SLM-2 | Islamic Culture 1 | 2 | | - | | 2 | | - | | |
| | المجموع | | 10 | | 1 | | 19 | | 5 | | |
| | | | 11 | | | | 24 | | | | |
| المستوى الثاني (Semester 2) | | | | | | | | | | |
| م | رقم ورمز المقرر | أسم المقرر | الساعات المعتمدة | | | | ساعات الاتصال | | | | المتطلب السابق |
| | | | نظري | تمارين | عملي | تدريب/ سريري | نظري | تمارين | عملي | تدريب/ سريري | |
| 1 | 100MATH-3 | Mathematics | 3 | | - | | 3 | | - | | |
| 2 | 104ENG-6 | Intensive English Course 2 | 6 | | - | | 15 | | 3 | | 103ENG -6 |
| 3 | 102SLM-2 | Islamic Culture 2 | 2 | | - | | 2 | | - | | |
| | المجموع | | 11 | | - | | 20 | | 3 | | |
| | | | 11 | | | | 23 | | | | |
| المستوى الثالث (Semester3) | | | | | | | | | | |
| م | رقم ورمز المقرر | أسم المقرر | الساعات المعتمدة | | | | ساعات الاتصال | | | | المتطلب السابق |
| | | | نظري | تمارين | عملي | تدريب/ سريري | نظري | تمارين | عملي | تدريب/ سريري | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 011COMP-3 | Programming 1 | 2 | | 1 | | 2 | | 2 | | |
| 2 | 102MATH-3 | Matrix Algebra | 3 | | - | | 3 | | 3 | | 100MATH-3 |
| 3 | 103SLM-2 | Islamic Culture 3 | 2 | | - | | 2 | | - | | |
| | | المجموع | 7 | | 1 | | 7 | | 2 | | |
| | | | 8 | | | | 9 | | | | |

| السنة الثانية | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| المستوى الرابع (Semester 4) | | | | | | | | | | | |
| م | رقم ورمز المقرر | أسم المقرر | الساعات المعتمدة | | | | ساعات الاتصال | | | | المتطلب السابق |
| | | | نظري | تمارين | عملي | تدريب/ سريري | نظري | تمارين | عملي | تدريب/ سريري | |
| 1 | 111INFS-3 | Introduction to Information System | 3 | | - | | 3 | | - | | |
| 2 | 201MATH-3 | Differentiation & Integration | 3 | | - | | 3 | | - | | 100MATH-3 |
| 3 | 112COMP-3 | Programming 2 | 2 | | 1 | | 2 | | 2 | | 011COMP-3 |
| | | المجموع | 8 | | 1 | | 8 | | 2 | | |
| | | | 9 | | | | 10 | | | | |
| المستوى الخامس (Semester 5) | | | | | | | | | | | |
| م | رقم ورمز المقرر | أسم المقرر | الساعات المعتمدة | | | | ساعات الاتصال | | | | المتطلب السابق |
| | | | نظري | تمارين | عملي | تدريب/ سريري | نظري | تمارين | عملي | تدريب/ سريري | |
| 1 | 101ARB-2 | Arabic Language Skills | 2 | | - | | 2 | | - | | |
| 2 | 112CNET-3 | Electronic Circuits 1 | 2 | | 1 | | 2 | | 2 | | |
| 3 | 201PHYS-4 | Principles of Physics | 3 | | 1 | | 3 | | 2 | | |
| | | المجموع | 7 | | 2 | | 7 | | 4 | | |
| | | | 9 | | | | 11 | | | | |
| المستوى السادس (Semester 6) | | | | | | | | | | | |
| م | رقم ورمز المقرر | أسم المقرر | الساعات المعتمدة | | | | ساعات الاتصال | | | | المتطلب السابق |
| | | | نظري | تمارين | عملي | تدريب/ سريري | نظري | تمارين | عملي | تدريب/ سريري | |
| 1 | 214CNET-3 | Electronic Circuits 2 | 2 | | 1 | | 2 | | 2 | | 112CNET3- |
| 2 | 206MATH-3 | Discrete Mathematics | 3 | | - | | 3 | | - | | 102MATH-3 |
| 3 | 102ARB-2 | Arabic Writing | 2 | | - | | 2 | | - | | |
| 4 | 104SLM-2 | Islamic Culture 4 | 2 | | - | | 2 | | - | | |
| | | المجموع | 9 | | 1 | | 9 | | 2 | | |
| | | | 10 | | | | 11 | | | | |

