Ministry of Higher Education and Scientific Research Scientific Supervision and Scientific Evaluation Apparatus Directorate of Quality Assurance and Academic Accreditation Accreditation Department



Academic Program and Course Description Guide

Introduction:

The educational program is a well-planned set of courses that include procedures and experiences arranged in the form of an academic syllabus. Its main goal is to improve and build graduates' skills so they are ready for the job market. The program is reviewed and evaluated every year through internal or external audit procedures and programs like the External Examiner Program.

The academic program description is a short summary of the main features of the program and its courses. It shows what skills students are working to develop based on the program's goals. This description is very important because it is the main part of getting the program accredited, and it is written by the teaching staff together under the supervision of scientific committees in the scientific departments.

This guide, in its second version, includes a description of the academic program after updating the subjects and paragraphs of the previous guide in light of the updates and developments of the educational system in Iraq, which included the description of the academic program in its traditional form (annual, quarterly), as well as the adoption of the academic program description circulated according to the letter of the Department of Studies T 3/2906 on 3/5/2023 regarding the programs that adopt the Bologna Process as the basis for their work.

In this regard, we can only emphasize the importance of writing an academic programs and course description to ensure the proper functioning of the educational process.

Concepts and terminology:

Academic Program Description: The academic program description provides a brief summary of its vision, mission and objectives, including an accurate description of the targeted learning outcomes according to specific learning strategies.

<u>Course Description</u>: Provides a brief summary of the most important characteristics of the course and the learning outcomes expected of the students to achieve, proving whether they have made the most of the available learning opportunities. It is derived from the program description.

<u>Program Vision</u>: An ambitious picture for the future of the academic program to be sophisticated, inspiring, stimulating, realistic and applicable.

<u>Program Mission</u>: Briefly outlines the objectives and activities necessary to achieve them and defines the program's development paths and directions.

<u>Program Objectives:</u> They are statements that describe what the academic program intends to achieve within a specific period of time and are measurable and observable.

<u>Curriculum Structure</u>: All courses / subjects included in the academic program according to the approved learning system (quarterly, annual, Bologna Process) whether it is a requirement (ministry, university, college and scientific department) with the number of credit hours.

Learning Outcomes: A compatible set of knowledge, skills and values acquired by students after the successful completion of the academic program and must determine the learning outcomes of each course in a way that achieves the objectives of the program.

<u>**Teaching and learning strategies:**</u> They are the strategies used by the faculty members to develop students' teaching and learning, and they are plans that are followed to reach the learning goals. They describe all classroom and extra-curricular activities to achieve the learning outcomes of the program.

Academic Program Description Form

University Name: University of Baghdad Faculty/Institute: College of Science Scientific Department: Computer Science Academic or Professional Program Name: Computer Science Final Certificate Name: Bachelors in computer science Academic System: courses Description Preparation Date: File Completion Date: 22/3/2024

rde Signature/

Head of Department Name: Mohammed Sabbih Hamoud Date:

Signature: Scientific Associate Nam

مداون العميد للشؤون الطمية والدراسات العلما

Date:

The file is checked by: Department of Quality Assurance and University Performance Director of the Quality Assurance and University Performance Department: Date: Signature:

Approval of the Dean Asst. pro . Dr. Raed F. Hassa

1. Program Vision

The vision of Computer Science Department is to provide a high-quality undergraduate and graduate education in computer science that equips students with the technical skills, problemsolving capabilities, and ethical foundation required for success in various careers, job markets and to contribute to the economic, scientific, and social development of our country, Iraq. Furthermore, the department seeks to perform innovative research in several in-demand areas in Computer Science such as artificial intelligence, cybersecurity, multimedia, and data science, contributing to the advancement of the field and addressing real-world challenges. The department also aims to engage with technology industry, academic institutions, and the community to foster collaboration, share knowledge, and promote the responsible use of technology.

2. Program Mission

The mission of the Computer Science Department is to be widely recognized for enabling students to create, share, and apply knowledge in Computer Science and to educate students to be successful, ethical, and effective problem-solvers and life-long learners who will contribute positively to the economic well-being of our country, Iraq.

3. **Program Objectives**

The objectives of Computer Science Department are as follows:

- **1.** To prepare students for careers in the technology industry and advanced academic studies.
- **2.** To foster an environment of creativity and innovation, motivating both students and faculty to develop original ideas and solutions to current technological issues.
- **3.** To strengthen collaborations with technology industry leaders, providing students with hands-on experience through internships, projects, and partnerships.
- **4.** To produce impactful research publications and projects that advance the boundaries of computer science.
- 5. To promote ethical behaviour and responsible use of technology in the digital area.

4. Program Accreditation

Does the program have program accreditation? And from which agency? Yes, According to the requirements of the Ministry of Higher Education and Scientific Research, it aligns with the latest admission requirements for Iraqi universities.

5. Other external influences

Is there a sponsor for the program? Yes, Many Iraqi universities offer programs that are almost supported by Ministry of Higher Education and Scientific Research (MOHESR).

| 6. Program Structure- shown in the next item according to course code | | | | | | | | | | |
|---|----------------------|---|------------|----------|--|--|--|--|--|--|
| Program Structure | Number of Courses | Credit hours | Percentage | Reviews* | | | | | | |
| Institution | | | | | | | | | | |
| Requirements | | | | | | | | | | |
| College | | | | | | | | | | |
| Requirements | | | | | | | | | | |
| Department | | | | | | | | | | |
| Requirements | | | | | | | | | | |
| Summer Training | One time eitl | her 3 rd or 4 th acad | emic year. | | | | | | | |
| Other | | | | | | | | | | |

* This can include notes whether the course is basic or optional.

| 7. Program | Description | | | |
|-------------------|-------------|------------------------------------|--------|---------|
| Year/Level | Course Code | Course Name | Credit | t Hours |
| | | First Year | | |
| vst Semester | CSC11001 | Programming Fundamentals I | ٣ | ٢ |
| 7 • 7 £ - 7 • 7 ٣ | CSC11002 | Computer Organization | ٣ | ٢ |
| | CSC11003 | Introduction to Computer Science | ٣ | - |
| | CSC11004 | Calculus | ٣ | - |
| | CSC11005 | English Language I | ٢ | - |
| | CSC11006 | Democracy and Human Rights | ٢ | - |
| | | | | |
| nd Semester | CSC11007 | Programming Fundamentals II | ٣ | ٤ |
| Y • Y £ - Y • Y W | CSC11008 | Discrete Structures | ٣ | - |
| | CSC11009 | Digital Logic | ٣ | ٢ |
| | CSC11010 | Academic Writing Skills | ٢ | ٢ |
| | CSC11011 | Probability and Statistics | ٢ | - |
| | CSC11012 | Arabic Language I | ۲ | - |
| | | Second Year | | |
| vst Semester | CS92100 | Introduction to Numerical Analysis | 2 | 2 |
| ۲·۲٤-۲·۲۳ | CS92101 | Microprocessor | 2 | 2 |

| | CS92102 | Computation | 2 | - |
|-------------------|----------|--------------------------------------|---|---|
| | CS92103 | Object Oriented Programming I | 2 | 2 |
| | CS92104 | Data Structures | 2 | 2 |
| | CS92105 | Visual Programming | 2 | 2 |
| | ENG92102 | English Language II | 2 | - |
| | | | | |
| | | | | |
| and Semester | CS92200 | Advanced Numerical Analysis | 2 | 2 |
| 7 • 7 £ - 7 • 7 ٣ | CS92201 | Computer architecture | 2 | - |
| | CS92202 | Basic Language Translation | 2 | 2 |
| | CS92203 | Object Oriented Programming II | 2 | 2 |
| | CS9224 | Data Structures and Algorithms | 2 | 2 |
| | CS92205 | Programming Language Techniques | 2 | 2 |
| | ARA92100 | Arabic language II | 2 | - |
| | | Third Year | | |
| st Semester | CS93100 | Advance Computer Architecture | 2 | - |
| 7 • 7 £ - 7 • 7 ٣ | CS93101 | Computer Graphics | 2 | 2 |
| | CS93102 | Database fundamentals | 2 | 2 |
| | CS93103 | Web organization | 2 | 1 |
| | CS93104 | Software engineering | 2 | - |
| | CS93105 | Introduction to AI | 2 | 2 |
| | CS93106 | Programming with Java | 1 | 2 |
| | ENG92103 | English Language III | 2 | - |
| | | | | |
| nd Semester | CS93200 | Mobile Computing | 1 | 2 |
| 7 . 7 E - 7 . 7 W | CS93201 | Cryptography | 2 | 2 |
| | CS93202 | Operating System I | 2 | - |
| | CS93203 | Computer Networks | 1 | 2 |
| | CS93204 | Relational database | 1 | 2 |
| | CS93205 |) elective) Digital Image Processing | 2 | 2 |
| | CS93206 |)elective)neural networks | 2 | _ |
| | UOB36036 | Research Methodology | 1 | - |
| | | Four Year | | |

| _ | _ | | - | |
|-------------------|----------|--|---|---|
| vst Semester | CS94100 | Parallel programming | 2 | 2 |
| 7 . 7 £ - 7 . 7 ٣ | CS94101 | Operating System II | 2 | 2 |
| | CS94102 | Advanced computer Networks | 2 | 2 |
| | CS94103 |)elective (Multimedia | 2 | 2 |
| | CS94104 |)elective) (Electronic Commerce(| 2 | - |
| | CS94105 |)elective (Mobile Computing (Advanced(| 2 | 2 |
| | • | | • | • |
| nd Semester | CS94200 | Data mining | 1 | 2 |
| 7 . 7 £ - 7 . 7 ٣ | CS94201 | Computer security | 2 | - |
| | CS94202 | Robotics Control | 2 | - |
| | CS94203 |)elective) (Data Compression | 2 | 2 |
| | CS94204 |)elective) (Software Development Tools | 1 | 2 |
| | CS94205 |)elective (Advanced Computer Graphics | 2 | 2 |
| | ENG92104 | English Language IIII | 2 | - |
| | CS94206 | Project | 2 | 4 |

8. Expected learning outcomes of the program

A. Knowledge

1. Enabling the student to gain understanding and knowledge of the components of the operating system.

2. Enabling the student to run and execute programs within the computer.

3. Equipping students with the knowledge and understanding of the conceptual framework,

foundations, and applications of computer technologies.

4. Teaching the student to use statistical methods for data processing and solving mathematical problems.

B. Skills

1. Scientific and practical skills

- 2. Reminder and analytical skills
- 3. Skills in use, application, and development
- 4. General and transferable skills (other skills related to employability and personal

development)

C. Ethics

1. Following scientific advancements through communication with global universities via the internet

2. Participating in scientific conferences inside and outside Iraq

3. Engaging in workshops and scientific seminars inside and outside Iraq

4. Field visits to industrial projects

| | 9. Program Skills Outline | | | | | | | | | | | | | | |
|-----------------|---------------------------|-------------------------------------|-------------------|------|------------------------------------|----|----|-----------|----|-----------|-----------|--------|----|----|----|
| | | | | | Required program Learning outcomes | | | | | | | | | | |
| Year/Level | Course Code | Course Name | Basic or optional | Knov | Knowledge | | | Skills | | | | Ethics | | | |
| | | | | A1 | A2 | A3 | A4 | B1 | B2 | B3 | B4 | C1 | C2 | C3 | C4 |
| | CSC11001 | Programming Fundamentals I | Basic | X | X | X | X | X | X | x | X | X | X | X | X |
| First Year/ | CSC11002 | Computer Organization | Basic | X | X | X | | X | X | X | X | X | X | X | X |
| First Semester | CSC11003 | Introduction to Computer Science | Basic | X | X | X | | X | X | X | X | X | X | Х | X |
| | CSC11004 | Calculus | Basic | | X | X | | X | X | X | X | X | X | X | Χ |
| | CSC11005 | English Language I | Basic | | | | | | | | | | X | X | |
| | CSC11006 | Democracy and Human Rights | Basic | | | | | | | | | | X | X | |
| | CSC11007 | Programming Fundamentals II | Basic | X | X | X | X | X | X | X | X | X | X | X | X |
| First Voor/ | CSC11008 | Discrete Structures | Basic | | X | X | | X | X | X | X | X | X | X | X |
| Second Semester | CSC11009 | Digital Logic | Basic | X | X | X | | X | X | X | X | X | X | X | X |
| | CSC11010 | Academic Writing | Basic | | | | | | | | | | X | X | |

| | | Skills | | | | | | | | | | | | | |
|----------------|----------|---------------------------------------|-------|---|---|---|---|---|---|---|---|---|---|---|---|
| | CSC11011 | Probability and Statistics | Basic | | X | X | | X | X | X | X | X | X | X | X |
| | CSC11012 | Arabic Language I | Basic | | | | | | | | | | X | X | |
| | CS92100 | Introduction to Numerical Analysis | Basic | X | X | X | X | X | X | X | | X | X | X | X |
| Second Veen/ | CS92101 | Microprocessor | Basic | X | X | X | X | X | X | X | | X | X | X | X |
| First Semester | CS92102 | Computation | Basic | X | | X | X | X | X | X | | X | X | X | X |
| | CS92103 | Object Oriented Programming I | Basic | X | X | X | X | X | X | X | | X | X | X | X |
| | CS92104 | Data Structures | Basic | X | X | X | | X | X | X | | X | X | X | X |
| | CS92105 | Visual Programming | Basic | X | X | X | X | X | X | X | X | X | X | X | X |
| | ENG92102 | English Language II | Basic | | | | | | | | | | X | X | |
| | CS92200 | Advanced Numerical Analysis | Basic | X | X | X | X | X | X | X | X | X | X | X | X |
| Second Veen/ | CS92201 | Computer architecture | Basic | X | X | X | | X | X | X | X | X | X | X | X |
| Second Year/ | CS92202 | Basic Language Translation | Basic | X | | X | | X | X | X | X | X | X | X | X |

| Second Semester | CS92203 | Object Oriented Programming II | Basic | X | X | X | X | X | X | X | X | X | X | X | X |
|-----------------|----------|------------------------------------|-------|---|---|---|---|---|---|---|---|---|---|---|---|
| | CS9224 | Data Structures and Algorithms | Basic | X | X | X | | X | X | X | X | X | X | X | X |
| | CS92205 | Programming Language Techniques | Basic | X | X | X | X | X | X | X | X | X | X | X | X |
| | ARA92100 | Arabic language II | Basic | | | | | | | | | | X | X | |
| | CS93100 | Advance Computer Architecture | Basic | X | X | X | | X | X | X | X | X | X | X | X |
| Thind Veen | CS93101 | Computer Graphics | Basic | X | X | X | | X | X | X | X | X | X | X | X |
| First Semester | CS93102 | Database fundamentals | Basic | X | X | X | X | X | X | X | X | X | X | X | X |
| | CS93103 | Web organization | Basic | X | X | X | X | X | X | X | X | X | X | X | X |
| | CS93104 | Software engineering | Basic | X | X | X | | X | X | X | X | X | X | X | X |
| | CS93105 | Introduction to AI | Basic | X | X | X | X | X | X | X | X | X | X | X | X |
| | CS93106 | Programming with Java | Basic | X | X | X | X | X | X | X | X | X | X | X | X |
| | ENG92103 | English Language III | Basic | | | | | | | | | | X | X | |
| | CS93200 | Mobile Computing | Basic | X | X | X | X | X | X | X | X | X | X | X | X |

| | CS93201 | Cryptography | Basic | X | X | X | | X | X | X | X | X | X | X | X |
|--------------------------------|----------|--|----------|---|---|---|---|---|---|---|---|---|---|---|---|
| Third Year/ | CS93202 | Operating System I | Basic | X | X | X | X | X | X | X | X | X | X | X | X |
| Second Semester | CS93203 | Computer Networks | Basic | X | x | X | X | X | X | X | X | X | X | X | X |
| | CS93204 | Relational database | Basic | X | x | X | X | X | X | X | X | X | X | X | X |
| | CS93205 |)elective) Digital Image Processing | Optional | X | X | X | X | X | x | X | X | X | X | X | X |
| | CS93206 |)elective)neural networks | Optional | X | X | X | | X | X | X | X | X | X | X | X |
| | UOB36036 | Research Methodology | Basic | | | | | | | | | | X | X | |
| | CS94100 | Parallel programming | Basic | X | x | X | X | X | X | X | X | X | X | x | X |
| Essenth Varant | CS94101 | Operating System II | Basic | X | X | X | X | X | X | X | X | X | X | X | X |
| Fourth Year/ First Semester | CS94102 | Advanced computer Networks | Basic | X | X | X | X | X | X | X | X | X | X | X | X |
| | CS94103 |)elective (Multimedia | Optional | X | X | X | X | X | X | X | X | X | X | X | X |
| | CS94104 |)elective) (Electronic Commerce(| Optional | X | X | X | | X | x | x | X | x | X | X | X |
| | CS94105 |)elective (Mobile Computing | Optional | X | X | X | X | X | X | X | X | X | X | X | X |

| | | (Advanced(| | | | | | | | | | | | | |
|---------------------------------|----------|---|----------|---|---|---|---|---|---|---|---|---|---|---|---|
| | CS94200 | data mining | Basic | X | X | X | X | X | X | X | X | X | X | X | X |
| | CS94201 | Computer security | Basic | X | X | X | X | X | X | X | X | X | X | X | X |
| Fourth Year/ Second Semester | CS94202 | Robotics Control | Basic | X | X | X | X | X | X | X | X | X | X | X | X |
| | CS94203 |)elective) (Data Compression | Optional | X | X | X | X | X | X | X | X | X | X | X | X |
| | CS94204 |)elective) (Software Development Tools | Optional | X | X | X | | X | X | X | X | X | X | X | X |
| | CS94205 |)elective (Advanced Computer Graphics | Optional | X | X | X | X | X | X | x | X | X | X | X | X |
| | ENG92104 | English Language IIII | Basic | | | | | | | | | | X | X | |
| | CS94206 | Project | Basic | X | X | X | X | X | X | X | X | X | X | X | X |

• Please tick the boxes corresponding to the individual program learning outcomes under evaluation.