| السنة الثالثة | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| المستوى السابع (Semester 7) | | | | | | | | | | | |
| م | رقم ورمز المقرر | أسم المقرر | الساعات المعتمدة | | | | ساعات الاتصال | | | | المتطلب السابق |
| | | | نظري | تمارين | عملي | تدريب/ سريري | نظري | تمارين | عملي | تدريب/ سريري | |
| 1 | 213COMP-3 | Object Oriented Programming | 2 | | 1 | | 2 | | 2 | | 112COMP-3 |
| 2 | 221INFS-3 | Database Systems 1 | 2 | | 1 | | 2 | | 2 | | 111INFS-3 |
| 3 | 221COMP-3 | Algorithms & Data Structures 1 | 2 | | 1 | | 2 | | 2 | | |
| 4 | 213CNET-3 | Computer Organization & Architecture | 2 | | 1 | | 2 | | 2 | | |
| | المجموع | | 8 | | 4 | | 8 | | 8 | | |
| | | | 12 | | | | 16 | | | | |
| المستوى الثامن (Semester 8) | | | | | | | | | | | |
| م | رقم ورمز المقرر | أسم المقرر | الساعات المعتمدة | | | | ساعات الاتصال | | | | المتطلب السابق |
| | | | نظري | تمارين | عملي | تدريب/ سريري | نظري | تمارين | عملي | تدريب/ سريري | |
| 1 | 111CNET-3 | Digital Logic | 2 | | 1 | | 2 | | 2 | | |
| 2 | 221CNET-3 | Signals & Systems | 2 | | 1 | | 2 | | 2 | | |
| 3 | 417COMP-3 | Java Programming | 2 | | 1 | | 2 | | 2 | | 213COMP-3 |
| | المجموع | | 6 | | 3 | | 6 | | 6 | | |
| | | | 9 | | | | 12 | | | | |
| مستوى التسعين(Semester 9) | | | | | | | | | | | |
| م | رقم ورمز المقرر | أسم المقرر | الساعات المعتمدة | | | | ساعات الاتصال | | | | المتطلب السابق |
| | | | نظري | تمارين | عملي | تدريب/ سريري | نظري | تمارين | عملي | تدريب/ سريري | |
| 1 | 231COMP-3 | Operating System | 2 | | 1 | | 2 | | 2 | | |
| 2 | 241INFS-3 | Internet Technology | 2 | | 1 | | 2 | | 2 | | |
| 3 | 222CNET-3 | Introduction to Communication System | 2 | | 1 | | 2 | | 2 | | |
| | المجموع | | 6 | | 3 | | 6 | | 6 | | |
| | | | 9 | | | | 12 | | | | |

| السنة الرابعة | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| المستوى العاشر (Semester 10) | | | | | | | | | | | |
| م | رقم ورمز المقرر | أسم المقرر | الساعات المعتمدة | | | | ساعات الاتصال | | | | المتطلب السابق |
| | | | نظري | تمارين | عملي | تدريب/ سريري | نظري | تمارين | عملي | تدريب/ سريري | |
| 1 | 323CNET-3 | Data Communications | 2 | | 1 | | 2 | | 2 | | |
| 2 | 315CNET-3 | Microprocessor & Assembly Language | 2 | | 1 | | 2 | | 2 | | 213CNET 3- |
| 3 | 331CNET-3 | Computer Networks | 2 | | 1 | | 2 | | 2 | | |
| | المجموع | | 6 | | 3 | | 6 | | 6 | | |
| | | | 9 | | | | 12 | | | | |
| المستوى الحادي عشر (Semester 11) | | | | | | | | | | | |
| م | رقم ورمز المقرر | أسم المقرر | الساعات المعتمدة | | | | ساعات الاتصال | | | | المتطلب السابق |
| | | | نظري | تمارين | عملي | تدريب/ سريري | نظري | تمارين | عملي | تدريب/ سريري | |
| 1 | 326CNET-3 | Cryptographic Techniques | 2 | | 1 | | 2 | | 2 | | |
| 2 | 332CNET-3 | Network Operating System | 2 | | 1 | | 2 | | 2 | | 231COM P-3 |
| 3 | **3CNET-3 | Elective 1 | 2 | | 1 | | 2 | | 2 | | |
| | المجموع | | 6 | | 3 | | 6 | | 6 | | |
| | | | 9 | | | | 12 | | | | |
| المستوى الثاني عشر (Semester 12) | | | | | | | | | | | |
| م | رقم ورمز المقرر | أسم المقرر | الساعات المعتمدة | | | | ساعات الاتصال | | | | المتطلب السابق |
| | | | نظري | تمارين | عملي | تدريب/ سريري | نظري | تمارين | عملي | تدريب/ سريري | |
| 1 | 334CNET-3 | Network Security | 2 | | 1 | | 2 | | 2 | | 326CNET 3- |
| 2 | 334INFS-3 | Software Engineering | 2 | | 1 | | 2 | | 2 | | |
| 3 | 336INFS-3 | Human Computer Interaction | 3 | | - | | 3 | | - | | |
| 4 | 390CNET-3 | Summer Training | 3 | | - | | 3 | | - | | |
| | المجموع | | 10 | | 2 | | 10 | | 4 | | |
| | | | 12 | | | | 14 | | | | |

| السنة الخامسة | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| المستوى الثالث عشر (Semester 13) | | | | | | | | | | | |
| م | رقم ورمز المقرر | أسم المقرر | الساعات المعتمدة | | | | ساعات الاتصال | | | | المتطلب السابق |
| | | | نظري | تمارين | عملي | تدريب/ سريري | نظري | تمارين | عملي | تدريب/ سريري | |
| 1 | 333CNET-3 | Wireless Networks | 2 | | 1 | | 2 | | 2 | | 222CNET 3- |
| 2 | 443CNET-3 | Network Administration | 2 | | 1 | | 2 | | 2 | | 331CNET -3 |
| 3 | 442CNET-3 | Network Architecture Design | 2 | | 1 | | 2 | | 2 | | 331CNET -3 |
| | | المجموع | 6 | | 3 | | 6 | | 6 | | |
| | | | 9 | | | | 12 | | | | |
| المستوى الرابع عشر (Semester 14) | | | | | | | | | | | |
| م | رقم ورمز المقرر | أسم المقرر | الساعات المعتمدة | | | | ساعات الاتصال | | | | المتطلب السابق |
| | | | نظري | تمارين | عملي | تدريب/ سريري | نظري | تمارين | عملي | تدريب/ سريري | |
| 1 | 441CNET-3 | Network Programming | 2 | | 1 | | 2 | | 2 | | 331CNET -3 |
| 2 | 447CNET-3 | Routing & Switching | 2 | | 1 | | 2 | | 2 | | 331CNET -3 |
| 3 | **4CNET-3 | Elective 2 | 2 | | 1 | | 2 | | 2 | | |
| | | المجموع | 6 | | 3 | | 6 | | 6 | | |
| | | | 9 | | | | 12 | | | | |
| المستوى الخامس عشر (Semester 15) | | | | | | | | | | | |
| م | رقم ورمز المقرر | أسم المقرر | الساعات المعتمدة | | | | ساعات الاتصال | | | | المتطلب السابق |
| | | | نظري | تمارين | عملي | تدريب/ سريري | نظري | تمارين | عملي | تدريب/ سريري | |
| 1 | 452INFS-3 | Computer Ethics & Society | 3 | | - | | 3 | | - | | |
| 2 | 495CNET-3 | Final Project | 3 | | - | | 3 | | - | | |
| 3 | 448CNET-3 | CISCO Networking | 2 | | 1 | | 2 | | 2 | | 331CNET -3 |
| | | المجموع | 8 | | 1 | | 8 | | 2 | | |
| | | | 9 | | | | 10 | | | | |