First Grade

English Language Course Description

| 1. Course Name: | |
|-----------------------------------|---|
| English Language | |
| 2. Course Code: | |
| | |
| 3. Semester / Year: | |
| 1 st semester/ First G | rade/ 2023-2024 |
| 4. Description Preparat | ion Date: |
| 22/3/2024 | - |
| 5. Available Attendanc | e Forms: |
| In person | |
| 6. Number of Credit He | ours (Total) / Number of Units (Total) |
| 4 credit hours / 2 uni | ts |
| 7. Course administrator | r's name (mention all, if more than one name) |
| Name: Dr. Maysa It | branim Abdulnussain |
| Email: Maysaa.i@sc | z.uodagndad.edu.iq |
| 8 Course Objectives | |
| Course Objectives | 1 Listening Objectives: |
| course objectives | Understand and respond to basic greetings. |
| | introductions, and simple instructions. |
| | Comprehend and extract information from short. |
| | simple spoken passages related to everyday topics. |
| | • Identify and understand common vocabulary and |
| | expressions in spoken English. |
| | 2. Speaking Objectives: |
| | • Engage in basic conversations using simple greetings, |
| | introductions, and expressions related to personal |
| | information. |
| | • Ask and answer simple questions about personal |
| | details, daily routines, and familiar topics. |
| | • Participate in short dialogues and role-plays to |
| | practice communication skills. |
| | 3. Reading Objectives: |
| | • Read and comprehend simple texts, such as signs, |
| | labels, short passages, and dialogues. |
| | • Recognize and understand basic vocabulary words |
| | and phrases in context. |
| | • Extract information from texts related to everyday |
| | A Writing Objectives: |
| | 4. Write short contaneous and perceraphs shout reveased |
| | • write short sentences and paragraphs about personal information experiences and familiar topics |
| | mormation, experiences, and rammar topics. |
| 9. Teaching and Lear | ning Strategies |
| Strategy | • Providing the student with the basics of the topics |
| | Discussions and problem solving during the locityre |
| | Discussions and problem solving during the lecture |
| | • Asking intellectual questions, such as why and how |

| | | Giving | g assignmer | nts | |
|-------|--------------|----------------------------------|----------------------------|--------------------|-----------------------------------|
| 10. C | ourse Struct | ture | | | |
| Week | Hours | Required Learning Outcomes | Unit or subject name | Learning method | Evaluation method |
| 1 | 2 | Hello! p6 | | Lectures | Midterm exam Daily evaluations |
| ۲ | 2 | Your world p12 | | Lectures | Midterm exam Daily evaluations |
| ٣ | ٤ | All about you p18 | | Lectures | Midterm exam Daily evaluations |
| ٤ | ٤ | Family and friends p24 | | Lectures | Midterm exam Daily evaluations |
| 0 | ٤ | The way I live p32 | | Lectures | Midterm exam Daily evaluations |
| ٦ | ٤ | Every day p40 | | Lectures | Midterm exam Daily evaluations |
| ٧ | ٤ | Mid-term Exam | | Lectures | Midterm exam Daily evaluations |
| ٨ | ٤ | My favorites p48 | | Lectures | Midterm exam Daily evaluations |
| ٩ | ٤ | Where I live p56 | | Lectures | Midterm exam Daily evaluations |
| ۱. | ٤ | Times past p64 | | Lectures | Midterm exam Daily evaluations |
|)) | ٤ | We had a great time! p72 | | Lectures | Midterm exam Daily evaluations |
| 17 | ٤ | I can do that! p80 | | Lectures | Midterm exam Daily evaluations |
| 17 | ٤ | Please and thank you p88 | | Lectures | Midterm exam Daily evaluations |

| ١٤ : | Ě | Here and now p96 | | Lectures | Midterm exam Daily evaluations |
|------------|---------------|------------------|---|----------|-----------------------------------|
| 11. Cou | rse Evaluat | ion | L | | |
| Monthly | exams | | | | |
| - Preparir | ng reports – | | | | |
| Laborato | ry evaluation | on | | | |
| | | | | | |
| 12. Lea | rning and T | eaching Resource | S | | |
| Required | textb | ooks | | | |
| (curricula | r books, if a | any) | | | |
| Recomme | ended b | ooks | | | |
| and refer | ences (scier | ntific | | | |
| journals, | reports) | | | | |
| Electroni | c Referei | nces, | | | |
| Websites | | | | | |

Calculus Course Description

| 1. Course N | ame: | |
|------------------------|-------------------------------------|---|
| Calculus | | |
| 2. Course C | ode: | |
| UoB1234 | .5 | |
| 3. Semester | / Year: | |
| 1 st semest | er/ 1 st grade/ 2023-202 | 24 |
| 4. Description | on Preparation Date: | |
| 3-23-2024 | 4 | |
| 5. Available | Attendance Forms: | |
| weekly | | |
| 6. Number of | of Credit Hours (Total) | / Number of Units (Total): |
| 3 | | |
| 7. Course ad | lministrator's name (me | ention all, if more than one name) |
| Name: Ba | usad Al-sarray | |
| Email: ba | sad.husain@sc.uobagh | ndad.edu.iq |
| 8. Course O | bjectives | |
| Course Objectiv | e • To understand t | the fundamental theory of calculus and its applications. |
| | • To understand i | numbers sets, function, limit, |
| | • This course dea | ls with the basic concepts of calculus that are related |
| | with topics in c | omputer science. |
| | • To understand i | integral, sequences, and types of problems that can be |
| | solved. | |
| | • To perform the | analysis of functions in one variable |
| 0 Taaahing | and Learning Strategic | |
| 9. Teaching | Students are expect | -S |
| Strategy | problems This co | surverse strengthene students' understanding of functions |
| | preparation for the | process of differentiation and integration Calculus conce |
| | explored include lir | nits and continuity, derivatives, definite integrals, exponen |
| | and logarithmic fun | ctions, trigonometric functions, and techniques of integrati |
| | Emphasis is place | d on the exploration of real-world calculus application |
| | Students are expect | ted to learn to choose and use appropriate mathematics a |
| | statistics to analyz | e empirical situations, to understand them better, and |
| | improve decisions | - |
| | | |
| 10. Course Stru | cture | |
| Week No. | Week Title | Martial Covered |
| Week 1 | Numbers sets | Types of sets of numbers, natural, integer, rationale, |
| | | and real, intervals |
| Week 2 | Inequality | Solve inequalities |
| | solutions | |
| Week 3 | Absolute values | Solve inequalities defined by absolute |
| Week 4 | Line equations | Types of lie equations |
| Week 5 | Functions | Define function and its types, domain, range, graph of |
| | | the functions, Rational function, Trigonometric |
| | T • •/ | runctions, Exponential function. |
| Week 6 | Limit | Computing limit of the functions with different types |
| | | Kational function, Irigonometric functions, |
| | | Exponential function. Continuous of the functions |

| Week 7 | Mid-term Exam | |
|-------------------|-------------------------|--|
| Week 8 | Derivative of the | Basics of computing derivative of the functions |
| | functions | |
| Week 9 | Graph of a | using asymptotes, critical points, the derivative test for |
| | function | increasing/decreasing functions, and concavity. |
| Week 10 | Application of | solve applied max/min problems, and to solve related |
| | derivative | rates problems. |
| Week 11 | Integration | General definition: Definite integral, Indefinite |
| | | integrals. |
| Week 12 | Techniques of | Substitution rule of integral, integral by parts, integral |
| | integration | by fraction |
| Week 13 | Sequences | General definition, types of sequences, Convergence |
| | | test of sequences |
| Week 14 | Series | General definition, types of Series, Convergence test of |
| | | series |
| Week 15 | Power series | Taylor series, Fourier Series |
| Week 16 | Preparatory w | eek before the final exam |
| 11. Course Eva | luation | |
| Distributing the | score out of 100 acco | ording to the tasks assigned to the student such as daily |
| preparation, disc | ussions in class, midte | rm, final exams, reports, assignment. |
| 12. Learning ar | nd Teaching Resources | 5 |

Thomas-Calculus-12th-Edition-George-B.-Thomas.pd http://www.ahmeddemir.net/wp-content/uploads/2015/07/Thomas-Calculus-12th-Edition-George-B.-Thomas.pdf

| | Computer Organization Course Description |
|-----|---|
| | 1. Course Name: |
| | Computer Organization |
| 2. | Course Code: |
| | CSC1102 |
| 3. | Semester / Year: |
| | 1 st semester/ First Grade/ 2023-2024 |
| 4. | Description Preparation Date: |
| | 24/3/2024 |
| 5. | Available Attendance Forms: |
| | In Person in classroom |
| 6. | Number of Credit Hours (Total) / Number of Units (Total) |
| 7 | ETCS Credits |
| 7. | Course administrator's name (mention all, if more than one name) |
| | Name: Zainab Raed Ahmed |
| | Email: <u>zainab.raid@sc.uobaghdad.edu.iq</u> |
| | Name: Enas Ali Abdulmunem |
| | Email: <u>Enas.ali@uobaghdad.edu.iq</u> |
| | 8. Course Objectives |
| The | objectives of studying computer organization are to provide students with a solid |
| und | erstanding of the internal workings of a computer system, enabling them to analyze, design, |
| and | optimize computer systems and software for improved performance and efficiency. |
| 1. | To understand the internal structure of a computer system; includes learning about the CPU |
| | (Central Processing Unit), memory, input/output devices, and the interconnections between |
| | them. |
| 2. | To understand how instructions are executed within a computer system. This involves |
| | learning about the instruction cycle, fetch-decode-execute cycle, and the role of the CPU in |
| | executing instructions. |
| 3. | To understand the memory organization and hierarchy of memory. This includes learning |
| | about primary memory (RAM) secondary memory (hard drives SSDs) and cache memory |
| 1 | To understand System Design and Architecture: including knowing word size address hus |
| 4. | aize data hug size, and the total memory consolity. |
| | size, data bus size, and the total memory capacity. |
| | 9. Teaching and Learning Strategies |
| 1. | PowerPoint presentation: with pictures, tables, and diagrams to explain the lesson |
| | interactively and clearly. |
| 2 | Using Visual Aids: such as diagrams and flowcharts to explain complex concepts. Visual |
| | representations can make abstract concepts more understandable and help students to |
| | understand the relationships between different components of a computer system |
| 2 | Crear Desirate and Discussion has activity and the first state of a computer system. |
| 3. | Group Projects and Discussion: by assigning group projects or case studies that involve |
| | designing, analyzing, or implementing computer systems. Encourage students to work |
| | collaboratively, discuss their ideas, and share their findings. This fosters critical thinking, |

teamwork, and a deeper understanding of computer organization principles. 4. Formative Assessments: Incorporate formative assessments throughout the module to gauge student comprehension and identify areas where additional support may be needed. This can include quizzes, short assignments, or in-class discussions. Provide timely feedback to students to help them track their progress and address any misconceptions.

5. Active Learning Strategies: Encourage active learning through activities such as group discussions, peer teaching, problem-solving sessions, or debates. This promotes student engagement, critical thinking, and a deeper understanding of computer organization concepts.

| 10. Co | 10. Course Structure | | | | | | |
|--------|----------------------|--|---|-------------------------|----------------------|--|--|
| Week | Hours | Required Learning Outcomes | Unit or subject name | Learning method | Evaluation method | | |
| 1 | 3 | Knowing about the history of computers. | Introduction to computer history. | Lecture in Classroom | quiz | | |
| 2 | 3 | Knowing the computer parts and its subparts | Hardware and Software parts of the computer system. | Lecture in Classroom | quiz | | |
| 3 | 3 | The input/output devices and their examples. | Input and output devices and their types. | Lecture in Classroom | quiz | | |
| 4 | 3 | Numbering System and conversion between decimal, binary, and hexadecimal. | Numbering System (Binary, Decimal, Hexadecimal) | Lecture in Classroom | quiz | | |
| 5 | 3 | Internal memory and its types | Internal memory and its types (RAM, ROM, BIOS). | Lecture in Classroom | quiz | | |
| 6 | 3 | How to calculate main memory size (word size, data bus, and address bus). | Main memory organization and capacity calculation with practical examples. | Lecture in Classroom | assignment | | |
| 7 | | 1 | Midterm Exam | | I | | |
| 8 | 3 | CPU and its components (ALU, CU, Register sets). The 8086 MP as an example | CPU components (CPU, CU, Register sets), How CPU works (READ and WRITE operations). | Lecture in Classroom | quiz | | |
| 9 | 3 | Introduction to 8086/8088 Microprocessor | Introduction to 8086/8088 MP and its internal architecture. | Lecture in Classroom | quiz | | |
| 10 | 3 | Calculate the physical and logical address of 8086 MP with examples. | 8086 Physical and logical address | Lecture in Classroom | assignment | | |
| 11 | 3 | 8086/8088 addressing mode | 8086/8088 addressing mode with examples. | Lecture in Classroom | quiz | | |
| 12 | 3 | Hard disk drive (HDD) and how data are organized (sector | Hard disk drive and its organization | Lecture in Classroom | quiz | | |

| | | and autin | danna | ath ad) | | | | | |
|---|--------------|-------------|--|-----------------|-------------|-------------------|--------------|----------|------------------|
| 13 | 3 | Hard disl | cer m | city | Hard di | ek canacity | Lecture | in | assignment |
| - 5 5 Hard dis | | calculatio | ions calcul | | calculat | ions with | Classro | om | assignment |
| | calculations | | JII5 | | practica | l examples | Classio | om | |
| ۱4 | 3 | Solid-stat | te exte | ernal | Solid-st | ate external | Lecture | in | aniz |
| | 5 | storage d | evices | Sinai | storage | devices and | Classro | om | quiz |
| | | (SSD, fla | sh me | emory | optical | storage | Clubbio | om | |
| | | chip), and | d opti | cal | devices | | | | |
| | | storage d | evices | s (CD, | | | | | |
| | | DVD) | | | | | | | |
| 15 | | · | | | Fi | nal exam | | | |
| 11. Co | ourse E | valuation | | | | | | | |
| | | | | Mo | odule Ev | aluation | | | |
| | | | | ä | دة الدراسية | تقييم الما | | | |
| | | | | Time/N | Numbe | Weight | | | |
| | | | | r | ſ | (Marks) | | | |
| Format | ivo | Quizzes | | 2 | 2 | 2 • % (2 •) | | | |
| assessm | ive | Assignmen | ts | 2 | 2 | 5% (5) | | | |
| Qu | | Quizzes / L | ab | 2 | 2 | 10% (10) | | | |
| | | assignment | /lab | 2 | 2 | 5% (5) | | | |
| Summa | tive | Midterm ex | xam | 21 | nr | 1 • % (1 •) | | | |
| assessm | lent | Final Exam | 1 | 3ł | nr | °0% (50) | | | |
| Total a | seacem | ont | | | | 100% (100 |) | | |
| | 5565511 | | | | | Marks) | | | |
| 12. Le | arning | and Teachin | g Res | ources | | | | | |
| Require | d textb | ooks | - | Compute | er Organ | ization, First E | dition – 2 | 2015, b | y Prof. |
| (curricu | lar boo | oks, if | | K.Vikra | m | | | | |
| any) | | | - | Fundam | entals of | Computer Org | anization | n and A | architecture, by |
| | | | | Mostafa | Abd-El- | Barr and Hesh | am El-Re | ewini, V | Wiley 2005 |
| | | | - | THE 80 | x86 IBM | PC AND CON | MPATIB | LE CO | MPUTERS |
| | | | VOLUMES I & II (Assembly Language, Design, and | | | | | | |
| | | | | Interfaci | ng) Fou | rth edition, by: | Muhamr | nad Ali | Mazidi & |
| | | | | Janice G | illispie I | Mazidi | | | |
| Main ra | forana | 20 | Com | Nutor Eur | domont | la and Annlia | tions by | Achol | Arora Vilcoa |
| Main references Computer Fun (sources) Publishing Ho | | | idamenta | ais and Applica | tions, by | ASHOK | Afora, vikas | | |
| Recomm | nended | l books | COM | PUTER | ORGAN | JIZATION AN | D DESI | GN | |
| and refe | rences | | FUN | DAMEN | TALS, I | First Edition- 20 | 007, by I | David T | arnoff |
| (scientif | fic jour | mals, | | | | | | | |
| reports |) | | | | | | | | |
| Electron | nic Ref | erences, | http:/ | www.ee | e.rverson | .ca/~courses/co | 0e608/ | | |
| Website | es | | | | | | 20001 | | |

Programming Fundamentals I Course Description

| 1. C | . Course Name: | | | | | | |
|-------------------|--|--|----------------|----------------|--|--|--|
| P | Programming Fundamentals I | | | | | | |
| 2. C | ourse Code | : | | | | | |
| | $\frac{SC11001}{mostor / V}$ | 00 r . | | | | | |
| <u> </u> | st semester/ | Ear. First Grade/ 2023-2024 | | | | | |
| 4 D | escription I | Preparation Date: | | | | | |
| 2 | 3/3/2024 | Teputution Duce. | | | | | |
| 5. A | vailable At | tendance Forms: | | | | | |
| In | Person in | classroom | | | | | |
| 6. N | umber of C | redit Hours (Total) / Number of U | Units (Total) |): | | | |
| 5/ | /4 | | | | | | |
| 7. C | ourse admi | nistrator's name (mention all, if m | ore than on | e name) | | | |
| N | ame: Prof. | Dr. Bara'a Ali Attea | | | | | |
| E | mail: bara.a | a@sc.uobaghdad.edu.iq | 1 | | | | |
| | ame: Asst. | Prof. Dr. Aminan Danim Abbood | 1 | | | | |
| | ourse Obie | ctives | | | | | |
| Course | | camine a C/C++ program | | | | | |
| Objectiv | | contraction $C/C++$ program. | rocessed | | | | |
| 0 | | wine the stars required to every | | anittan in C | | | |
| | • 10 re | view the steps required to execute | e programs | written in C+ | -+. | | |
| | • To le | arn what an algorithm is and expl | ore problem | i-solving tech | nniques. | | |
| | • To be | ecome aware of structured design | programmi | ng. | | | |
| | • To be | ecome familiar with the basic co | omponents | of a C++ pr | rogram, including | | |
| | data t | ypes, input/output, control structu | ires, and use | er-defined fu | nctions. | | |
| 0 T | | Looming Studiog | | | | | |
| 9. 10 Stratogy | The m | ain strategy that will be adopted | in deliverir | ng this modu | le is to encourage | | |
| Strategy | student | s' participation in the exercises | and daily a | uizzes while | e at the same time | | |
| | refinin | g and expanding their critical thing | nking skills. | This will be | e achieved through | | |
| | classes | , interactive tutorials and by c | considering | types of si | mple experiments | | |
| | involvi | ng some sampling activities that a | are interestin | ng to the stud | dents. | | |
| 10. Cou | rse Structu | re | | | | | |
| Week | Hours | Required Learning | Unit or | Learning | Evaluation | | |
| | | Outcomes | subject | method | method | | |
| 1 | | Three main rules for problem | name | | Oral | | |
| 1 | 5 | solving techniques | | | Oral, Practical | | |
| 2 | | solving teeninques. | | | Oral | | |
| 2 | 5 | Output statements. | | | Practical | | |
| 3 | | | | | Oral | | |
| - | 5 Input statements. Oral, Practical | | | | | | |
| | 5 | Input statements. | | | Practical | | |
| 4 | 5 | Input statements. Assignment operator, | | | Practical Oral, | | |
| 4 | 5 5 | Input statements.Assignmentoperator,declarationandassignment | | | Practical Oral, Practical | | |
| 4 | 5 5 | Input statements. Assignment operator, declaration and assignment statements. | | | Practical Oral, Practical | | |
| 4 | 5 5 5 | Input statements. Assignment operator, declaration and assignment statements. Mathematical operators and | | | Practical Oral, Practical Oral, | | |

| 6 | | Pre- and post- increment and | | Oral, |
|-------------|-------------|---------------------------------|-----------------------------|---------------------------|
| | | decrement | | Practical |
| | 5 | | | |
| | | If function, if statements, and | d | |
| _ | | body of if statement. | | |
| 7 | 3 | Midterm Exam | | Written Exam |
| 8 | 5 | Ifelse function and ifelse | e | Oral, |
| | 5 | statements. | | Practical |
| 9 | | Loop Control Variable | e | Oral, |
| | 5 | (LCV), LCV initialization | l, | Practical |
| | 5 | LCV conditional expression | l, | |
| | | and LCV update. | | |
| 10 | | While function, while | e | Oral, |
| | 5 | statements, and body o | f | Practical |
| | | while statement. | | |
| 11 | 5 | Nested while loops. | | Oral, |
| | - | | | Practical |
| 12 | | For function, for statements | b , | Oral, |
| | 5 | and body of for statement | , | Practical |
| 10 | | Nested for loops. | | |
| 13 | 5 | One-Dimensional arrays | | Oral, |
| 1.4 | | | | Practical |
| 14 | 3 | the final Even | e | Oral, Drastical |
| 15 | | | | Plactical Written Exem |
| 15 | 3 | Final Exam | | written Exam |
| 11. Cou | se Evaluat | tion | | |
| • Cu | mulative S | Score: 40 (Daily Exam 5, Writt | ten Exam 15. Report 5. Lab | o 15) |
| • M | id-term Ex | am: 10 | , <u>1</u> , | , |
| ● Fii | nal-term E | xam: 50 | | |
| | | | | |
| 12. Lear | ning and T | Seaching Resources | | |
| Required | textbooks | (curricular books, if any) | C++ Programming: From | Problem Analysis to |
| | | | Program Design, 5th Edition | n, D.S. Malik, 2011. |
| Main refe | rences (sou | urces) | | |
| Recomme | nded bool | ks and references (scientific | | |
| journals, r | eports) | × | | |
| Electronic | Reference | es, Websites | | |