| إجمالي ساعات الخطة الدراسية | 145 | 199 | |
|---|---|---|---|

## Elective Courses

| Elective 1 -- level 7 | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| م | رقم ورمز المقرر | أسم المقرر | الساعات المعتمدة | | | | ساعات الاتصال | | | | المتطلب السابق |
| | | | نظري | تمارين | عملي | تدريب/ سريري | نظري | تمارين | عملي | تدريب/ سريري | |
| 1 | 316 CNET-3 | Parallel Processing | 2 | | 1 | | 2 | | 2 | | |
| 2 | 318 CNET-3 | Embedded Systems | 2 | | 1 | | 2 | | 2 | | |
| 3 | 324 CNET-3 | Broadband Communications | 2 | | 1 | | 2 | | 2 | | |
| 4 | 325 CNET-3 | Internet Communication | 2 | | 1 | | 2 | | 2 | | |
| 5 | 317 CNET-3 | Cloud Computing | 2 | | 1 | | 2 | | 2 | | |
| 6 | 327 CNET-3 | Digital Communication | 2 | | 1 | | 2 | | 2 | | |
| 7 | 328 CNET-3 | Digital Switching System | 2 | | 1 | | 2 | | 2 | | |
| المجموع | | | 14 | | 7 | | 14 | | 14 | | |
| | | | 21 | | | | 28 | | | | |

| Elective 2 -- level 9 | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| م | رقم ورمز المقرر | أسم المقرر | الساعات المعتمدة | | | | ساعات الاتصال | | | | المتطلب السابق |
| | | | نظري | تمارين | عملي | تدريب/ سريري | نظري | تمارين | عملي | تدريب/ سريري | |
| 1 | 444 CNET-3 | Internet Security & Firewalls | 2 | | 1 | | 2 | | 2 | | |
| 2 | 445 CNET-3 | Mobile Ad Hoc & Sensor Networks | 2 | | 1 | | 2 | | 2 | | |
| 3 | 446 CNET-3 | Network Protocols & E-Commerce Technology | 2 | | 1 | | 2 | | 2 | | |
| 4 | 425 CNET-3 | Network Management | 2 | | 1 | | 2 | | 2 | | |
| 5 | 436 CNET-3 | Multimedia Networks | 2 | | 1 | | 2 | | 2 | | |
| 6 | 437 CNET-3 | Telecom Networking | 2 | | 1 | | 2 | | 2 | | |
| 7 | 435 CNET-3 | Introduction to CCNA | 2 | | 1 | | 2 | | 2 | | |
| المجموع | | | 14 | | 7 | | 14 | | 14 | | |
| | | | 21 | | | | 28 | | | | |

**Digital Logic**

This course presents the various binary systems suitable for representing information in digital systems and binary codes are illustrated. It introduces the basic postulates of Boolean algebra and shows the correlation between Boolean expressions and their corresponding logic diagrams. It covers the map method for simplifying Boolean expressions. The map method is also used to simplify digital circuits constructed with AND-OR, NAND or NOR gates. The procedures for the analysis and design of Combinational & Sequential circuits. It deals with various sequential circuit components such as registers, shift registers and counters with memory circuits.

**Electronics Circuit – I**

This course introduces basic fundamentals of electrical and electronics. It introduces the semiconductor diode and its energy level, resistance level, equivalent circuits, zener diode, light-emitting diode. It covers diode load line analysis and series/parallel configuration. It deals with various application of diode as Half-wave rectifier, Full-wave rectifier, clippers, clampers, zener diode circuits, voltage multiplier circuits, AND/OR gate using diode. This course also introduces bipolar junction transistor (BJT) construction, operation, configurations and transistor amplification action.

**Electronics Circuit – II**

In this course students will get introduction to the Operational Amplifier i.e. Block diagram, different parameters of OP-AMP and different types of Input Modes. The students will be able to analyze how gain can be controlled using feedback and use OP-AMP to design different type of circuit elements like Integrator, Differentiator, Summing Amplifier and Comparators. They will be able to analyze the performance of different circuits i.e. Filters and Oscillators with the use of OP-AMPS.

**Microprocessor & Assembly Language**

The purpose of this course is to teach students the fundamentals of microprocessor and microcomputer systems. The student will be able to incorporate these concepts into their electronic designs for other courses where the system control can be achieved via a microprocessor/controller implementation. Topics include number systems used in computers and its conversions, related Logic devices, ALU and Memory, Microcomputer Structure, Microprocessor Evolutions, 8086 Microprocessor Architecture, 8086 Pin configuration and Signals, addressing modes, 8086 Instruction set, Assembly language structures, 8086 Interrupts, Interrupt handling, Types of Interrupts, 8259 Priority Interrupt Controller with its Architecture and Functions.

Laboratory exercises will be based on 8086 Microprocessor using the emulator, EMU8086.