Democracy and human rights Course Description

| 1. | Course Name: | | | | | | |
|-------------------------------------|--------------------------------------|--|--|--|--|--|--|
| | Democracy and human rights | | | | | | |
| 2. | Cours | e Code: | | | | | |
| 3 | Seme | ter / Vear: 2023-2024/First | | | | | |
| | 1 st sen | nester/ First Grade/ 2023-2024 | 4 | | | | |
| 4. | Descri | intion Preparation Date: | • | | | | |
| | 22/3/2 | 2024 | | | | | |
| 5. | Availa | ble Attendance Forms: | | | | | |
| | | | | | | | |
| 6. | Numb | er of Credit Hours (Total) / N | umber of Units (Total) | | | | |
| | 30/2, 2 | 2023-2024/ First | | | | | |
| 7. | Cours | e administrator's name (menti | on all, if more than one nar | ne) | | | |
| | Name | : Anwer Ismael Khaleel | 1 ' | | | | |
| 0 | Email | : anwar@ircoedu.uobaghdad. | edu.1q | | | | |
| 0. Course | Cours | • The student understand | a what domagnoon is its | tunas huma | | | |
| Objecti | ives | • The student understand rights its types and char | s what democracy is, its | types, numa | 111 | | |
| 0 Sjeen | | • Urging the student to ur | derstand the meaning of | freedom in i | ts | | |
| | | correct form and how it | is embodied in democrati | c practices an | d | | |
| | | respect for human rights | 5. | • | | | |
| | | • Enabling the student t | o analyze the historical | precedents | of | | |
| | | human applications of d | emocracy and respect for | human rights | 5. | | |
| | | • It evaluates the experi- | iences that have occur | red in huma | in | | |
| | | societies with regard to | democracy and human | rights, even | if | | |
| 0 | | they are in their simple form. | | | | | |
| 9. Teaching and Learning Strategies | | | | | | | |
| 9. Stratog | Teach | ing and Learning Strategies | The prescribed book (b) | Using other | | | |
| 9. Strateg | Teach sy | ing and Learning Strategies 1- Theoretical methods: (a) means such as presentation | - The prescribed book. (b) Power Point | - Using other | | | |
| 9. Strateg | Teach Sy | ing and Learning Strategies 1- Theoretical methods: (a) means such as presentation 2- Practical methods: (a) - | - The prescribed book. (b) . Power Point. Interactive dialogue (b) - S | - Using other | | | |
| 9. Strateg | Teach y | ing and Learning Strategies 1- Theoretical methods: (a) means such as presentation 2- Practical methods: (a) - 1 documentaries or videos re | - The prescribed book. (b) . Power Point. Interactive dialogue (b) - S lated to the topic of the lect | - Using other howing ture. | | | |
| 9. Strateg | Teach y | ing and Learning Strategies 1- Theoretical methods: (a) means such as presentation 2- Practical methods: (a) - 1 documentaries or videos re 3- Carrying out representation | - The prescribed book. (b) . Power Point. Interactive dialogue (b) - Si lated to the topic of the lect tive activities among stude | - Using other howing ture. nts that embod | ly | | |
| 9. Strateg | <u>Teach</u> y | ing and Learning Strategies 1- Theoretical methods: (a) means such as presentation 2- Practical methods: (a) - 1 documentaries or videos re 3- Carrying out representation a specific situation related | - The prescribed book. (b) . Power Point. Interactive dialogue (b) - Si lated to the topic of the lect tive activities among students to the topic of the lecture. | - Using other howing ture. nts that embod | ly | | |
| 9. Strateg | Teach sy | ing and Learning Strategies 1- Theoretical methods: (a) means such as presentation 2- Practical methods: (a) - 1 documentaries or videos re 3- Carrying out representat a specific situation related Structure | - The prescribed book. (b) . Power Point. Interactive dialogue (b) - S lated to the topic of the lect tive activities among students to the topic of the lecture. | - Using other howing ture. nts that embod | ly | | |
| 9. Strateg 10. Co Week | Teach Sy Durse S Hour | ing and Learning Strategies 1- Theoretical methods: (a) means such as presentation 2- Practical methods: (a) - documentaries or videos re 3- Carrying out representat a specific situation related Structure rs Required Learning Outcomer | The prescribed book. (b) Power Point. Interactive dialogue (b) - Silated to the topic of the lectrive activities among students to the topic of the lecture. Unit or subject name | - Using other howing ture. nts that embod | iy Evaluation | | |
| 9. Strateg | Teach y ourse S Hour | ing and Learning Strategies 1- Theoretical methods: (a) means such as presentation 2- Practical methods: (a) - 1 documentaries or videos re 3- Carrying out representation a specific situation related Structure rs Required Learning Outcomes | The prescribed book. (b) Power Point. Interactive dialogue (b) - Silated to the topic of the lectrive activities among students to the topic of the lecture. Unit or subject name Definition of the | - Using other howing ture. nts that embod Learning method | ly Evaluation method | | |
| 9. Strateg | Teach Sy Durse S Hour 2 | ing and Learning Strategies 1- Theoretical methods: (a) means such as presentation 2- Practical methods: (a) - documentaries or videos re 3- Carrying out representat a specific situation related Structure rs Required Learning Outcomes Determine the | The prescribed book. (b) Power Point. Interactive dialogue (b) - Silated to the topic of the lectrive activities among students to the topic of the lecture. Unit or subject name Definition of the concept of human | - Using other howing ture. nts that embod Learning method theoretical | ly Evaluation method theoretical | | |
| 9. Strateg | Teach y ourse S Hour 2 | ing and Learning Strategies 1- Theoretical methods: (a) means such as presentation 2- Practical methods: (a) - 1 documentaries or videos re 3- Carrying out representate a specific situation related Structure rs Required Learning Outcomes Determine the definition of the | The prescribed book. (b) Power Point. Interactive dialogue (b) - Silated to the topic of the lectrive activities among students Unit or subject name Definition of the concept of human rights | - Using other howing ture. nts that embod Learning method theoretical | ly Evaluation method theoretical | | |
| 9. Strateg | Teach Sy Durse S Houn 2 | ing and Learning Strategies 1- Theoretical methods: (a) means such as presentation 2- Practical methods: (a) - 1 documentaries or videos re 3- Carrying out representation a specific situation related Structure rs Required Learning Outcomes Determine the definition of the concept of human | The prescribed book. (b) Power Point. Interactive dialogue (b) - Silated to the topic of the lectrive activities among students to the topic of the lecture. Unit or subject name Definition of the concept of human rights Its recipes, types and | - Using other howing ture. nts that embod Learning method theoretical | evaluation method theoretical | | |
| 9. Strateg | Teach y Durse S Hour 2 | ing and Learning Strategies 1- Theoretical methods: (a) means such as presentation 2- Practical methods: (a) - I documentaries or videos re 3- Carrying out representation a specific situation related Structure rs Required Learning Outcomes Determine the definition of the concept of human rights | The prescribed book. (b) Power Point. Interactive dialogue (b) - Silated to the topic of the lectrive activities among students to the topic of the lecture. Unit or subject name Definition of the concept of human rights Its recipes, types and generations | - Using other howing ture. nts that embod Learning method theoretical | ly Evaluation method theoretical | | |
| 9. Strateg | Teach Sy Durse S Hour 2 | ing and Learning Strategies 1- Theoretical methods: (a) means such as presentation 2- Practical methods: (a) - documentaries or videos re 3- Carrying out representate a specific situation related Structure rs Required Learning Outcomes Determine the definition of the concept of human rights Its recipes, types and | The prescribed book. (b) Power Point. Interactive dialogue (b) - Silated to the topic of the lectrive activities among students to the topic of the lecture. Unit or subject name Definition of the concept of human rights Its recipes, types and generations | - Using other howing ture. nts that embod Learning method theoretical | evaluation method theoretical | | |
| 9. Strateg | Teach y Durse S Hour 2 | Ing and Learning Strategies 1- Theoretical methods: (a) means such as presentation 2- Practical methods: (a) - I documentaries or videos re 3- Carrying out representation a specific situation related Structure rs Required Learning Outcomes Determine the definition of the concept of human rights Its recipes, types and generations | The prescribed book. (b) Power Point. Interactive dialogue (b) - Silated to the topic of the lectrive activities among students to the topic of the lecture. Unit or subject name Definition of the concept of human rights Its recipes, types and generations | - Using other howing ture. Ints that embod Learning method theoretical | ly Evaluation method theoretical | | |
| 9. Strateg | Teach Sy Dourse S Hour 2 | Ing and Learning Strategies 1- Theoretical methods: (a) means such as presentation 2- Practical methods: (a) - 1 documentaries or videos re 3- Carrying out representate a specific situation related Structure rs Required Learning Outcomes Determine the definition of the concept of human rights Its recipes, types and generations | The prescribed book. (b) Power Point. Interactive dialogue (b) - Silated to the topic of the lectrive activities among students to the topic of the lecture. Unit or subject name Definition of the concept of human rights Its recipes, types and generations | - Using other howing ture. nts that embod Learning method theoretical | evaluation method theoretical | | |
| 9. Strateg | Teach y ourse S Hour 2 | Ing and Learning Strategies 1- Theoretical methods: (a) means such as presentation 2- Practical methods: (a) - 1 documentaries or videos re 3- Carrying out representate a specific situation related Structure rs Required Learning Outcomes Determine the definition of the concept of human rights Its recipes, types and generations | The prescribed book. (b) Power Point. Interactive dialogue (b) - Silated to the topic of the lectrive activities among students to the topic of the lecture. Unit or subject name Definition of the concept of human rights Its recipes, types and generations | - Using other howing ture. Its that embod Learning method theoretical | by Evaluation method theoretical | | |
| 9. Strateg | Teach y Durse S Hour 2 | Ing and Learning Strategies 1- Theoretical methods: (a) means such as presentation 2- Practical methods: (a) - 1 documentaries or videos re 3- Carrying out representate a specific situation related Structure rs Required Learning Outcomes Determine the definition of the concept of human rights Its recipes, types and generations | The prescribed book. (b) Power Point. Interactive dialogue (b) - Silated to the topic of the lectrive activities among students to the topic of the lecture. Unit or subject name Definition of the concept of human rights Its recipes, types and generations The historical development of | - Using other howing ture. Its that embod Learning method theoretical | ly Evaluation method theoretical theoretical | | |

| | | rights and regional | rights and regional and | | |
|----------|-------------|------------------------------|----------------------------|---------------|--------------|
| | | and international | international | | |
| | | organizations | organizations | | |
| | | defending human | defending human | | |
| | | rights | rights | | |
| 3 | 2 | Definition of | Definition of | theoretical | theoretical |
| | | democracy and its | democracy and its | | |
| | | types | types | | |
| 4 | 2 | Elements or | Elements or | | |
| | | components of | components of | | |
| | | democracy and | democracy and | | |
| | | conditions for its | conditions for its | | |
| | | success | success | | |
| | | | | | |
| 5 | 2 | Elections, their types, | Elections, their types, | | |
| | | pressure groups, their | pressure groups, their | | |
| | | types, and their | types, and their | | |
| | | differences with | differences with | | |
| | | political parties | political parties | | |
| 11. Co | ourse Eva | luation | | | |
| Distribu | ting the | score out of 100 accordin | g to the tasks assigned to | the student s | uch as daily |
| prepara | tion, daily | oral, monthly, or written e | exams, reports etc | | |
| 12. Le | earning an | d Teaching Resources | | | |
| Require | ed textboo | ks (curricular books, if any | 7) | | |
| Main re | ferences | (sources) | | | |
| Recom | nended | books and references (s | scientific | | |
| journals | s, reports. |) | | | |
| Electron | nic Refere | ences, Websites | | | |

Introduction to Computer Science Course Description

| 1. Cou | rse Name: |
|----------------|---|
| Inti | roduction to computer science |
| 2. Cou | rse Code: |
| | |
| 3. Sem | nester / Year: |
| | semester/ First Grade/ 2023-2024 |
| 4. Des | $\frac{1}{2024}$ |
| 5 Ava | ilable Attendance Forms: |
| <i>J.</i> 11va | |
| 6. Nun | nber of Credit Hours (Total) / Number of Units (Total) |
| 60/3 | } |
| 7. Cou | rse administrator's name (mention all, if more than one name) |
| Nan | ne: Dr. Nasreen Jawad Kadhim |
| _ | Dr. Ahmed Hashim Husein |
| Ema | ail: <u>nasreen.kadhim@sc.uobaghdad.edu.iq</u> |
| Ema | all: anmed.nusein@sc.uobaghdad.edu.iq |
| o. Course | To identify the computer system and its components together with |
| Objectives | • To identify the computer system and its components together with understanding the needed interaction between these components for performing |
| Objectives | solutions for given tasks regardless of the programming languages used |
| | To recognize the safety and security measures when dealing with a computer |
| | • To identify the fields of study in computer science and the essential concepts in |
| | computer science. |
| | • To recognize the different generations to programming languages. |
| | • To develop skills in critical thinking and problem solving for the aim to prepare |
| | a program designer. |
| | • To understand the fundamental stages of the program development life cycle. |
| | • To understand the ways to design the solution of a given problem either by |
| | writing an algorithm or by drawing a flowchart. |
| | • To understand the program control flow. |
| | • To understand the stages for compiling and processing a given program. |
| | • To identify the common methodologies for programming will be studied. |
| | • To identify for the C++ Programming language, Program structure, Processing |
| 9 Tea | C_{++} program, Control structures for Sequential, Dialiched, and Looping. |
| Strategy | • Theoretical concepts, principles related to this module can be delivered through |
| | traditional lectures supplemented with examples to improve understanding |
| | • Encourage students' participation in the exercises while at the same time |
| | refining and expanding their critical thinking skills. This will be achieved |
| | through classes interactive tutorials and by considering types of simple |
| | experiments involving some sampling activities that are interacting to the |
| | experiments involving some sampling activities that are interesting to the |
| | Allocating projects to students divided into another success and the students of the students |
| | • Anocaung projects to students divided into groups encourages collaboration, |
| | problem-solving, and teamwork. Students can work together to solve problems |
| | through analyzing problems and designing programs. |

| 10. Cou | 10. Course Structure | | | | |
|---------|---|--|--|--|--|
| | Material Covered | | | | |
| Week 1 | Part 1: Introduction to Computer System Part 2: Safety and security measures when dealing with a computer | | | | |
| Week 2 | Computer System Components | | | | |
| Week 3 | Part 1: Generations of Programming Languages Part 2: Fields of study in computer science Part 3: Essential concepts in computer science | | | | |
| Week 4 | Program Development Life Cycle: Part I | | | | |
| Week 5 | Program Development Life Cycle: Part II | | | | |
| Week 6 | Program Design: Flowcharts | | | | |
| Week 7 | Program Design: Algorithms | | | | |
| Week 8 | Program Control Flow | | | | |
| Week 9 | Programming with Problem Analysis-Coding-Execution Cycle | | | | |
| Week 10 | Programming Methodologies | | | | |
| Week 11 | Structure of C++ Program | | | | |
| Week 12 | Steps For Processing C++ Program | | | | |
| Week 13 | Constructs in C++ for Selection: Part I | | | | |
| Week 14 | Constructs in C++ for Selection: Part II | | | | |
| Week 15 | Constructs in C++ for Repetition | | | | |
| Week 16 | Preparatory week before the final exam | | | | |

11. Course Evaluation Distributing the score out of 50 according to the tasks assigned to the student such as reports, assignments, quizzes, projects, midterm exam and final exam.