**Computer Organization & Architecture**

This course is about the structure and basic function of computers. Its purpose is to present, as clearly and completely as possible, the nature and characteristics of modern-day computer systems. This course covers all aspects of computer, from the underlying integrated circuit technology used to construct computer components, to the increasing use of parallel organization concepts. This course also focuses on different elements of Computer Organization and Major components which include processor, memory, I/O, control unit, registers, ALU, and instruction execution unit. It also discusses control signals for the operation and coordination of all processor components.

**Elective - I (Cloud Computing)**

Brief history of cloud computing, advantages, cloud characteristics and challenges of cloud computing are explained. Cloud delivery, cloud deployment models, roles and boundaries are discussed. Understanding of various architectural models of cloud computing, the concepts of virtualization and cloud orchestration. Fundamental cloud security concepts, security threats, attacks and cloud architectures are explained.

**Computer Networks**

This Course introduces the fundamentals of Computer Network. It is based around the OSI and TCP/IP Reference Model that explain the working of all layers in general and also deal with the major issues in the bottom three (Data Link and Network) layers of the model. Most of the protocols used in these layers are discussed. Students are also introduced to the areas of Network Security, Communications, OSI and Internet protocols. It also covers the routing algorithms, Error detection, Multiple Access Protocols and IEEE 802.3 Ethernet. Finally SDN and Challenges in the next generation internet are discussed as new emerging trends in computer networks.

**Data Communication**

The topics of this course include fundamentals of data communications. It introduces the essential elements and basic concepts of data communications. It covers the concept of analogue and digital signals, periodic and non periodic signals, time and frequency domains concepts. Different types of channels transmission media guided media unguided media. Describes various error detection and correction techniques, CRC, Checksum and Hamming code techniques. It also covers topics related to networking and internetworking, devices for communication and research topics related to data communication.

**Introduction to Communication System**

This course provides an introduction to communication systems via exploring the elements of a general communications system, the sources and measures of noise, and various alternative analog and digital modulation techniques. It establishes the definition and the need for modulation before introducing it for analog (AM, FM, and PM) and digital (ASK, FSK, PSK, and QAM) messages. It discusses analog-to-digital conversion and elaborates on its two steps: sampling and quantization. The course ranges from practical design and implementation issues for radio systems to theoretical characteristics of electromagnetic waves.

**Signals and Systems**

This course covers the fundamentals of Signals and System analysis, focusing on representation of different types of signals, transformation of the independent variable and unit-step and unit-impulse functions. It deals with Discrete-Time & Continuous Time LTI systems, convolution sum, convolution integral and properties of LTI Systems and Fourier Series representation of continuous-time periodic signals, its properties. This course also includes Fourier Transform of periodic and aperiodic signals, convergence of Fourier Transform and its properties.

**Mobile Computing**

This course provides a comprehensive overview of mobile computing along with its security issues and mobility. The course will give you an understanding of mobile agent systems and platforms, multiple access schemes and about various communication satellite systems. This course broadly covers the standards issues and physical mobility including wireless LANs, mobile IP, mobile TCP, mobile ad-hoc networks as well as various routing protocols. This course focuses on the issues associated with small handheld portable devices and applications development.

**Wireless Networks**

This course introduces the concept of wireless world through wireless networking and wireless communications to the students. The course presents the major wireless concepts which include signals and transmission, Access Points, Wireless Routing, WLANS, Spread Spectrum, Channel Capacity, FHSS, DSSS, OFDM, IR and Wireless Standards. The course further takes the students in the depth of core wireless concepts like Adhoc Networking, Wireless Application Protocols, Multiple Access Techniques (FDMA, TDMA and CDMA). Lately, the course also covers the concepts of Satellite based Communication with the focus on Service Types and Classification of Orbits. Finally, it will covers wireless LAN slandered and specifications

**Network Operating System**

This course focuses on the key issues that need to be considered when deciding to use a network operating system. Some of the questions raised are what is a network operating system (NOS) and when do user need one, what are the main types of NOS and how do they differ; can user buy a cheap NOS for small Lan. How does user choose suitable NOS for network systems, and can user have more than one NOS running on network. This Course goes on to demonstrate the linkage between NOS and other elements of the overall IT platform: network management, application programming interfaces and network computing. This Course also describes the core elements of Active Directory and Security related Issues.

**Cryptography**

Cryptography is a fundamental tool for protecting information and communication in computer systems. This course will primarily focus on basic concepts of cryptography and different types of Cryptographic attacks. There are two basic techniques for encrypting information: symmetric encryption (also called secret key encryption) and asymmetric encryption (also called public key encryption.). The topics covered in this course includes DES, AES,RC4 ,RSA, Diffie-Hellman, Man In the Middle Attack, ElGamal Cryptographic System, Elliptic Curve Cryptography and Digital Signatures.

**Network Security**

Introduction to Network Security: Computer Security Concepts, OSI Security Architecture, Security Attacks, Security Services, Security Mechanisms, Model for Network Security, Standards, Intruders: Intrusion Detection, Password Management,

Malicious Software: Types, Viruses, Virus Countermeasures, Worms, Distributed Denial of Service Attacks.Transport-Level Security: Web Security Considerations, Secure Socket Layer and Transport Layer Security, HTTPS, IP Security: Overview, Policy, Encapsulating Security Payload, Combining Security Associations, Internet Key Exchange, Cryptographic Suites, Firewall: The need for firewalls, Firewall characteristics, Types of firewalls (Packet filtering firewall, Stateful inspection firewalls, Application level gateway, Circuit level gateway), Firewall basing, Firewall locations and configurations

**Elective 2 (Introduction to CCNA)**

The topics of this course include Ethernet Networking standards. The protocols of TCP/IP Model are described in detail. Study of IP Addressing with IPv4/IPv6 and Subnetting with VLSM. CISCO IOS and the concepts of layer 2 Switching will be introduced. Techniques of VLAN configuration and inter-VLAN routing are explored. The procedures used for configuration and verification of device management are discussed.

**Routing and Switching**

This course focuses on providing the skills and knowledge required to install, operate, configure, and verify a basic IPv4 and IPv6 network, including configuring a LAN switch, configuring a router, connecting to a WAN, and identifying basic security threats. At the end of this course students should be able to complete the configuration, implementation and troubleshooting of a small branch network under supervision.

**Cisco Networking**

This is an advanced-level course on the recent developments in computer networks. The topics to be covered include advance topics of Routing theory, working mechanisms of EIGRP and OSPF with troubleshooting , Management of Cisco IOS Files, IP Services configuration, Load balancing concepts, gateway redundancy protocols, Network Management Protocols, Enhance Switched Technologies such as STP/VTP variants, Trunking, Ether-Channel, Switched security with Troubleshooting switched technologies. The last part of the course covers advance WAN technologies like HDLC, PPP, Multiprotocol Label Switching (MPLS), IPv6 routing and intelligent networks.

**Network Architecture and Design**

This course provides study of network infrastructure design. Topics included in this course are strategies for planning, implementing and maintaining different technologies. The students will get familiar with optical networking which is latest technology used for providing network services. WAN protocols, Frame Relay and ATM are introduced to design the network. This course also gives idea of network traffic analysis, modelling and traffic engineering.

**Network Administration**

The course begins with the Introduction to System Administration and principles of system administration. It describes the System components, operating systems with File systems types. This course teaches student how to administrate and manage a modern network by properly planning and implementing various functions of a Microsoft Windows server OS. Key components include how to plan server deployment with required services, server monitoring and maintenance applications and data provisioning. Techniques for providing business continuity and availability by proper use of security configuration and backup policies by considering Host management and User management issues. The second part of the course addresses the Network Management standards, applications and models. Focus is given on SNMP network management, SNMP protocol architecture, Remote monitoring and System performance tuning.