Assignments 10%, Quizzes 10%, Mid exam 10%, Report 10%, Project 10%, Final exams 50% 12. Learning and Teaching Resources

| | Text | Available in the Library? |
|-----------------------|---|---------------------------|
| Required Texts | C++ Programming: From Problem Analysis to Program | Yes |
| | Design, Fifth Edition D.S. Malik | |
| Recommended | C++ Programming: From Problem Analysis to Program | |
| Texts | Design (MindTap Course List) 8th Edition D.S. Malik | |
| Websites | Free | |

Arabic Language Course Description

| 1. Cou | Course Name: | | | | | | |
|--|---|----------------------------------|----------------------------------|--------------------|----------------------|--|--|
| Aral | Arabic language | | | | | | |
| 2. Cou | rse Co | ode: | | | | | |
| 2 2 | | | | | | | |
| 3. Sem | Semester / Year: | | | | | | |
| 2 S | semes | ter/ 1 ^{er} Grade/ A | Academic Year 2023 - 1 • 1 2 | | | | |
| 4. Desc 23 N | Inpuc Aarch | $\frac{1}{2024}$ | Jale: | | | | |
| 5 Ava | Available Attendance Forms: | | | | | | |
| On c | campu | s. full time | | | | | |
| 6. Num | iber o | f Credit Hours (| (Total) / Number of Units (Total |) | | | |
| 30 h | ours / | 2 units | | / | | | |
| 7. Cou | rse ad | ministrator's na | me (mention all, if more than on | e name) | | | |
| Nam | ne: En | nan Hussein Mu | ıhy | | | | |
| Ema | il: <u>En</u> | nan.h.m@coeng | .uobaghdad.edu.iq | | | | |
| 8. Cou | rse Ol | ojectives | 1 | | | | |
| Course Objectives | Course Objectives That the student acquires the ability to use the language correctly in communicating with others through speaking, writing, listening and reading. Which makes their affairs easier for them and helps them meet their needs and interests. That the student is equipped with what helps them benefit from their free time through reading and reading. That students acquire the ability to express themselves and what comes under their senses verbally and in writing. That the student is provided with a linguistic wealth by providing them with some words and structures. That students acquire the ability to express themselves through linguistic skills related to: speaking, reading, listening, and writing. Developing students' inclination towards reading and studying. Identify the beauties of the Arabic language and its literature. Providing the student with the skills of communicating with Arab heritage and achieving integration between it and various fields of culture. | | | | | | |
| 9 Teac | hing | and Learning St | trategies | | | | |
| Strategy 1) Lectures. 2) Tutorials. 3) Homework and Assignments. 3) Homework and Exams. 4) Tests and Exams. 5) In-Class Questions and Discussions. 6) Extracurricular Activities. 6) Extracurricular Activities. 7) Seminars. 8) In- and Out-Class oral conservations. | | | | | | | |
| 10. Course | e Stru | | T1 | T | E | | |
| Week Ho | ours | Required Learning Outcomes | Unit or subject name | Learning method | Evaluation method | | |
| 1 2 | | | The origins of the Arabic | | | | |
| 1 2 | | Outcomes | The origins of the Arabic | | | | |

| r | 1 | | | T | |
|---------------------------|--|---|---|----------------|---------------|
| | | language | | | |
| 2 | 2 | Common ling | uistic errors | | |
| 3 | 2 | Common ling | uistic errors | | |
| 4 | 2 | The hamza of | cutting and | | |
| | | connecting | | | |
| 5 | 2 | Drawing the n | niddle and | | |
| | | extreme hamz | a | | |
| 6 | 2 | Letters that in | crease in | | |
| | | writing | | | |
| 7 | 2 | punctuation m | arks | | |
| 8 | 2 | Daily exam | | | |
| 9 | 2 | Number, rules | for writing | | |
| | | numbers | | | |
| 10 | 2 | Exam | | | |
| 11 | 2 | Sound mascul | ine plural | | |
| 12 | 2 | The subject ar | nd the predicate | | |
| 13 | 2 | Abu Al-Qassa | Abu Al-Qassam Al-Shabi, | | |
| | | his life and ex | planation of the | | |
| | | verses | - | | |
| 14 | 2 | Badr Shaker A | Al-Sayyab, his | | |
| | | life and explan | nation of the | | |
| | | verses | | | |
| 15 | 2 | Dhaad and Dh | iaa | | |
| 16 | 2 | final exam | | | |
| 11. Co | ourse Eval | uation | | | |
| 60% fin | al exam, 4 | 40% quizzes and HomeWorks | and other assignr | nents. | |
| 12. Le | arning an | d Teaching Resources | | | |
| Require | d textboo | ks (curricular books, if any) | Mustafa Al-Tu | ini, The Hamza | in the Arabic |
| | | - | Language, a Linguistic Study. | | |
| | | Saad bin Ali bin Muhammad, the difference | | | |
| | | between dhaad and dhaa. | | | |
| Main references (sources) | | General Arabic for non-specialist departments. Ab | | | |
| | | Qader Amin | | | |
| Recomr | Recommended books and references (scientific | | Youssef Atta Al-Tarifi is clear in spelling and | | |
| journals, reports) | | punctuation Muhammad Al-Adnani, Dictionary | | | |
| | | of Linguistic Errors | | | |
| Electron | nic Refere | nces, Websites | Websites related to the topics | | |

Digital Logic Course Description

| 1. (| . Course Name: | | | | | |
|---------|---|---------------------|---|--------------------|-----------------|--|
|] | Digital Logic | | | | | |
| 2. (| Course Code: | | | | | |
| (| CSC1209 | | | | | |
| 3. 5 | 3. Semester / Year: | | | | | |
| | 2 nd Semester/ 1 st Grade/ Academic Year 2023 - ۲ • ۲ ٤ | | | | | |
| 4. I | 4. Description Preparation Date: | | | | | |
| | 21/3/2024 | | | | | |
| 5. 4 | Available | Attendance F | orms: | | | |
| 1 | Mandatory | ý | | | | |
| 6. l | Number of | f Credit Hour | s (Total) / Number of Units (Total) | | | |
| ECTS (| Credits : | 6 | | | | |
| SWL (h | r/sem) : 1 | 150 | | | | |
| 7. (| Course ad | ministrator's 1 | name (mention all, if more than one i | name) | | |
| 1 | Name: Dr. | Bushra A. S | ultan | | | |
| I | Email: <u>Bu</u> | <u>shra.sultan@</u> | sc.uobaghdad.edu.iq | | | |
| 1 | Name: Na | hlah Abdulra | hman Alkhalidi | | | |
| I | Email: <u>Na</u> | ahlah.a@sc.uo | bbaghdad.edu.iq | | | |
| 8. (| Course Ob | ojectives | | | | |
| Course | T | he course wil | l teach the students about different | systems in digi | tal computers | |
| Objecti | ves in | cluding: bina | ry, octal, hexadecimal number system | ns, gray code and | d ASCII code. | |
| | | he course wi | Il help the students to simplify and | l analyze basic o | combinational | |
| | lo | gic circuits a | nd write the Boolean output expression | on for any combi | inational logic | |
| | circuit. In addition, the students will learn to design logic circuits to do specific | | | | | |
| | functions like addition in binary as well as studying the fundamentals of | | | | | |
| 0.5 | sequential logic devices such as Flip-Flop. | | | | | |
| 9. | l'eaching a | and Learning | Strategies | | | |
| Strateg | y The | main strategy | that will be adopted in delivering th | is module are: | | |
| | 1. Pe | ower point pr | esentation (Data show). | , | | |
| | 2. E | xplanation on | the white board using different colo | r markers. | | |
| | 3. D | iscussions wi | th the student during teaching. | | | |
| | 4. In | teraction with | i students through daily problems pr | actice through led | cture. | |
| | 5. 50 | Dive different | problems with more exercises. | | | |
| | 0. U | se tool kits in | LABS to design logic circuits in add | donto | r sonware. | |
| | | iepare reports | that develop childral tilliking for stu | dents. | | |
| | 0. 51 | ubiint assigni | lent that develop student learning. | | | |
| 10 (| Course St | noturo (Thao | ratical Part) | | | |
| Week | Hours | Required | Unit or subject name | Logrning | Evaluation | |
| WEEK | nours | Loorning | ome of subject name | mothod | mothod | |
| | | Outcomes | | methou | memou | |
| 1 | | Outcomes | Introduction to Digital | | | |
| 1 | 3 | | Introduction to Digital computers | Fynlanation | Ouizzes | |
| | 5 | | • Number systems (Director | Using | Semester | |
| | | | • Number systems (Binary, | nrojectors and | evame | |
| | | | Decimal, Octal, and | projectors and | UNAILIS, | |

| | | | TT 1 1 1 | .1 | 1 1 | |
|--------|-----------------------------------|----------|--|----------------|---------------|--|
| 2 | | | Hexadecimal) | the | nomework | |
| Z | | | • Conversions from decimal to | blackboard, as | and the final | |
| | | | other bases and vice versa | discussions | exam. | |
| | | | • The relation between the Octal, | and questions | | |
| | | | numbers | and questions | | |
| 2 | | | Inditiders | | | |
| 5 | | | Anumetic Operation | | | |
| 1 | | | • Complements | | | |
| 4 | | | • The subtraction using | | | |
| | | | complements) | | | |
| | | | • Ouiz1 | | | |
| 5 | | | Binary logic and gates | | | |
| 5 | | | Binary logic and gates Boolean functions (logical | | | |
| | | | expression T T and logic | | | |
| | | | circuit) | | | |
| 6 | | | Simplification of Boolean | 1 | | |
| - | | | functions using Boolean | | | |
| | | | algebra | | | |
| | | | • Canonical forms (Sum of | | | |
| | | | Minute terms) | | | |
| 7 | | | Canonical forms (product of | | | |
| | | | maxterms), Standard forms | | | |
| | | | (Sum of Products and product | | | |
| | | | of sums) | | | |
| | | | Conversions between | | | |
| | | | canonical and standard forms | | | |
| 0 | | | and vice versa | | | |
| 8 | | | Map simplification | | | |
| 9 | | | • Product of sum simplification | | | |
| | | | and don't care conditions | | | |
| | | | • Other Logical Operations | | | |
| 10 | | | The Design precedure of | 1 | | |
| 10 | | | Combinational Circuits | | | |
| | | | Adder | | | |
| 11 | | | Subtractor | 1 | | |
| | | | Code Convertor | | | |
| 12 | | | Comparator | 1 | | |
| | | | Decoder | | | |
| 13 | | | Multiplexer | 1 | | |
| | | | Midterm Exam | | | |
| 14 | | | Read Only Memory (ROM) | 1 | | |
| 15 | 3 | | Sequential Circuits | 1 | | |
| Course | Course Structure (Practical Part) | | | | | |
| Week | Hours | Required | Unit or subject name | Learning | Evaluation | |
| - | | Learning | v | method | method | |
| | | Outcomes | | | | |
| 1 | 2 | | Connect the basic gates (AND, | Computer | Quizzes, | |
| L | 2 | | Connect the basic gates (AND, | Computer | Quizzes, | |

| | | OP NOT) | samastar |
|----------|-------------------------|--|--|
| 2 | | Connect simple Reelean | evams |
| 2 | | functions | homework |
| 2 | | Simplify complex Peoleen | Assignment |
| 3 | | function and then connect it using | Assignment s reports |
| | | the basic getes | and the final |
| 4 | | Line basic gates | |
| 4 | | Implement Boolean functions in | exaiii |
| | | Standard and canonical form and | |
| - | | connect it | |
| 5 | | Convert Boolean function from | |
| | | standard form to canonical form | |
| | | and connect it | |
| 6 | | Implement the XOR, XNOR | |
| | | functions and connect it, connect | |
| | | other logic Gates NAND, NOR | |
| 7 | | Simplify Boolean function using | |
| | | Map method and connect using | |
| | | NAND, NOR gates | |
| 8 | | Implement the adder and connect | |
| | | it using gates | |
| 9 | | Implement the subtractor and | |
| | | connect it using gates | |
| 10 | | Implement the any code | |
| | | conversion system and connect it | |
| | | using gates | |
| 11 | | Implement the Error Detection | |
| | | Circuit and connect it using gates | |
| 12 | | Implement the Binary Multiplier | |
| | | and connect it using gates | |
| 13 | | Implement the Decoder and | |
| | | connect it using gates | |
| 14 | | Implement any combinational | |
| * • | | logic circuit using decoder | |
| 15 | | Implement the multiplexer and | |
| 10 | | connect it using gates | |
| 11 Cc | ourse Evaluation | connect it using gutes | |
| 1_ 1_ | Midterm exam = 15 c | core | |
| 2_ | Ouizzes = 5 score | | |
| 3_ 1 | Homeworks $= 5$ score | | |
| 4- 1 | Mid laboratory $= 15$ s | score | |
| 5_1 | Final exam $= 20$ score | = 1 aboratory + 40 score theoretical | |
| | - mui exuiti - 20 5000 | | |
| 12. Le | arning and Teaching | Resources | |
| Require | d textbooks | | |
| (curricu | lar books, if any) | | |
| Main re | ferences (sources) | 1- Logic and Computer Design Fur editions", By "M. MORRIS MA KIME, Prentice-Hall, Inc, 2001, | ndamentals "2'nd and 3ed NO and CHARLES R. 2002. |
| | | 2- Digital fundamentals "; Thom Hall,2009 | as L. Floyd; Pearson Prentice |

| Recommended boo | oks and |
|----------------------|-------------|
| references (se | cientific |
| journals, reports) | |
| Electronic Reference | ces, Websit |

Discrete structures Course Description

| 1. | 1. Course Name: | | | | | | | |
|---------------|--|---------------------|--|-----------------|----------------|------------------|--|--|
| | Discrete structures | | | | | | | |
| 2. | 2. Course Code: | | | | | | | |
| CSC1208 | | | | | | | | |
| 3. | 3. Semester / Year: | | | | | | | |
| | 2 nd Semester/1 st Grade/ Academic Year 2023 - ۲ • ۲ ٤ | | | | | | | |
| 4. | Descr | 1pt10 | on Preparation Date: | | | | | |
| 5 | 2024/ | $\frac{3}{23}$ | Attendence Former | | | | | |
| <u> </u> | $\frac{\text{Avalla}}{2024/}$ | $\frac{able}{2/22}$ | | | | | | |
| 6 | 2024/. Numh | $\frac{3}{2}$ |) of Credit Hours (Total) / Number of 1 | Inits (Total) | | | | |
| 0. | 1 u iiic | | release riours (rotar) / runiber or (| | | | | |
| 7. | Cours | e ad | lministrator's name (mention all, if m | ore than one n | ame) | | | |
| | Name | : Uł | nood Saadi Abulkareem Al-Hassani | | , | | | |
| | Email | : uh | ood.s@sc.uobaghdad.edu.iq | | | | | |
| 8. | Cours | e O | bjectives | | | | | |
| Course | | 1. | Discrete Structures are the abstract | mathematical | structures use | d to represent | | |
| Objecti | ives | | discrete objects and relationships | between thes | se objects. I | hese discrete | | |
| | | | structures include logic, sets, per | mutations, rel | ations, graph | is, trees, and | | |
| | | 2 | Discrete mathematics is about the r | nathematics of | integers and | of collections | | |
| | | 2. | of objects. | numernumes of | integers and | or concentions | | |
| | | 3. | It underlies the operation of digital | computers, and | l is used wide | ly in all fields | | |
| | | | of computer science for reasonin | g about data | structures, al | gorithms and | | |
| | | | complexity. | | | | | |
| | | 4. | Topics covered in the module in | clude logic, p | proof techniq | ues and sets, | | |
| | | | functions, relations, summations a | nd recurrences | s, counting te | chniques and | | |
| 0 | T1. | • | recursion. | | | | | |
| 9. Stratog | Teach | nng Th | and Learning Strategies | l in delivering | statistics tom | a is to improve | | |
| Strateg | y | stu | dent's skills and extending via partie | rination in the | exercises Sul | sequently this | | |
| | | lea | ds to achieved through classes and some sampling activities that are interesting | | | | | |
| | | to | the students. | | | | | |
| 10. Co | ourse | Stru | cture | | | | | |
| Week | Hou | rs | Required Learning Outcomes | Unit or | Learning | Evaluation | | |
| | | | | subject | method | method | | |
| | | | . | name | | | | |
| | | | Introduction and basic concepts | | Data show | Quiz | | |
| | of Discrete Structures and | | | | | | | |
| 2 | Che | | Chapter 1: | | Data show | Ouiz | | |
| - | 2 | | (Mathematical Logic) | | | ×***2 | | |
| | | | 1- Introduction | | | | | |
| | | | 2- Simple Logic Statements | | | | | |
| | | | 3- Variable Use in Proposition | | | | | |
| | | | Statements | | | | | |
| | | | 4- Compound Logic Statements | | | | | |
| | | | 5- Logical Propositions & Truth | | | | | |
| | | | tables | | | | | |

| | | | T |
|----|-----------------------------------|-----------|-------|
| | 6-Normal forms (conjunctive | | |
| | disjunctive) | | |
| 3 | 7- Logical Equivalence | Data show | Quiz |
| | 8- Tautology Statement & | | |
| | Contradiction Statement | | |
| | 9-Logical Implication & Validity | | |
| | of well-formed formula | | |
| | 10-Algebra Of Propositions | | |
| | 11- Conditional Statements | | |
| | Variations | | |
| 4 | Chapter 2: (Sets Theory) | Data show | Quiz |
| | 1- Introduction | | |
| | 2- Methods of Expressing Sets | | |
| | 3- Principal Concepts of Sets | | |
| | 4- Venn Diagrams | | |
| | 5- Sets of Numbers | | |
| | 6- Algebra of Sets | | |
| | 7- Family of Sets & index Family | | |
| | of Sets | | |
| | 8- Ordered Pairs & Product Sets | | |
| 5 | Chapter 3: (Relations) | Data show | Quiz |
| | 1- Introduction | | |
| | 2- Binary Relation | | |
| | 3- Graph of the Relation | | |
| | 4- Photographer representation of | | |
| | the relations | | |
| | 5-The Domain & the Range of a | | |
| | Relation | | |
| | 6- Identity Relation & Inve | | |
| | Relation | | |
| 6 | 7- Composition Relation | Data show | Ouiz |
| | 8- Type of Relation | | |
| | 9- Equivalence Relations | | |
| 7 | Mid-term Exam | Data show | Quiz |
| 8 | Chapter 4: (Functions) | Data show | Ouiz |
| Ç. | 1- Introduction. | | 2 mil |
| | 2- Principle Concepts & | | |
| | Definition | | |
| | 3- Models of Functions | | |
| 9 | A-Composition Function | Data show | Ouiz |
| | 5- Algebra of Function | Data show | Quiz |
| 10 | Chapter 5: (Vectors and Matrices) | Dete show | Ouiz |
| 10 | 1 Introduction | Data show | Quiz |
| | 2 Vectors | | |
| | 2- vectors 2 Matrices | | |
| | 5- Matrices | | |
| | 4- Models of Square Matrices | | |
| | 5- Algebra in the Matrices | | |
| 11 | 6- Determinants | | |
| 11 | 7- Minors & Cofactors | Data show | Quiz |
| | 8- Find Inverse Square Not Singl | | |

| | Matrix | | | | | |
|----------|---|-------------------|-----------------|--------------|--|--|
| 12 | 9- Solving System of line | er | Data show | Quiz | | |
| | equations using the | e | | | | |
| | Nonhomogeneous Matrix invers | e | | | | |
| | and examples | | | | | |
| 13 | 10- Grammar Rule and examples | | Data show | Quiz | | |
| 14 | Chapter 6: (Graph Theory) | | Data show | Quiz | | |
| | 1- Introduction | | | | | |
| | 2- Principal Concepts | | | | | |
| | 3- Type of Graphs | | | | | |
| 15 | 4- Definitions | | Data show | Quiz | | |
| | 5- Examples of Graphs | | | | | |
| | 6- Graphs & Relation | | | | | |
| | 5. Trees · Properties · Tra | vei | | | | |
| | strategies | | | | | |
| | 6. Undirected graphs | | | | | |
| | 7. Directed graphs | | | | | |
| | 8. Weighted graphs (in algor | th | | | | |
| | Spanning trees/forests | | | | | |
| 11. Co | ourse Evaluation | | | | | |
| 40% on | the course (5% on the, (on the written fina | l exam, 10% on th | ne final lab ex | am 50%) 60%. | | |
| Attenda | nce, 15% on the monthly exam, 5% on the | quizzes, 15% on t | he lab | ŕ | | |
| 12. Le | arning and Teaching Resources | • | | | | |
| Require | Required textbooks (curricular books, if any) | | | | | |
| Main re | ferences (sources) | | | | | |
| Recom | Recommended books and references (scientific | | | | | |
| journals | , reports) | | | | | |
| Electron | nic References, Websites | | | | | |
Programming Fundamentals II Course Description