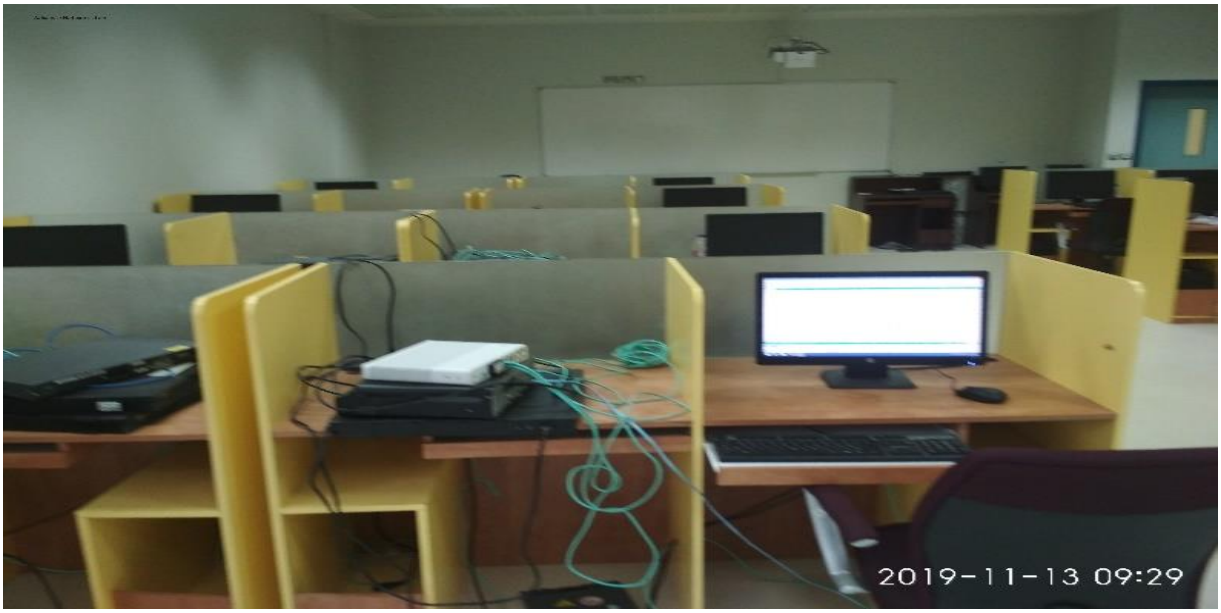
**Network Programming**

This Course provides a complete introduction to developing Network Programs with Java. The focus is on creating Network Applications using TCP and UDP. You will learn how to use Java's Network Class Library to accomplish and understand concepts like I/O Streams, TCP Sockets, UDP Sockets, Client Server Sockets, InetAddress Class, Network Programming with GUI, Multithreading, Remote Method Invocation (RMI), Multicast using UDP, Secure Sockets, and SSL Server Sockets.

# 8 LABORATORIES

## 8.1 Advanced Networks Lab

The Computer Networks Laboratory is designed for the undergraduate students to have the experiment related to the computer networks courses. The laboratory equips with a few groups of computer network systems designed for the students to learn the concepts of the communication technologies in LANs and WANs, and in Routing and Switching. These systems are located at a separated standard equipment room and can be remotely accessed through the computer terminals.Lots of various enterprise-level network equipment exists in the laboratory, including advanced routers, Ethernet switches, IEEE 802.11a/b/g/n wireless access points, and the tools for cable making and testing, allowing the students to practice the skills of network engineering in cabling, installation and troubleshooting.




(**Advanced Computer Networks Laboratory**)

The software of computer network simulator (Cisco Packet Tracer 7) is installed in the computers of the laboratory, used for the students to learn how to design and manage some typical medium-size to large-size network systems.

Lab equipment:

30 DELL Intel Core i7 2.80GHz Desktop Computers, 500GB HDD, 4GB RAM.

Cisco series 2900, 1900, 1800 Routers & Cisco 2960 Catalyst

At last, as a Cisco Networking Academy in Jazan over 6 years, the laboratory offers some training courses of the internationally recognized Cisco certification exams for the students and the staffs of the university, and thus helps lots of them to become professional network engineers in their career.