| 13. Course Name: Programming Fundamentals I 14. Course Code: CSC12107 15. Semester / Year: 2nd Semester/1st Grade/ Academic Year 2023 - Y • Y £ 16. Description Preparation Date: 23/3/2024 17. Available Attendance Forms: 18. Number of Credit Hours (Total) / Number of Units (Total): 5/4 19. Course administrator's name (mention all, if more than one name) Name: Prof. Dr. Bara'a Ali Attea Email: bara.a@ sc.uobaghdad.edu.iq Name: Lec. Wajeeh Email: wajeeh @sc.uobaghdad.edu.iq | 13. Cou | rce Name | | | | | | | | |
|---|--|---|--|---|--|---|--|--|--|--|
| 14. Course Code: CSC12107 15. Semester / Year: 2 nd Semester/ 1 st Grade/ Academic Year 2023 - Y • Y ± 16. Description Preparation Date: 23/3/2024 17. Available Attendance Forms: 18. Number of Credit Hours (Total) / Number of Units (Total): 5/4 19. Course administrator's name (mention all, if more than one name) Name: Prof. Dr. Bara'a Ali Attea Email: bara.a@sc.uobaghdad.edu.iq Name: Lec. Wajeeh Email: wajeeh @sc.uobaghdad.edu.iq 20 20 | Droo | se Name: | | | | | | | | |
| 14. Course Code. CSC12107 15. Semester / Year: 2nd Semester / 1st Grade/ Academic Year 2023 - Y • Y £ 16. Description Preparation Date: 23/3/2024 17. Available Attendance Forms: 18. Number of Credit Hours (Total) / Number of Units (Total): 5/4 19. Course administrator's name (mention all, if more than one name) Name: Prof. Dr. Bara'a Ali Attea Email: bara.a@sc.uobaghdad.edu.iq Name: Lec. Wajeeh Email: wajeeh @sc.uobaghdad.edu.iq | | ranning r | undamentais I | | | | | | | |
| 15. Semester / Year: 2nd Semester / 1st Grade/ Academic Year 2023 - Y • Y £ 16. Description Preparation Date: 23/3/2024 17. Available Attendance Forms: 18. Number of Credit Hours (Total) / Number of Units (Total): 5/4 19. Course administrator's name (mention all, if more than one name) Name: Prof. Dr. Bara'a Ali Attea Email: bara.a@sc.uobaghdad.edu.iq Name: Lec. Wajeeh Email: wajeeh @sc.uobaghdad.edu.iq | | 12107 | | | | | | | | |
| 2 nd Semester / 1 st Grade/ Academic Year 2023 - Y • Y £ 16. Description Preparation Date: 23/3/2024 17. Available Attendance Forms: 18. Number of Credit Hours (Total) / Number of Units (Total): 5/4 19. Course administrator's name (mention all, if more than one name) Name: Prof. Dr. Bara'a Ali Attea Email: bara.a@sc.uobaghdad.edu.iq Name: Lec. Wajeeh Email: wajeeh @sc.uobaghdad.edu.iq 20. Course Objectives | 15 Sem | ester / Year | •• | | | | | | | |
| 16. Description Preparation Date: 23/3/2024 17. Available Attendance Forms: 18. Number of Credit Hours (Total) / Number of Units (Total): 5/4 19. Course administrator's name (mention all, if more than one name) Name: Prof. Dr. Bara'a Ali Attea Email: bara.a@sc.uobaghdad.edu.iq Name: Lec. Wajeeh Email: wajeeh @sc.uobaghdad.edu.iq | 2^{nd} S | Semester/ 1 ^s | st Grade/ Academic Year 2023 | 3_7•72 | | | | | | |
| 23/3/2024 17. Available Attendance Forms: 18. Number of Credit Hours (Total) / Number of Units (Total): 5/4 19. Course administrator's name (mention all, if more than one name) Name: Prof. Dr. Bara'a Ali Attea Email: bara.a@sc.uobaghdad.edu.iq Name: Lec. Wajeeh Email: wajeeh @sc.uobaghdad.edu.iq | 16. Desc | cription Pre | paration Date: | | | | | | | |
| 17. Available Attendance Forms: 18. Number of Credit Hours (Total) / Number of Units (Total): 5/4 19. Course administrator's name (mention all, if more than one name) Name: Prof. Dr. Bara'a Ali Attea Email: bara.a@sc.uobaghdad.edu.iq Name: Lec. Wajeeh Email: wajeeh @sc.uobaghdad.edu.iq | 23/3 | /2024 | | | | | | | | |
| 18. Number of Credit Hours (Total) / Number of Units (Total): 5/4 19. Course administrator's name (mention all, if more than one name) Name: Prof. Dr. Bara'a Ali Attea Email: bara.a@sc.uobaghdad.edu.iq Name: Lec. Wajeeh Email: wajeeh @sc.uobaghdad.edu.iq | 17. Avai | ilable Atten | dance Forms: | | | | | | | |
| 18. Number of Credit Hours (Total) / Number of Units (Total): 5/4 19. Course administrator's name (mention all, if more than one name) Name: Prof. Dr. Bara'a Ali Attea Email: bara.a@sc.uobaghdad.edu.iq Name: Lec. Wajeeh Email: wajeeh @sc.uobaghdad.edu.iq | | | | | | | | | | |
| 5/4 19. Course administrator's name (mention all, if more than one name) Name: Prof. Dr. Bara'a Ali Attea Email: bara.a@sc.uobaghdad.edu.iq Name: Lec. Wajeeh Email: wajeeh @sc.uobaghdad.edu.iq | 18. Num | ber of Crea | dit Hours (Total) / Number of | Units (Total): | | | | | | |
| 19. Course administrator's name (mention all, if more than one name) Name: Prof. Dr. Bara'a Ali Attea Email: bara.a@sc.uobaghdad.edu.iq Name: Lec. Wajeeh Email: wajeeh @sc.uobaghdad.edu.iq | 5/4 | | | | | | | | | |
| Name: Prof. Dr. Bara'a Ali Attea Email: bara.a@sc.uobaghdad.edu.iq Name: Lec. Wajeeh Email: wajeeh @sc.uobaghdad.edu.iq | 19. Course administrator's name (mention all, if more than one name) | | | | | | | | | |
| Name: Lec. Wajeeh Email: wajeeh @sc.uobaghdad.edu.iq | Name: Prof. Dr. Bara'a Ali Attea | | | | | | | | | |
| Email: wajeeh @sc.uobaghdad.edu.iq | Ellia Nam | Email: bara.a@sc.uobaghdad.edu.iq | | | | | | | | |
| | Ema | il: waieeh (| @sc.uobaghdad.edu.ig | | | | | | | |
| 20. Course Objectives | 20. Cou | rse Objectiv | /es | | | | | | | |
| Course • To become aware of 2D arrays. | Course | To bea | come aware of 2D arrays. | | | | | | | |
| | Objectives | • To be | familiar with the scope of var | iables | | | | | | |
| Objectives • To be familiar with the scope of variables | | • To be | come familiar with user-defin | ed functions | | | | | | |
| Objectives To be familiar with the scope of variables. To become familiar with user-defined functions | 21 Teac | bing and I | earning Strategies | ed functions. | | | | | | |
| Objectives • To be familiar with the scope of variables. • To become familiar with user-defined functions. 21 Teaching and Learning Strategies | 21. ICac | | carning Strategies | | | | | | | |
| Objectives • To be familiar with the scope of variables. • To become familiar with user-defined functions. 21. Teaching and Learning Strategies Strategy The main strategy that will be adopted in delivering this module is to encourage. | Strategy | The main strategy that will be adopted in delivering this module is to encourage | | | | | | | | |
| Objectives • To be familiar with the scope of variables. • To become familiar with user-defined functions. 21. Teaching and Learning Strategies Strategy The main strategy that will be adopted in delivering this module is to encourage students' participation in the exercises and daily quizzes, while at the same time | Strategy | The main students' | strategy that will be adopted participation in the exercises | in delivering thi and daily guizze | s module is s. while at th | to encourage | | | | |
| Objectives To be familiar with the scope of variables. To become familiar with user-defined functions. 21. Teaching and Learning Strategies Strategy The main strategy that will be adopted in delivering this module is to encourage students' participation in the exercises and daily quizzes, while at the same time refining and expanding their critical thinking skills. This will be achieved | Strategy | The main students' refining a | strategy that will be adopted participation in the exercises and expanding their critical | in delivering thi and daily quizze thinking skills. | s module is s, while at th This will | to encourage he same time be achieved | | | | |
| Objectives• To be familiar with the scope of variables.• To become familiar with user-defined functions.21. Teaching and Learning StrategiesStrategyThe main strategy that will be adopted in delivering this module is to encourage students' participation in the exercises and daily quizzes, while at the same time refining and expanding their critical thinking skills. This will be achieved through classes, interactive tutorials and by considering types of simple | Strategy | The main students' refining a through | strategy that will be adopted participation in the exercises and expanding their critical classes, interactive tutorials | in delivering thi and daily quizze thinking skills. and by consid | s module is s, while at th This will dering types | to encourage he same time be achieved s of simple | | | | |
| Objectives• To be familiar with the scope of variables. • To become familiar with user-defined functions.21. Teaching and Learning StrategiesStrategyThe main strategy that will be adopted in delivering this module is to encourage students' participation in the exercises and daily quizzes, while at the same time refining and expanding their critical thinking skills. This will be achieved through classes, interactive tutorials and by considering types of simple experiments involving some sampling activities that are interesting to the | Strategy | The main students' refining a through experiment | strategy that will be adopted participation in the exercises and expanding their critical classes, interactive tutorials nts involving some samplir | in delivering thi and daily quizze thinking skills. and by consi- ng activities tha | s module is s, while at th This will dering types t are intere | to encourage he same time be achieved s of simple sting to the | | | | |
| Objectives• To be familiar with the scope of variables. • To become familiar with user-defined functions.21. Teaching and Learning StrategiesStrategyThe main strategy that will be adopted in delivering this module is to encourage students' participation in the exercises and daily quizzes, while at the same time refining and expanding their critical thinking skills. This will be achieved through classes, interactive tutorials and by considering types of simple experiments involving some sampling activities that are interesting to the students. | Strategy | The main students' refining a through experimen students. | strategy that will be adopted participation in the exercises and expanding their critical classes, interactive tutorials nts involving some samplir | in delivering thi and daily quizze thinking skills. and by consi- ng activities tha | s module is s, while at th This will dering types t are intere | to encourage he same time be achieved s of simple sting to the | | | | |
| Objectives • To be familiar with the scope of variables. • To become familiar with user-defined functions. 21. Teaching and Learning Strategies Strategy The main strategy that will be adopted in delivering this module is to encourage students' participation in the exercises and daily quizzes, while at the same time refining and expanding their critical thinking skills. This will be achieved through classes, interactive tutorials and by considering types of simple experiments involving some sampling activities that are interesting to the students. 22. Course Structure | Strategy 22. Course | The main students' refining a through experimen students. | strategy that will be adopted participation in the exercises and expanding their critical classes, interactive tutorials nts involving some samplir | in delivering thi and daily quizze thinking skills. and by consi- ng activities tha | s module is s, while at th This will dering types t are intere | to encourage he same time be achieved s of simple sting to the | | | | |
| Objectives• To be familiar with the scope of variables. • To become familiar with user-defined functions.21. Teaching and Learning StrategiesStrategyThe main strategy that will be adopted in delivering this module is to encourage students' participation in the exercises and daily quizzes, while at the same time refining and expanding their critical thinking skills. This will be achieved through classes, interactive tutorials and by considering types of simple experiments involving some sampling activities that are interesting to the students.22. Course StructureWeekHoursRequired LearningUnit orLearningEvaluation | Strategy 22. Course Week | The main students' refining a through experimen students. Structure Hours | strategy that will be adopted participation in the exercises and expanding their critical classes, interactive tutorials nts involving some samplir Required Learning | in delivering thi and daily quizze thinking skills. and by conside g activities tha Unit or | s module is s, while at th This will dering types t are intere Learning | to encourage he same time be achieved s of simple sting to the Evaluation | | | | |
| Objectives• To be familiar with the scope of variables. • To become familiar with user-defined functions.21. Teaching and Learning StrategiesStrategyThe main strategy that will be adopted in delivering this module is to encourage students' participation in the exercises and daily quizzes, while at the same time refining and expanding their critical thinking skills. This will be achieved through classes, interactive tutorials and by considering types of simple experiments involving some sampling activities that are interesting to the students.22. Course StructureWeekHoursRequired Learning OutcomesUnit or subject nameLearning methodEvaluation method | Strategy 22. Course Week | The main students' refining a through experimen students. Structure Hours | strategy that will be adopted participation in the exercises and expanding their critical classes, interactive tutorials nts involving some samplir Required Learning Outcomes | in delivering thi and daily quizze thinking skills. and by consi- ng activities tha Unit or subject name | s module is s, while at th This will dering types t are intere Learning method | to encourage he same time be achieved s of simple sting to the Evaluation method | | | | |
| Objectives• To be familiar with the scope of variables. • To become familiar with user-defined functions.21. Teaching and Learning StrategiesStrategyThe main strategy that will be adopted in delivering this module is to encourage students' participation in the exercises and daily quizzes, while at the same time refining and expanding their critical thinking skills. This will be achieved through classes, interactive tutorials and by considering types of simple experiments involving some sampling activities that are interesting to the students.22. Course StructureVeekHoursRequired Learning OutcomesUnit or subject nameLearning methodEvaluation method15Playing with 2D arrays.Oral, Dracticel | Strategy 22. Course Week 1 | The main students' refining a through experimen students. Structure Hours 5 | strategy that will be adopted participation in the exercises and expanding their critical classes, interactive tutorials nts involving some samplir Required Learning Outcomes Playing with 2D arrays. | in delivering thi and daily quizze thinking skills. and by conside g activities tha Unit or subject name | s module is s, while at th This will dering types t are intere Learning method | to encourage he same time be achieved s of simple sting to the Evaluation method Oral, Dractical | | | | |
| Objectives • To be familiar with the scope of variables. • To become familiar with user-defined functions. 21. Teaching and Learning Strategies Strategy The main strategy that will be adopted in delivering this module is to encourage students' participation in the exercises and daily quizzes, while at the same time refining and expanding their critical thinking skills. This will be achieved through classes, interactive tutorials and by considering types of simple experiments involving some sampling activities that are interesting to the students. 22. Course Structure Veek Hours Required Learning Outcomes Unit or subject name method 1 5 Playing with 2D arrays. Oral, Practical | Strategy 22. Course Week 1 | The main students' refining a through experimen students. Structure Hours 5 | strategy that will be adopted participation in the exercises and expanding their critical classes, interactive tutorials nts involving some samplir Required Learning Outcomes Playing with 2D arrays. | in delivering thi and daily quizze thinking skills. and by consider of activities tha Unit or subject name | s module is s, while at th This will dering types t are intere Learning method | to encourage he same time be achieved s of simple sting to the Evaluation method Oral, Practical | | | | |
| Objectives • To be familiar with the scope of variables. • To become familiar with user-defined functions. 21. Teaching and Learning Strategies Strategy The main strategy that will be adopted in delivering this module is to encourage students' participation in the exercises and daily quizzes, while at the same time refining and expanding their critical thinking skills. This will be achieved through classes, interactive tutorials and by considering types of simple experiments involving some sampling activities that are interesting to the students. 22. Course Structure Week Hours Required Learning Outcomes 1 5 Playing with 2D arrays. Oral, Practical 2 5 Square matrices, main diagonal and secondary | Strategy 22. Course Week 1 2 | The main students' refining a through experimen students. Structure Hours 5 | strategy that will be adopted participation in the exercises and expanding their critical classes, interactive tutorials ints involving some samplir Required Learning Outcomes Playing with 2D arrays. Square matrices, main diagonal and secondary | in delivering thi and daily quizze thinking skills. and by conside and by conside g activities tha Unit or subject name | s module is s, while at th This will dering types t are intere Learning method | to encourage he same time be achieved s of simple sting to the Evaluation method Oral, Practical Oral, Practical | | | | |
| Objectives• To be familiar with the scope of variables. • To become familiar with user-defined functions.21. Teaching and Learning StrategiesStrategyThe main strategy that will be adopted in delivering this module is to encourage students' participation in the exercises and daily quizzes, while at the same time refining and expanding their critical thinking skills. This will be achieved through classes, interactive tutorials and by considering types of simple experiments involving some sampling activities that are interesting to the students.22. Course StructureRequired Learning OutcomesUnit or subject nameLearning methodEvaluation method15Playing with 2D arrays.Oral, PracticalOral, Practical25Square matrices, main diagonal, and secondaryOral, Practical | Strategy 22. Course Week 1 2 | The main students' refining a through of experiments students. Structure Hours 5 5 | strategy that will be adopted participation in the exercises and expanding their critical classes, interactive tutorials nts involving some samplir Required Learning Outcomes Playing with 2D arrays. Square matrices, main diagonal, and secondary diagonal. | in delivering thi and daily quizze thinking skills. and by consider of activities tha Unit or subject name | s module is s, while at th This will dering types t are intere Learning method | to encourage he same time be achieved s of simple sting to the Evaluation method Oral, Practical Oral, Practical | | | | |
| Objectives • To be familiar with the scope of variables. • To become familiar with user-defined functions. 21. Teaching and Learning Strategies Strategy The main strategy that will be adopted in delivering this module is to encourage students' participation in the exercises and daily quizzes, while at the same time refining and expanding their critical thinking skills. This will be achieved through classes, interactive tutorials and by considering types of simple experiments involving some sampling activities that are interesting to the students. 22. Course Structure Week Hours Required Learning Outcomes Unit or subject name method Evaluation method 1 5 Playing with 2D arrays. Oral, Practical 2 5 Square matrices, main diagonal, and secondary diagonal. Oral, Practical | Strategy 22. Course Week 1 2 | The main students' refining a through experimen students. Structure Hours 5 5 | strategy that will be adopted participation in the exercises and expanding their critical classes, interactive tutorials ints involving some samplir Required Learning Outcomes Playing with 2D arrays. Square matrices, main diagonal, and secondary diagonal. Playing with the triangle | in delivering thi and daily quizze thinking skills. and by conside and by conside g activities tha Unit or subject name | s module is s, while at th This will dering types t are intere Learning method | to encourage he same time be achieved s of simple sting to the Evaluation method Oral, Practical Oral, Practical | | | | |
| Objectives • To be familiar with the scope of variables. • To become familiar with user-defined functions. 21. Teaching and Learning Strategies Strategy The main strategy that will be adopted in delivering this module is to encourage students' participation in the exercises and daily quizzes, while at the same time refining and expanding their critical thinking skills. This will be achieved through classes, interactive tutorials and by considering types of simple experiments involving some sampling activities that are interesting to the students. 22. Course Structure Week Hours Required Learning Outcomes Learning method Evaluation method 1 5 Playing with 2D arrays. Oral, Practical 2 5 Square matrices, main diagonal, and secondary diagonal. Oral, Practical 3 5 components of a square Oral, Practical | Strategy 22. Course Week 1 2 3 | The main students' refining a through of experimen students. Structure Hours 5 5 5 | strategy that will be adopted participation in the exercises and expanding their critical classes, interactive tutorials nts involving some samplir Required Learning Outcomes Playing with 2D arrays. Square matrices, main diagonal, and secondary diagonal. Playing with the triangle components of a square | in delivering thi and daily quizze thinking skills. and by consider a activities tha Unit or subject name | s module is s, while at th This will dering types t are intere Learning method | to encourage he same time be achieved s of simple sting to the Evaluation method Oral, Practical Oral, Practical Oral, Practical | | | | |
| Objectives • To be familiar with the scope of variables. • To become familiar with user-defined functions. 21. Teaching and Learning Strategies Strategy The main strategy that will be adopted in delivering this module is to encourage students' participation in the exercises and daily quizzes, while at the same time refining and expanding their critical thinking skills. This will be achieved through classes, interactive tutorials and by considering types of simple experiments involving some sampling activities that are interesting to the students. 22. Course Structure Week Hours Required Learning Outcomes Learning method Evaluation method 1 5 Playing with 2D arrays. Oral, Practical 2 5 Square matrices, main diagonal, and secondary diagonal. Oral, Practical 3 5 Playing with the triangle components of a square matrix. Oral, Practical | Strategy 22. Course Week 1 2 3 | The main students' refining a through experimen students. Structure Hours 5 5 5 | strategy that will be adopted participation in the exercises and expanding their critical classes, interactive tutorials ints involving some samplir Required Learning Outcomes Playing with 2D arrays. Square matrices, main diagonal, and secondary diagonal. Playing with the triangle components of a square matrix. | in delivering thi and daily quizze thinking skills. and by conside ag activities tha Unit or subject name | s module is s, while at th This will dering types t are intere Learning method | to encourage he same time be achieved s of simple sting to the Evaluation method Oral, Practical Oral, Practical Oral, Practical | | | | |
| Objectives• To be familiar with the scope of variables. • To become familiar with user-defined functions.21. Teaching and Learning StrategiesStrategyThe main strategy that will be adopted in delivering this module is to encourage students' participation in the exercises and daily quizzes, while at the same time refining and expanding their critical thinking skills. This will be achieved through classes, interactive tutorials and by considering types of simple experiments involving some sampling activities that are interesting to the students.22. Course StructureVertexVertureLearning methodEvaluation method15Playing with 2D arrays.Oral, PracticalOral, Practical25diagonal, and secondary diagonal.Oral, Practical35Playing with the triangle components of a square matrix.Oral, Practical45Manipulating arrayOral, | Strategy 22. Course Week 1 2 3 4 | The main students' refining a through of experimen students. Structure Hours 5 5 5 5 | strategy that will be adopted participation in the exercises and expanding their critical classes, interactive tutorials nts involving some samplir Required Learning Outcomes Playing with 2D arrays. Square matrices, main diagonal, and secondary diagonal. Playing with the triangle components of a square matrix. Manipulating array | in delivering thi and daily quizze thinking skills. and by consider a activities tha Unit or subject name | s module is s, while at th This will dering types t are intere Learning method | to encourage he same time be achieved s of simple sting to the Evaluation method Oral, Practical Oral, Practical Oral, Practical Oral, Practical | | | | |
| Objectives• To be familiar with the scope of variables. • To become familiar with user-defined functions.21. Teaching and Learning StrategiesStrategyThe main strategy that will be adopted in delivering this module is to encourage students' participation in the exercises and daily quizzes, while at the same time refining and expanding their critical thinking skills. This will be achieved through classes, interactive tutorials and by considering types of simple experiments involving some sampling activities that are interesting to the students.22. Course StructureRequired Learning OutcomesUnit or subject nameLearning methodEvaluation method15Playing with 2D arrays.Oral, PracticalOral, Practical25Square matrices, main diagonal.Oral, Practical35Playing with the triangle components of a square matrix.Oral, Practical45Manipulating indices and elements.Oral, Practical | Strategy 22. Course Week 1 2 3 4 | The main students' refining a through experimen students. Structure Hours 5 5 5 5 | strategy that will be adopted participation in the exercises and expanding their critical classes, interactive tutorials ints involving some samplir Required Learning Outcomes Playing with 2D arrays. Square matrices, main diagonal, and secondary diagonal. Playing with the triangle components of a square matrix. Manipulating array indices and elements. | in delivering thi and daily quizze thinking skills. and by consider and consider and by consid | s module is s, while at th This will dering types t are intere Learning method | to encourage he same time be achieved s of simple sting to the Evaluation method Oral, Practical Oral, Practical Oral, Practical | | | | |
| Objectives• To be familiar with the scope of variables. • To become familiar with user-defined functions.21. Teaching and Learning StrategiesStrategyThe main strategy that will be adopted in delivering this module is to encourage students' participation in the exercises and daily quizzes, while at the same time refining and expanding their critical thinking skills. This will be achieved through classes, interactive tutorials and by considering types of simple experiments involving some sampling activities that are interesting to the students.22. Course StructureRequired Learning OutcomesUnit or subject nameLearning methodEvaluation method15Playing with 2D arrays.Oral, PracticalOral, Practical25diagonal, and secondary diagonal.Oral, Practical35Playing with the triangle components of a square matrix.Oral, Practical45Sorting arrays.Oral, Practical | Strategy 22. Course Week 1 2 3 4 5 | The main students' refining a through of experimen students. Structure Hours 5 5 5 5 5 5 5 | strategy that will be adopted participation in the exercises and expanding their critical classes, interactive tutorials nts involving some samplir Required Learning Outcomes Playing with 2D arrays. Square matrices, main diagonal, and secondary diagonal. Playing with the triangle components of a square matrix. Manipulating array indices and elements. Sorting arrays. | in delivering thi and daily quizze thinking skills. and by consider a activities tha Unit or subject name | s module is s, while at th This will dering types t are intere Learning method | to encourage he same time be achieved s of simple sting to the Evaluation method Oral, Practical Oral, Practical Oral, Practical Oral, Practical Oral, Practical | | | | |
| Objectives • To be familiar with the scope of variables. • To become familiar with user-defined functions. 21. Teaching and Learning Strategies Strategy The main strategy that will be adopted in delivering this module is to encourage students' participation in the exercises and daily quizzes, while at the same time refining and expanding their critical thinking skills. This will be achieved through classes, interactive tutorials and by considering types of simple experiments involving some sampling activities that are interesting to the students. 22. Course Structure Week Hours Required Learning Outcomes Learning method Evaluation method 1 5 Playing with 2D arrays. Oral, Practical 2 5 diagonal, and secondary diagonal. Oral, Practical 3 5 Playing with the triangle components of a square matrix. Oral, Practical 4 5 Sorting array. Oral, Practical 5 5 Sorting array. Oral, Practical | Strategy 22. Course Week 1 2 3 4 5 | The main students' refining a through experimen students. Structure Hours 5 5 5 5 5 5 | strategy that will be adopted participation in the exercises and expanding their critical classes, interactive tutorials ints involving some samplir Required Learning Outcomes Playing with 2D arrays. Square matrices, main diagonal, and secondary diagonal. Playing with the triangle components of a square matrix. Manipulating array indices and elements. Sorting arrays. | in delivering thi and daily quizze thinking skills. and by consider and consider and by consid | s module is s, while at th This will dering types t are intere Learning method | to encourage he same time be achieved s of simple sting to the Evaluation method Oral, Practical Oral, Practical Oral, Practical Oral, Practical | | | | |
| Objectives • To be familiar with the scope of variables. • To become familiar with user-defined functions. 21. Teaching and Learning Strategies Strategy The main strategy that will be adopted in delivering this module is to encourage students' participation in the exercises and daily quizzes, while at the same time refining and expanding their critical thinking skills. This will be achieved through classes, interactive tutorials and by considering types of simple experiments involving some sampling activities that are interesting to the students. 22. Course Structure Week Hours Required Learning Outcomes Learning method Evaluation method 1 5 Playing with 2D arrays. Oral, Practical 2 5 Square matrices, main diagonal, and secondary diagonal, and secondary diagonal. Oral, Practical 3 5 components of a square matrix. Oral, Practical 4 5 Sorting array. Oral, Practical 5 5 Sorting array. Oral, Practical 6 Finding the Kth components. Oral, Practical | Strategy 22. Course Week 1 2 3 4 5 | The main students' refining a through of experimen students. Structure Hours 5 5 5 5 5 5 | strategy that will be adopted participation in the exercises and expanding their critical classes, interactive tutorials ints involving some samplir Required Learning Outcomes Playing with 2D arrays. Square matrices, main diagonal, and secondary diagonal. Playing with the triangle components of a square matrix. Manipulating array indices and elements. Sorting arrays. | in delivering thi and daily quizze thinking skills. and by consider a activities tha Unit or subject name | s module is s, while at th This will dering types t are intere Learning method | to encourage he same time be achieved s of simple sting to the Evaluation method Oral, Practical Oral, Practical Oral, Practical Oral, Practical Oral, Practical Oral, Practical Oral, Practical Oral, Practical | | | | |
| Objectives • To be familiar with the scope of variables. • To become familiar with user-defined functions. 21. Teaching and Learning Strategies Strategy The main strategy that will be adopted in delivering this module is to encourage students' participation in the exercises and daily quizzes, while at the same time refining and expanding their critical thinking skills. This will be achieved through classes, interactive tutorials and by considering types of simple experiments involving some sampling activities that are interesting to the students. 22. Course Structure Week Hours Required Learning Outcomes Unit or subject name method Evaluation method 1 5 Playing with 2D arrays. Oral, Practical 2 5 Square matrices, main diagonal, and secondary diagonal. Oral, Practical 3 5 components of a square matrix. Oral, Practical 4 5 Manipulating array indices and elements. Oral, Practical 5 5 Sorting arrays. Oral, Practical 6 5 Sorting arrays. Oral, Practical | Strategy 22. Course Week 1 2 3 4 5 6 | The main students' refining a through experimen students. Structure Hours 5 5 5 5 5 5 5 5 5 | strategy that will be adopted participation in the exercises and expanding their critical classes, interactive tutorials ints involving some samplir Required Learning Outcomes Playing with 2D arrays. Square matrices, main diagonal, and secondary diagonal. Playing with the triangle components of a square matrix. Manipulating array indices and elements. Sorting arrays. Finding the Kth smallest/largest element in the array without | in delivering thi and daily quizze thinking skills. and by consider and by con | s module is s, while at th This will dering types t are intere Learning method | to encourage he same time be achieved s of simple sting to the Evaluation method Oral, Practical Oral, Practical Oral, Practical Oral, Practical Oral, Practical Oral, Practical Oral, Practical Oral, Practical | | | | |
| | | | | | | | | | | |
| | 20. Com | no Objectiv | e se ao agnada. Cau iq | | | | | | | |
| 20 Course Objections | Ema | il: wajeeh 🤇 | @sc.uobaghdad.edu.iq | | | | | | | |
| Email: wajeeh @sc.uobaghdad.edu.iq | Nam | e: Lec. Wa | jeeh | | | | | | | |
| Name: Lec. Wajeeh Email: wajeeh @sc.uobaghdad.edu.iq | Ema | Email: bara.a@sc.uobaghdad.edu.iq | | | | | | | | |
| Email: bara.a@sc.uobaghdad.edu.iq Name: Lec. Wajeeh Email: wajeeh @sc.uobaghdad.edu.iq | Name: Prof. Dr. Bara'a Ali Attea | | | | | | | | | |
| Name: Prof. Dr. Bara'a Ali Attea Email: bara.a@sc.uobaghdad.edu.iq Name: Lec. Wajeeh Email: wajeeh @sc.uobaghdad.edu.iq | 19. Course administrator's name (mention all, if more than one name) | | | | | | | | | |
| 19. Course administrator's name (mention all, if more than one name) Name: Prof. Dr. Bara'a Ali Attea Email: bara.a@sc.uobaghdad.edu.iq Name: Lec. Wajeeh Email: wajeeh @sc.uobaghdad.edu.iq | 5/4 | 1 • • | | | \ \ | | | | | |
| 5/4 19. Course administrator's name (mention all, if more than one name) Name: Prof. Dr. Bara'a Ali Attea Email: bara.a@sc.uobaghdad.edu.iq Name: Lec. Wajeeh Email: wajeeh @sc.uobaghdad.edu.iq | 18. NUII | iber of Cree | int Hours (10tal) / Number of | Units (Total): | | | | | | |
| 18. Number of Credit Hours (Total) / Number of Cints (Total). 5/4 19. Course administrator's name (mention all, if more than one name) Name: Prof. Dr. Bara'a Ali Attea Email: bara.a@sc.uobaghdad.edu.iq Name: Lec. Wajeeh Email: wajeeh @sc.uobaghdad.edu.iq | 18 Num | bar of Crac | lit Hours (Total) / Number of | Units (Total). | | | | | | |
| 18. Number of Credit Hours (Total) / Number of Units (Total): 5/4 19. Course administrator's name (mention all, if more than one name) Name: Prof. Dr. Bara'a Ali Attea Email: bara.a@sc.uobaghdad.edu.iq Name: Lec. Wajeeh Email: wajeeh @sc.uobaghdad.edu.iq | 17. Avai | ilable Atten | dance Forms: | | | | | | | |
| 17. Available Attendance Forms: 18. Number of Credit Hours (Total) / Number of Units (Total): 5/4 19. Course administrator's name (mention all, if more than one name) Name: Prof. Dr. Bara'a Ali Attea Email: bara.a@sc.uobaghdad.edu.iq Name: Lec. Wajeeh Email: wajeeh @sc.uobaghdad.edu.iq | 23/3 | /2024 | L | | | | | | | |
| 23/3/2024 17. Available Attendance Forms: 18. Number of Credit Hours (Total) / Number of Units (Total): 5/4 19. Course administrator's name (mention all, if more than one name) Name: Prof. Dr. Bara'a Ali Attea Email: bara.a@sc.uobaghdad.edu.iq Name: Lec. Wajeeh Email: wajeeh @sc.uobaghdad.edu.iq | 16. Desc | cription Pre | paration Date: | - | | | | | | |
| 16. Description Preparation Date: 23/3/2024 17. Available Attendance Forms: 18. Number of Credit Hours (Total) / Number of Units (Total): 5/4 19. Course administrator's name (mention all, if more than one name) Name: Prof. Dr. Bara'a Ali Attea Email: bara.a@sc.uobaghdad.edu.iq Name: Lec. Wajeeh Email: wajeeh @sc.uobaghdad.edu.iq | 2 nd S | Semester/ 1 ^s | st Grade/ Academic Year 2023 | 3-7.72 | | | | | | |
| 2nd Semester/ 1st Grade/ Academic Year 2023 - Y • Y £ 16. Description Preparation Date: 23/3/2024 17. Available Attendance Forms: 18. Number of Credit Hours (Total) / Number of Units (Total): 5/4 19. Course administrator's name (mention all, if more than one name) Name: Prof. Dr. Bara'a Ali Attea Email: bara.a@sc.uobaghdad.edu.iq Name: Lec. Wajeeh Email: wajeeh @sc.uobaghdad.edu.iq | 15 Sem | $\frac{12107}{\text{ostor}/\text{Vear}}$ | •• | | | | | | | |
| 15. Semester / Year: 2nd Semester / 1st Grade/ Academic Year 2023 - Y • Y £ 16. Description Preparation Date: 23/3/2024 17. Available Attendance Forms: 18. Number of Credit Hours (Total) / Number of Units (Total): 5/4 19. Course administrator's name (mention all, if more than one name) Name: Prof. Dr. Bara'a Ali Attea Email: bara.a@sc.uobaghdad.edu.iq Name: Lec. Wajeeh Email: wajeeh @sc.uobaghdad.edu.iq | | 12107 | | | | | | | | |
| CSC12107 15. Semester / Year: 2nd Semester / 1st Grade/ Academic Year 2023 - Υ • Υ ξ 16. Description Preparation Date: 23/3/2024 17. Available Attendance Forms: 18. Number of Credit Hours (Total) / Number of Units (Total): 5/4 19. Course administrator's name (mention all, if more than one name) Name: Prof. Dr. Bara'a Ali Attea Email: bara.a@sc.uobaghdad.edu.iq Name: Lec. Wajeeh Email: wajeeh @sc.uobaghdad.edu.iq 20. Guesse Objection | 14. Cou | rse Code: | | | | | | | | |
| 14. Course Code: CSC12107 15. Semester / Year: 2nd Semester/1st Grade/ Academic Year 2023 - Y • Y £ 16. Description Preparation Date: 23/3/2024 17. Available Attendance Forms: 18. Number of Credit Hours (Total) / Number of Units (Total): 5/4 19. Course administrator's name (mention all, if more than one name) Name: Prof. Dr. Bara'a Ali Attea Email: bara.a@sc.uobaghdad.edu.iq Name: Lec. Wajeeh Email: wajeeh @sc.uobaghdad.edu.iq 20. Grave Objective | Prog | ramming F | Fundamentals I | | | | | | | |
| Programming Fundamentals I 14. Course Code: CSC12107 15. Semester / Year: 2 nd Semester/ 1 st Grade/ Academic Year 2023 - Y • Y £ 16. Description Preparation Date: 23/3/2024 17. Available Attendance Forms: 18. Number of Credit Hours (Total) / Number of Units (Total): 5/4 19. Course administrator's name (mention all, if more than one name) Name: Prof. Dr. Bara'a Ali Attea Email: bara.a@sc.uobaghdad.edu.iq Name: Lec. Wajeeh Email: wajeeh @sc.uobaghdad.edu.iq | _ | se Name: | | | | | | | | |
| 13. Course Name: Programming Fundamentals I 14. Course Code: CSC12107 15. Semester / Year: 2nd Semester / 1st Grade/ Academic Year 2023 - Y • Y £ 16. Description Preparation Date: 23/3/2024 17. Available Attendance Forms: 18. Number of Credit Hours (Total) / Number of Units (Total): 5/4 19. Course administrator's name (mention all, if more than one name) Name: Prof. Dr. Bara'a Ali Attea Email: bara.a@sc.uobaghdad.edu.iq Name: Lec. Wajeeh Email: wajeeh @sc.uobaghdad.edu.iq | 13. Cour | rse Name | | | | | | | | |