### 8.2 Wireless Networks Laboratory

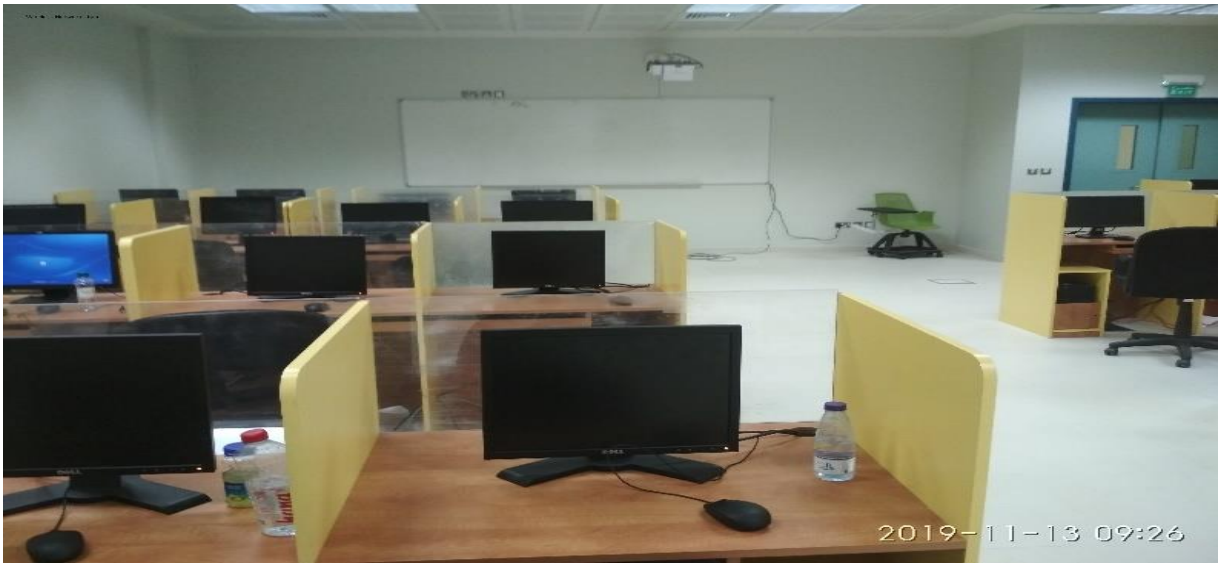
The Wireless Networks Lab is dedicated to undergraduate courses in the field of wireless networking.

Lab equipment's:

30 DELL Intel Core i7 2.80GHz Desktop Computers, 500GB HDD, 4GB RAM.

2 Cisco series 1200 AP. 10 Wi-Fi Adapters (802.11 bgn), Cisco Switches & Cisco Routers.

Software: GNS3, WireShark, Cisco Packet Tracer 7, Putty.




(**Wireless Networks Laboratory**)

A set of experiments to give the student the practical experience on the following components: wireless networks and networks security, installing wireless adapters, building adhoc wireless networks, configuring access points, configuring wireless bridges, basic wireless networks security, advanced router security, basic PIX firewall security, basic VPN configuration

## 8.3 Communication System Lab

This laboratory is satisfies the need of experiments required, the laboratory also provides facilities to help undergraduate students prepare their graduation projects and graduate students prepare their graduation theses. The laboratory is equipped with basic experiment system and other necessary equipment for communications technology. Through experiments, students can enhance their knowledge of various modulation technologies, code error detection technology, and optical communications technology.


(**Communication Laboratory**)

Tektronix TDS-210 & GW Instek – GDS 1102A Digital Oscilloscope, DSP 1003 AP DUAL DC Power Supply, MCP – SG 1005 Digital Function Generator etc. Are available in communication lab.

## 8.4 Electronic Circuits Lab

Electronics Laboratory is well equipped with sophisticated equipment's to perform experiments on Diode and transistor based electronic circuit designs. The available equipment's in this lab are CRO's, Function Generators, Power supplies, Analog ammeters and Analog Voltmeters. This lab also has various digital IC's and equipment's like latest model Digital IC trainer Kits for performing Digital Logic Design experiments and projects.


(**Electronic Circuits Laboratory**)

Major Equipment's:

Trainer Kit FC 2100, Tektronix TDS-210 & GW Instek – GDS 1102A Digital Oscilloscope, DSP 1003 AP DUAL DC Power Supply, MCP – SG 1005 Digital Function Generator, BK2831E Desk-top Digital Multi-meter, breadboards and basic electrical components.

## 8.5 Digital logic Lab

This Lab encompasses a wide range of equipment that provides an introduction to logic design and the basic building blocks used in digital systems, in particular digital computers: logic gates, arithmetic circuits, logic devices, sequential circuits using flip-flops and implementation of sequential circuits.


**(Digital logic Laboratory)**

Major Equipment's:

Trainer kit KL 3100, Tektronix TDS-210 & GW Instek – GDS 1102A Digital Oscilloscope, DSP 1003 AP DUAL DC Power Supply, MCP – SG 1005 Digital Function Generator, BK2831E Desk-top Digital Multi-meter, breadboards and basic electrical components.

## 8.6 General Labs

The college of computer science and information technology has 18 general labs highly equipped with latest technology equipment's and Smart Teaching aids, Multimedia Projector and Thin client machines connected to server using virtualization technology (VDI machines).