| 7 | 2 | Midtorm Exom | Written Exam |
|---------------------------|------------------------|---|-------------------------|
| / | 3 | Millerin Exam | |
| 8 | 5 | User-defined functions: declaration, header, body, formal parameters, and actual parameters. | Oral, Practical |
| 9 | 5 | Passing parameters by value to a user-defined function. | Oral, Practical |
| 10 | 5 | Passing parameters by address to a user-defined function. | Oral, Practical |
| 11 | 5 | Void user-defined functions. | Oral, Practical |
| 12 | 5 | User-defined function with return. | Oral, Practical |
| 13 | 5 | Passing arrays and matrices to a user-defined function. | Oral, Practical |
| 14 | 3 | Preparatory week before the final Exam | Oral, Practical |
| 15 | 3 | Final Exam | Written Exam |
| 23. Course | e Evaluation | n | |
| Cumul | ative Score | : 40 (Daily Exam 5, Written Exam 15, Report 5, L | ab 15) |
| • Mid-te | rm Exam: 1 | 10 | |
| • Final-te | erm Exam: | 50 | |
| 24. Learni | ng and Tea | ching Resources | |
| Required (curricular b | textbo books, if an | y) C++ Programming: From Problem Analy Edition, D.S. Malik, 2011. | rsis to Program Design, |
| Main refere | nces (sourc | es) | |
| Recommend | ded books | and | |
| references | (scien | tific | |
| Journals, rep | ports) | | |
| Websites | Keierer | ices, | |
| 110051105 | | | |

Probability and Statistics Course Description

| Probability and Statistics | | | | | | | |
|--|--|--|--|--|--|--|--|
| Course Code: | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| Course administrator's name (mention all, if more than one name) | | | | | | | |
| Name: Basad Al-sarray | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| and its | | | | | | | |
| umbers | | | | | | | |
| ity that | | | | | | | |
| amples | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| oblems. | | | | | | | |
| ion for | | | | | | | |
| on the | | | | | | | |
| learn to | | | | | | | |
| 0115, 10 | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| s, types | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| than & | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

| Week 14 | Prepara | tion of final exam | | | | |
|---------------------------------------|--|--|--|--|--|--|
| Week 15 | Final e | xam | | | | |
| 11. Course | e Evaluation | | | | | |
| Distributing | Distributing the score out of 100 according to the tasks assigned to the student such as daily | | | | | |
| preparation, | discussions | in class, midterm, final exams, reports, assignment . | | | | |
| 12. Learni | ng and Teach | ing Resources | | | | |
| Elementar A Step-by- Approach I | y Statistics: Step ISE | 11th Edition 1265248125 · 9781265248123 By Allan G. Bluman © 2023 Published: September 22, 2022 https://www.mheducation.co.uk/elementary-statistics-a-step-by-step- approach-ise-9781265248123-emea-group | | | | |

Course Description Form

Academic Writing Skills

| 1. Course Name: |
|---|
| Academic Writing Skills |
| 2. Course Code: |
| CSC12010 |
| 3. Semester / Year: |
| 2/1 st |
| 4. Description Preparation Date: |
| 24/3/2024 |
| 5. Available Attendance Forms: |
| Face to face in classroom |
| 6. Number of Credit Hours (Total) / Number of Units (Total) |
| 5 ETCS Credits |
| 7. Course administrator's name (mention all, if more than one name) |
| Name: Zainab Raed Ahmed |
| Email: <u>zainab.raid@sc.uobaghdad.edu.iq</u> |
| 8. Course Objectives |
| The objectives of academic writing skills can be understood through different aspects, but here |
| are some key perspectives: |
| 1. Knowledge dissemination and analysis; including sharing and explaining complex ideas, |
| critically evaluating evidence, and contributing to ongoing academic discourse. |
| 2. Personal and professional development; including developing critical thinking and |
| analytical skills, refining research and information literacy, and enhancing communication |
| skills. |
| 3. Impact and application; including Influence and persuading, solving problems and |
| proposing, and promoting understanding and collaboration. |
| Overall, the objectives of academic writing skills encompass the development of critical |
| thinking, communication, and research skills, ultimately aiming to contribute to the creation, |
| analysis, and dissemination of knowledge within and beyond academia. |
| 9. Teaching and Learning Strategies |
| 1- Modeling: Demonstrate effective academic writing by providing well-written examples |
| or sharing excerpts from scholarly articles. To understand the conventions, structure, and |
| language used in academic writing. |
| 1. Explicit Instruction: Provide clear explanations of academic writing conventions, |
| including proper formatting, citation styles, and language use. To help students understand the |
| 2 Stop by Stop Approach: Brook down the academic writing process into manageable stops |
| 2. Step-by-Step Approach. Break down the academic writing process into manageable steps |
| academic writing, making it more manageable and less overwhelming |
| 3. Genre Analysis: Analyze different genres of academic writing (e.g., research papers. |
| essays, literature reviews) to highlight their unique characteristics. To help students recognize |
| and adapt to the specific requirements of different types of academic writing. |
| 4. Peer Review: Incorporate peer review sessions where students provide feedback on each |
| other's writing. To enhance collaboration, exposes students to diverse writing styles, and |
| provides multiple perspectives for improvement. |
| |

5. Revision Exercises: Emphasize the importance of revision by assigning exercises that require students to critically review and revise their own work. To promote self-reflection and improvement, fostering a mindset of continuous learning.

6. In-Class Writing Exercises: Incorporate in-class writing exercises that focus on specific aspects of academic writing, such as constructing effective introductions or using proper transitions. To provide immediate feedback and allow for real-time clarification of concepts.

7. Scaffolded Assignments: Design assignments that gradually increase in complexity, allowing students to build and apply writing skills progressively. To provide a structured learning path, fostering skill development over time.

| 10. Co | urse Stru | icture | | | |
|--------|-----------|---|---------------------------------------|-------------------------|--------------------------|
| Week | Hours | Required Learning | Unit or subject | Learning | Evaluation |
| | | Outcomes | name | method | method |
| 1 | 2 | Introduction to academic writing | Writing Process (Prewriting) | Lecture in Classroom | Writing assignment or |
| | | (type of academic writing, writing process) | | | quiz |
| 2 | 2 | writing, writing | Writing Process | Lecture in | Writing |
| | | process (research, draft, revise, edit, submit) | (continue) | Classroom | assignment or quiz |
| 3 | 2 | Structure and | Academic Writing | Lecture in | Writing |
| | | academic writing | Structure | Classroom | assignment or quiz |
| | | (introduction, body section, conclusion) | | | 4 |
| 4 | 2 | Academic language | Writing Language | Lecture in | Writing |
| | | (editing, grammar, punctuation,) | | Classroom | assignment or quiz |
| 5 | 2 | Sentence variety and | Accademic Writing | Lecture in | Writing |
| | | (topic sentence, supporting idea,) | Formatting | Classroom | quiz |
| 6 | 2 | Fact and opinion | Fact and opinion | Lecture in | Writing |
| | | paragraph | paragraph: Writing | Classroom | assignment or |
| 7 | | | Midterm Exam | | quiz |
| 8 | 2 | Cause and effect | Cause and effect | Lecture in | Writing |
| | | paragraph | paragraph: writng example | Classroom | assignment or quiz |
| 9 | 2 | Comparison and | Comparison and | Lecture in | Writing |
| | | contrast paragraph | contrast paragraph: writng example | Classroom | assignment or quiz |
| 10 | 2 | Process pharaghraph | Process pharaghraph: | Lecture in | Writing |
| | | | Writing example | Classroom | assignment or quiz |
| 11 | 2 | Effective writing | Effective writing | Lecture in | Writing |
| | | Effective writing | :writing example | Classroom | assignment or |

| | | | | | | quiz | |
|------------|---------|----------------------|-----------------|---|----------------|-----------------|--|
| 12 | 2 | Daraphrasing | Parap | hrasing and | Lecture in | Writing | |
| | | r arapinasing a | summ | arizing | Classroom | assignment or | |
| | | summarizing | examp | oles | | quiz | |
| ١3 | 2 | Quoting and | Quoti | ng and | Lecture in | Writing | |
| | | Quoting and | Quoti | ng anu | Classroom | assignment or | |
| | | Telefenening | leiele | licing examples | | quiz | |
| ١4 | 2 | Preperation an | d revision weel | K | Lecture in | | |
| | | | | | Classroom | | |
| 15 | | |] | Final exam | | | |
| 11.Co | urse E | Evaluation | | | | | |
| | | | Module F | Evaluation | | | |
| | | | الدراسية | تقييم المادة | | | |
| | | | Time/Numbe | Weight | | | |
| | | | r | (Marks) | | | |
| | | Quizzes | 2 | 15% (15) | | | |
| Format | ive | Assignments | 2 | 10% (10) | | | |
| assessm | lent | report / Lab | 1 | 5% (5) | | | |
| - | | quiz/lab | 2 | 5% (5) | | | |
| - | | Onsite | | | | | |
| | | work/Lab | 1 | 5% (5) | | | |
| | | 3.4. 14 | | 1.0/(1.) | | | |
| Summa | tive | Midterm exam | 2nr | 1.% (1.) | | | |
| assessm | ent | Final Exam | 3hr | °0% (50) | | | |
| | | · | | 100% (100 |) | | |
| Total as | ssessm | ient | | Marks) | | | |
| | | | | iviairo) | | | |
| 12. Lea | arning | and Teaching Res | sources | | | | |
| Require | d text | books (curricular bo | ooks, if any) | "Academic Writing", by Jeffrey R. Wilson, | | | |
| Moin ref | orana | | | "Academic Wr | iting Course" | study skills in | |
| | | | | English, third e | dition by R.R. | Jordan, 2003 | |
| Recomm | nende | d books and | references | Basic Academi | c Writing", by | Moh Hafidz, | |
| (coiontifi | | nale roporta) | | M.Pd. 2018 | | | |
| | ic jour | nais, repults) | | | | | |
| Electron | ic Ref | erences, Websites | | https://www.coursera.org/courses?query=ad | | | |
| | | | | emic%20writing | | | |



The crimes of the Baath regime in Iraq Course Description

| 1. | Cours | e N | ame: | | | | | |
|---------|---|--------------|-------------------|-----------------------------------|------------------------|-------------|--|--|
| | The c | rime | es of the Baath | regime in Iraq | | | | |
| 2. | Cours | e Co | ode: | | | | | |
| | a | | 1 | | | | | |
| 3. | Seme: | ster | / Year: | Andemia Vera 2022 X X | | | | |
| 1 | Description Prenaration Date: | | | | | | | |
| 4. | 21/3/2024 | | | | | | | |
| 5 | $\frac{21}{3}$ | 202- able | Attendance Fo | orms: | | | | |
| 5. | 1 1 v a 110 | | | лш <u>э</u> . | | | | |
| 6. | 6. Number of Credit Hours (Total) / Number of Units (Total) | | | | | | | |
| | 30 Hr. / 2Un. | | | | | | | |
| 7. | Cours | e ad | lministrator's na | ame (mention all, if more than | one name) | | | |
| | Name | : Ar | nwer Ismael Kh | naleel | | | | |
| | Email | : an | war@ircoedu.u | iobaghdad.edu.iq | | | | |
| 8. | Cours | e O | bjectives | | | | | |
| Course | | 1. | Observation. | | | | | |
| Objecti | lves | 2. | Experimentati | on. | | | | |
| | | 3. | Practice. | | | | | |
| | | 4. | Creativity. | | | | | |
| 5 | Teach | ing | and Learning S | Strategies | | | | |
| Strateg | v | <u>1-</u> ' | Theoretical me | thods: (a)- The prescribed bool | k. (b)- Presenting the | lecture | | |
| ~ | | - | through various | s electronic means | | | | |
| | | 2- | Practical metho | ods: (a) - Interactive dialogue b | etween the students : | and the | | |
| | | <u> </u> | professor on th | e one hand and the students ar | ong themselves on t | he other | | |
| | | | hand | e one hand and the stadents an | iong themselves on t | | | |
| | | 3_ | Representative | activities to embody a specific | c situation related to | the subject | | |
| | | J | of the study | activities to embody a specific | c situation related to | the subject | | |
| | | | of the study. | | | | | |
| 6. Co | ourse | Stru | cture | | | | | |
| Week | Hou | rs | Required | Unit or subject name | Learning | Evaluation | | |
| | | | Learning | | method | method | | |
| | | | Outcomes | | | | | |
| | | | Understan | Crime departments | Electronic offer | Evaluation | | |
| 1 | 2 | | ding the | | Discussion | through | | |
| | | | concept of | | | discussion | | |
| | | | crime, and | | | and Daily | | |
| | | | defining | | | exam | | |
| | | | al crime | | | | | |
| | | | Sections of | | | | | |
| | | | crime. | | | | | |
| | | | | | | | | |

| 2 | 2 | cal crimes + social crimes carried out by the Baath regime | | Psychological crimes The multiple mechanisms of psychological and social crimes used by the Baath regime against the Iraqi people | Electronic offer Discussion | Evaluation through discussion and Daily exam |
|------------------|------------|--|----------------|--|--------------------------------|--|
| 3 | 2 | Understa ing environn tal crime to the Baathist regime | nen s. | The consequences of these crimes on the Iraqi environment and the Iraqi individual. Basra Governorate and the city of Halabja and the dangers that befell them due to these environmental crimes The consequences of these crimes on the Iraqi environment and the Iraqi individual. | Electronic offer Discussion | Evaluation through discussion and Daily exam |
| 4 | 2 | The concept of mass graves. | of | The concept of mass graves. | Electronic offer Discussion | Evaluation through discussion and Daily exam |
| 5 | 2 | Universit cemeterie in 1963. | ty es | University cemeteries in 1963. | Electronic offer Discussion | Evaluation through discussion and Daily exam |
| 6 | 2 | Mass graves for the perio between 1979-202 | or od 23 | Mass graves for the period between 1979-2023 | Electronic offer Discussion | Evaluation through discussion and Daily exam |
| 6 | 2 | : Mass graves for the perio between 1979-202 | or od 23 | : Mass graves for the period between 1979-2023 | | |
| 7. Co | ourse Eva | luation | | | | |
| Distribu | ting the | score out | of 1 | 00 according to the tasks as | signed to the studer | nt such as daily |
| prepara | uon, daily | y oral, mol | nthly, | or written exams, reports e | ac | |
| o. Le Require | ed te | xtbooks | hoo | ks | | |
| (curricu | ilar boo | oks, if | onc | e again | | |
| any) | | -, | The | Internet | | |
| Main | ref | erences | Boo | k of crimes of the Baath regime | ne in Iraq | |
| (source | s) | | | | | |

| Recommended book | S |
|-----------------------|--|
| and reference | S |
| (scientific journal | |
| reports | , |
| Electronic Reference | المتضدد ومن من سداسات النظام الدائد |
| Electronic Reference. | |
| Websites | وثائق تدين النظام البائد -http://www.un.org/ar/universal-declaration-human |
| | بحث عن حقوق الإنسان، |
| | https://mawdoo3.com/D8%A5%D9%8 |
| | https://iraqld.e-sjc- |
| | services.iq/LoadLawBook.aspx?page=14&SC=290320063592085&Bo |
| | okID=25626&_cf_chl_tk=wPSIzSh7w4OS3kgq1Xy_PPdkQiQSgHK |
| | AQKuN4siQ2d8-1704313282-0-gaNycGzNDHs |
| | قاعدة التشريعات العراقية |

Introduction to Numerical Analysis Course Description

| 1. Course I Introduc 2. Course (3. Semeste 1 st Seme | tion to Numer | ical Analysis | | | | | | | | |
|--|--|---|--|--|--|--|--|--|--|--|
| 2. Course (3. Semester | Code: | Introduction to Numerical Analysis | | | | | | | | |
| 3. Semeste | Joue. | 2. Course Code: | | | | | | | | |
| 3. Semester | | | | | | | | | | |
| <u> </u> | ·/Voor | | | | | | | | | |
| I Seme | $\frac{1}{2} \frac{1}{2} \frac{1}$ | Academia Vaar 2022 X.X. | | | | | | | | |
| A Descript | ster/ 2 Grad | P Academic Tear 2025 - 112 | | | | | | | | |
| 4. Descript | Ion Preparatio | n Date: | | | | | | | | |
| 21/3/202 | 4 | D | | | | | | | | |
| J. Available Altendance Forms: | | | | | | | | | | |
| Mandato | ry | | | | | | | | | |
| 6. Number | 0. Number of Credit Hours (10tal) / Number of Units (10tal) (0 hours theoretical and repetical (2 Hoits) | | | | | | | | | |
| 60 hours theoretical and practical / 3 Units | | | | | | | | | | |
| 7. Course a | dministrator's | name (mention all, if more than one name) | | | | | | | | |
| Name: D | r. Najlaa Mol | nammed Hussein | | | | | | | | |
| Email: <u>n</u> | ajlaa.alkhafaji | @sc.uobaghdad.edu.iq | | | | | | | | |
| | | | | | | | | | | |
| 8. Course (| Dbjectives | | | | | | | | | |
| Course Objecti | Numeria problem nonlinea Improvi analysis Develop their ap problem approxim methods Learn h stability | cal analysis is the study of algorithms fo s using computers by providing numerica r equations, interpolation, and calculus. Ing the student's skills in numerical me programs and computer capabilities. The a basic understanding of the construction of plication and how to use them for the s in science and engineering, such nating functions, differential equations, a in linear algebra. To w to estimate and control errors and stud of numerical algorithms. | r solving ma al methods for thods using of numerical a numerical s as finding nd direct and ly the conver | thematical or solving numerical llgorithms, olution of the root, d iterative rgence and | | | | | | |
| | | | | | | | | | | |
| 9. Teaching | g and Learning | g Strategies | | | | | | | | |
| Strategy | 1. Explain th | e scientific material to students in detail. | | | | | | | | |
| | 2. The stude | nt's participation in solving mathematical pr | oblems. | | | | | | | |
| | B Discussion | and dialogue about vocabulary related to t | he tonic | | | | | | | |
| | 1 Use the C | hand dialogue about vocabiliary related to the | form of DDI | E filos (in | | | | | | |
| · · · · · · · · · · · · · · · · · · · | $\frac{1}{1} + \frac{1}{1} + \frac{1}{1}$ | | | ines (m | | | | | | |
| | short form | n), where their details are explained in the | ne lecture, w | ith many | | | | | | |
| | examples | solved on the blackboard, discussion with s | udents, and a | nswers to | | | | | | |
| | their inquiries. | | | | | | | | | |
| | 5. Also, the Google classroom is used to give homework's and upload the | | | | | | | | | |
| | answers a | nd to announce exam dates and grades etc. | | | | | | | | |
| | | C C | | | | | | | | |
| | | | | | | | | | | |
| 6. Course Str | ucture | | | | | | | | | |
| Week Hours | Required | Unit or subject name | Learning | Evaluati | | | | | | |
| | Learning | U U | method | on | | | | | | |
| | | | mounou | UII | | | | | | |

| | | Outcome | | | | mothod |
|---------------------|------------|--|----------------|---|----------------------|------------------------|
| | | S | | | | methou |
| 1 | | 5 | 1. Introducti | on | | |
| - | | | 1.1 Numeri | cal Analysis | rrd, | |
| | | | 1.2 Mathem | atical Model | 203 | |
| 2 | | | 1.3 Approxi | mation & Errors. | ckt | nts |
| | ory | | 1.4 Iterative | Methods. | bla | me |
| 3 | rat | | 2. Solution of | of Equations of a Single | he ues | ign |
| | abo | | Variable: | 1 0 | nd t d q | ass. am. |
| | Γŗ | | 2.1 Bisection | n Method – Part I | an an | rk a exa |
| 4 | + | | 2.1 Bisection | n Method – Part II | tors | wo nal |
| 5 | cal | | 2.2 Newton- | Raphson Method – Part I | jec | me ; fin |
| 6 | eti | | 2.2 Newton- | Raphson Method – Part II | pro | ho the |
| 7 | eor | | 2.3 Secant N | Aethod – Part I | lg l dis | ns, nd |
| 8 | Th | | 2.3 Secant N | Iethod – Part II | lisii as | xaı a |
| 9 | 7 | | 2.4 False Po | sition Method – Part I | ı nc vell | er e |
| 10 | | | 2.4 False Po | sition Method – Part II | atic us v | este |
| 11 | | | 2.5 Fixed Po | oint Method – Part I | an lan | sme |
| 12 | | | 2.5 Fixed Po | oint Method – Part II | [xb] | ;, S(|
| 13 | | | 2.6 Zeros of | Polynomials – Part I | Щ | zes |
| 14 | | | 2.6 Zeros of | Polynomials – Part II | | uiz |
| 15 | 2 | | Exam | | | Ø |
| 7. C | ourse Eva | luation | | | | |
| 1- | Midterm | exam – 15 sc | core. | | | |
| 2- | Quizzes - | - 5 score. | | | | |
| 3- | Homewo | rks – 5 score. | | | | |
| 4- 7 | Mid labo | ratory -15 sc | core. | 40 41 41 | | |
| 5- | Final exa | $\frac{m-20 \text{ score}}{1 \text{ T}}$ | laboratory + | 40 score theoretical. | | |
| 8. Le | earning ai | nd Teaching I | Resources | [| | |
| Require Main re | ed textboo | oks (curricula | r books, 11 an | 1 "Numerical Mathada | for Engin | and and |
| Main re | elerences | (sources) | | 1-"Numerical Methods Scientists Using MA | IOF Engin TLAD" E | eers and |
| | | | | Esfandiari CRC Press (T | avlor & Fran | cis Group) |
| | | | | 2^{nd} edition 2017 | | cis Oloup), |
| | | | | 2- "Numerical Analysis" | Richard L | Burden I |
| | | | | Douglas Faires and | Annette M | Burden, 9. |
| | | | | Brooks/Cole. Cengage I | earning. 10 | th edition. |
| | | | | 2016. | , 10 | |
| | | | | 3- "Programming with MA" | TLAB for Sc | cientists: A |
| | | | | beginner's Introduction" | , Eugeniy E. | Mikhailov, |
| | | | | CRC Press (Taylor & Fran | cis Group), 20 | 017. |
| | | | | | | |
| Derry | | haalsa 1 | | | | |
| Kecom | mended | DOOKS and | references | | | |
| (scienti Electro | nic Journa | us, reports) | tas | | | |
| Electro | me keter | ences, websi | les | | | |

Visual Programming Course Description

| 1. Cou | rse Name: | | | | |
|-------------------|-------------------------------------|---------------------------------|--------------------------|---------------------|--|
| Visi | Visual Programming | | | | |
| 2. Cou | Course Code: | | | | |
| | | | | | |
| 3. Sem | ester / Year | : | | | |
| 1 st S | bemester/ 2 ⁿ | ^d Grade/ Academic Ye | ear 2023 - ۲۰۲٤ | | |
| 4. Des | cription Pre | paration Date: | | | |
| 22/3 | 3/2024 | | | | |
| 5. Ava | ilable Atten | idance Forms: | | | |
| 22/3 | 3/2024 | | | | |
| 6. Nun | nber of Crea | dit Hours (Total) / Nu | mber of Units (Total): | | |
| 2/2 | 1 • • | | 11 'C /1 | <u> </u> | |
| /. Cou | rse adminis | trator's name (mention | n all, if more than one | name) | |
| IN an Ema | he: Asst. Pro | of. Dr. Adnan J. Jabir | hu ia | | |
| Ellia | iii. <u>aunan.ja</u> 20. Dr. Mau | <u>on @sc.uodagnuau.eu</u> | <u>iu.ių</u> | | |
| | rse Objectiv | | | | |
| Course | The goal | of the course is to he | elp students gain know | wledge in the basic | c concepts of obje |
| Objectives | oriented | programming and bu | uild skills to develop | modern software | programs using |
| | CSharp 1 | anguage. The course | covers most of the CS | Sharp language stru | ucture and syntax |
| | well as 1 | how to use features | of Windows Forms | and Controls to r | nake programs w |
| | graphical | user interfaces. | | | |
| 9. Tea | ching and L | earning Strategies | | | |
| Strategy | 1- Expla | aining the scientific m | aterial to students in d | etail. | |
| | 2- Stude | ents' participation in se | olving programming p | roblems. | |
| | 3- Discu | ssion and dialogue ab | out vocabulary related | l to the topic. | |
| | 4- Use t | he electronic classroo | m (Google Classroom |) to upload lecture | s in the form of P |
| | files | (in short form) wh | ere their details are | explained in the | lecture with m |
| | evam | nles solved on the h | plackboard discussion | with students | and answers to the |
| | inqui | rios | Jackboard, discussion | i with students, a | ind answers to th |
| | The also | tuonio aleganoom is al | les used to size home | work and annote | and unload anar |
| | | | | | |
| | withi | n the electronic classr | oom. The classroom is | s also used to anno | ounce exam dates |
| | grade | es etc. | | | |
| 10 Course | e Structure | | | | |
| Week | Hours | Required | Unit or subject | Learning | Evaluation |
| | 10415 | Learning | name | method | method |
| | | Outcomes | | | |
| ١ | 6 | | Introduction to | | |
| | 2 | | CSharp.NET | Loctures | C1 |
| ۲ | ٤ | | User Interface Design | - Discussion | Short exams Mid / final |
| ٣ | 4 | | Button, Textbox, Lab | - Peer | exams |
| | <u> </u> | | controls | Teaching | - Assignments |
| ٤ | 4 | | Variables, Constants | - Practical | - Homeworks |
| | - | | scopes and Calculation | work | Projects |
| 0 | ٤ | | Decisions and loops | | |

| ٦ | ٤ | Check Box, Radio Button |
|-----|-----|---|
| ۷ | ٤ | Arrays and collection |
| 8 | ٤ | Working with timers and scrollbars |
| 9 | ٤ | Lists, checked list, ar dropdown controls |
| 10 | ٤ | Picturebox and drawings |
| 11 | ź | Menus, Common Dialog Boxes, and Multiform objects |
| 12 | ٤ | User defined function |
| 13 | 4 | Working with files |
| 14 | 4 | Object oriented Programs |
| 11. | · · | |

| 12. Learning and Teaching Resources | |
|---|--|
| Required textbooks (curricular books, if any) | Mastering Microsoft CSharp 2010, |
| | Edition by <u>Evangelos Petroutsos</u> , |
| Main references (sources) | Beginning C# by Matthew Macdonald |
| Recommended books and references (scientific | |
| journals, reports) | |
| Electronic References, Websites | Online lectures and YouTube lessons. |

Microprocessor Course Description

| 1. | | N .T | | | | | | | | |
|---|--|--|---|-----------------|--|--|--|--|--|--|
| | Course Name: | | | | | | | | | |
| | Microprocessor | | | | | | | | | |
| 2. | Course | Course Code: | | | | | | | | |
| | | | | | | | | | | |
| 3. 5 | Semester / Year: | | | | | | | | | |
| 4 | $\frac{1^{\circ}}{2}$ Sen | nester/ 2 ^m G | rade/ Academic Year 202. | 3 - 1 • 1 2 | | | | | | |
| 4. | $\frac{\text{Descri}}{22,2,2}$ | ption Prepar | ation Date: | | | | | | | |
| 5 | $\frac{22-3-2}{4}$ | blo Attender | non Forme: | | | | | | | |
| J. 1 | Theore | etical | | | | | | | | |
| 6 | Numb | er of Credit I | Hours (Total) / Number of | Units (Tota) |) | | | | | |
| | $\frac{1}{2}$ hour | s per week | 2 unites | Chitis (10tu | | | | | | |
| 7. | Course | e administrat | or's name (mention all, if | more than or | ne name) | | | | | |
|] | Name: | lecturer Qas | swaa Khaled abood | | , | | | | | |
|] | Email: | <u>qaswaa.k@</u> | sc.uobaghdad.edu.iq | | | | | | | |
| 8. | Course | e Objectives | | | | | | | | |
| Course | | The topic ai | ms to define the concepts | of computer | architecture in a | n expanded | | | | |
| Objecti | ves | manner and | focuses on modern micro | processor are | chitectures, ident | ifying the | | | | |
| | | types of me | mory that make up moder | n computer a | irchitectures, and | the methods | | | | |
| 0 7 | Toochi | and reasons | for improving the perform | nance of mo | dern computers. | | | | | |
| 9. Stratog | I Caulin V | Explanation | ning Sudiegles | or | | | | | | |
| Strateg | y | Unloading | PDF files of lectures and | explanation v | videos within elec | ctronic classes | | | | |
| | | and official | department channels. | explanation | | enome enusses | | | | |
| | | Giving mul | tiple examples related to t | the subject a | nd having the stu | dents solve | | | | |
| | | them in cla | ss and urging them to con | pete and sol | ve them quickly. | | | | | |
| 10. Co | ourse S | Structure | | | | | | | | |
| Week | Ho | urs | Required Learning | Unit or | ok Hours Dequired Learning Unit or Learning Evoluation | | | | | |
| | | | · · · | | Learning | Evaluation | | | | |
| | | | Outcomes | subject | method | Evaluation method | | | | |
| | | | Outcomes | subject name | method | Evaluation method | | | | |
| 1 | 2\w | /eek | Outcomes Introduction to | subject name | method Data show | Evaluation method quiz | | | | |
| 1 | 2\w | veek | Outcomes Introduction to computer | subject name | Data show | Evaluation method quiz | | | | |
| 1 | 2\w | /eek | Outcomes Introduction to computer architecture | subject name | Data show | Evaluation method quiz | | | | |
| 1 2 | 2\w 2\w | veek veek | Outcomes Introduction to computer architecture Method for I\O | subject name | Data show | Evaluation methodquizquiz | | | | |
| 1 2 | 2\w 2\w | veek veek | Outcomes Introduction to computer architecture Method for I\O programing | subject name | Data show | Evaluation method quiz quiz | | | | |
| 1 2 3 | 2\w 2\w 2\w | veek veek veek | Outcomes Introduction to computer architecture Method for I\O programing Programmed I/O task_soft ware | subject name | Data show Data show Data show | Evaluation methodquizquizquizquiz | | | | |
| 1 2 3 | 2\w 2\w 2\w | /eek /eek /eek | Outcomes Introduction to computer architecture Method for I\O programing Programmed I/O tech. soft ware | subject name | Data show Data show Data show Data show | Evaluation methodquizquizquizquiz | | | | |
| 1 2 3 4 5 | 2\w 2\w 2\w 2\w 2\w | veek veek veek veek | Outcomes Introduction to computer architecture Method for I\O programing Programmed I/O tech. soft ware Interrupt tech. Direct Memory Access | subject name | Data show Data show Data show Data show Data show | Evaluation methodquizquizquizquizquizquizquiz | | | | |
| 1 2 3 4 5 | 2\w 2\w 2\w 2\w 2\w | /eek /eek /eek /eek | Outcomes Introduction to computer architecture Method for I\O programing Programmed I/O tech. soft ware Interrupt tech. Direct Memory Access (DMA) tech. | subject name | Data show Data show Data show Data show Data show Data show | Evaluation methodquizquizquizquizquizquizquiz | | | | |
| 1 2 3 4 5 6 | 2\w 2\w 2\w 2\w 2\w 2\w | veek veek veek veek veek veek | Outcomes Introduction to computer architecture Method for I\O programing Programmed I/O tech. soft ware Interrupt tech. Direct Memory Access (DMA) tech. Multiprogramming | subject name | Data show | Evaluation methodquizquizquizquizquizquizquizquizquiz | | | | |
| 1 2 3 4 5 6 7 | 2\w 2\w 2\w 2\w 2\w 2\w 2\w 2\w | /eek /eek /eek /eek /eek /eek | Outcomes Introduction to computer architecture Method for I\O programing Programmed I/O tech. soft ware Interrupt tech. Direct Memory Access (DMA) tech. Multiprogramming Multiprocessing | subject name | Detaining methodData showData showData showData showData showData showData show | Evaluation methodquizquizquizquizquizquizquizquizquizquizquiz | | | | |
| 1 2 3 4 5 6 7 8 | 2\w 2\w 2\w 2\w 2\w 2\w 2\w 2\w 2\w 2\w | veek veek veek veek veek veek veek veek | Outcomes Introduction to computer architecture Method for I\O programing Programmed I/O tech. soft ware Interrupt tech. Direct Memory Access (DMA) tech. Multiprogramming Multiprocessing Multicore | subject name | Data show | Evaluation methodquizquizquizquizquizquizquizquizquizquizquizquizquiz | | | | |
| 1 2 3 4 5 6 7 8 9 | 2\w 2\w 2\w 2\w 2\w 2\w 2\w 2\w 2\w 2\w | /eek /eek /eek /eek /eek /eek /eek | Outcomes Introduction to computer architecture Method for I\O programing Programmed I/O tech. soft ware Interrupt tech. Direct Memory Access (DMA) tech. Multiprogramming Multiprocessing Multicore Exam | subject name | Detaining methodData showData show | Evaluation methodquizquizquizquizquizquizquizquizquizquizquizquizquizquiz | | | | |
| 1 2 3 4 5 6 7 8 9 10 | 2\w 2\w 2\w 2\w 2\w 2\w 2\w 2\w 2\w 2\w | veek veek veek veek veek veek veek veek | Outcomes Introduction to computer architecture Method for I\O programing Programmed I/O tech. soft ware Interrupt tech. Direct Memory Access (DMA) tech. Multiprogramming Multiprocessing Multicore Exam Memory system | subject name | Learning methodData showData show | Evaluation methodquizquizquizquizquizquizquizquizquizquizquizquizquizquizquizquizquizquiz | | | | |
| 1 2 3 4 5 6 7 8 9 10 11 | 2\w 2\w 2\w 2\w 2\w 2\w 2\w 2\w 2\w 2\w | veek veek veek veek veek veek veek veek | Outcomes Introduction to computer architecture Method for I\O programing Programmed I/O tech. soft ware Interrupt tech. Direct Memory Access (DMA) tech. Multiprogramming Multiprocessing Multicore Exam Memory system Memory hierarchy | subject name | Detaining methodData showData show | Evaluation methodquiz | | | | |
| 1 2 3 4 5 6 7 8 9 10 11 | 2\w 2\w 2\w 2\w 2\w 2\w 2\w 2\w 2\w 2\w | /eek /eek /eek /eek /eek /eek /eek /eek | Outcomes Introduction to computer architecture Method for I\O programing Programmed I/O tech. soft ware Interrupt tech. Direct Memory Access (DMA) tech. Multiprogramming Multiprocessing Multicore Exam Memory system Memory hierarchy architecture | subject name | Lear ining methodData showData show | Evaluation methodquizquizquizquizquizquizquizquizquizquizquizquizquizquizquizquizquizquiz | | | | |

| | | | r | [| 1 |
|-------------|--------------------|---------------------------|---|-------------------|---------------|
| 13 | 2\week | Main and cash memory | | Data show | quiz |
| 14 | | Exam | | Data show | quiz |
| 15 | 2\week | Microcode | | Data show | quiz |
| 11. Cot | rse Evaluation | | | | |
| • Monthl | y and daily writt | en exams | | | |
| • Daily cl | lass attendance a | nd comments | | | |
| • Implem | enting and comp | leting the required tasks | | | |
| • Final w | ritten exam | | | | |
| 12. Lea | rning and Teach | ing Resources | | | |
| - Comp | uter Organizatio | n and Architecture | Computer (| Organization and | Architecture |
| Desig | ning for Perform | ance, 8th Edition, by | Designing for Performance, 8th Edition, | | |
| Willia | m Stallings. | | by William Stallings. | | |
| | | | | | |
| Basic | Computer Archi | tecture, Smruti R. | Basic Com | puter Architectur | e, Smruti R. |
| Sarang | gi, 2021 | | Sarangi, 2021 | | |
| Mode | rn Computer Arc | chitecture and | Modern Computer Architecture and | | |
| Organ | ization: Learn X | 86, ARM, and RISC-V | Organization: Learn X86, ARM, and | | |
| Archit | tectures and the I | Design of Smartphones, | RISC-V Architectures and the Design of | | |
| PCs, a | and Cloud Server | 'S | Smartphones, PCs, and Cloud Servers | | |
| Jim Lo | edin, 2022. | | Jim Ledin, 2022. | | |
| | | | | | |
| https://w | ww.geeksforgee | ks.org/computer- | https://www | w.geeksforgeeks. | org/computer- |
| organizat | ion-and-architec | <u>ture</u> . | organization-and-architecture. | | |
| https://ele | ectronicsdesk.com | <u>m/</u> | https://electronicsdesk.com/ | | |
| https://en | .wikipedia.org/ | | https://en.wikipedia.org/ | | |

English Language Course Description

| 1. | Course | Name: | | | | |
|---------|---------------------|--------------------------------|--|---------------|-----------------------|----------------------|
| | English Language | | | | | |
| 2. | . Course Code: | | | | | |
| | | | | | | |
| 3. | Semeste | r / Year: | | | | |
| | 1 st Sem | ster/ 2 nd Grade/ A | Academic Ye | ar 2023 - ۲۰ | ٢ ٤ | |
| 4. | Descrip | ion Preparation I | Date: | | | |
| | March/ | 21/ 2024 | | | | |
| 5. | Availab | e Attendance Fo | rms: | | | |
| | Mandat | ory | | 1 | | |
| 6. | Number | of Credit Hours | $\frac{(\text{Total}) / \text{Nun}}{1 - 20.1}$ | nber of Unit | s (Total) | |
| 7 | 2 theore | ical nours * 15 v | veeks = 30 hc | ours | there are normal) | |
| /. | Nome | anninstrator's na | m Hussoin | an, n more | than one name) | |
| | Email: | ahmedhashem@ | ngiafs uobag | hdad edu ia | | |
| 8 | Course | <u>Dhiectives</u> | pgiais.uobagi | iluau.cuu.iq | | |
| Course | e Object | ves Knowledg | P | | | |
| 00020 | o »Jee | Learning C | utcomes 1 | Helping to | improve English L | anguage in general. |
| | | Skills | | | | |
| | | Learning C | outcomes 2 | In writing | English Language | |
| | | Learning C | Outcomes 3 | In Reading | g English Language | |
| | | Ethics | | | | |
| | | Learning C | outcomes 4 | Listening i | n different location | l. |
| | | Learning C | outcomes 5 | Speaking i | n different location | |
| 9. | Teachin | g and Learning S | trategies | | | |
| Strateg | gy 1- | Explaining the s | scientific mat | erial to stud | ents in detail. | |
| | 2- | Students' partic | ipation in sol | ving exercis | es inside the class. | |
| | 3- | Discussion and | dialogue abo | ut vocabula | ry related to the top | ic. |
| | 4- | Use the electron | nic classroom | (Google Cl | assroom) to upload | lectures in the form |
| | | of PDF files (in | short form), | where their | details are explaine | ed in the lecture, |
| | | with many exam | nples solved | on the black | board, discussion v | with students, and |
| | | answers to their | inquiries. | | | |
| | | | - | | | |
| | Tł | e electronic clas | sroom is also | b used to gi | ve homework assi | gnments and upload |
| | an | wers within the | electronic cl | assroom. T | ne classroom is als | so used to announce |
| | ex | im dates and grad | des etc. | | | |
| 10 | Course | Structure | | | | |
| Week | Hours | Required Lea | rning | Unit or | Learning | Evaluation |
| ,, cen | liours | Outcomes | 5 | subject | method | method |
| | | | | name | | |
| 1 | 2 | Present, pas | t, future+ | | Datashow + | Quiz |
| | | Questions+ | Questions | Unit) | White board | |
| | | wore | ds | | | |
| 2 | 2 | Present te | enses + | Unit Y | Datashow + | Quiz |
| | | have/hav | ve got | | White board | |
| 3 | 2 | Past tenses+ | Adverbs + | Unit 3 | Datashow $+$ | Quiz |
| 1 | 1 | whe | n | 1 | white board | 1 |

| 4 | 2 | Quantity + Articles | Unit ٤ | Datashow + rdWhite boa | Quiz | | | |
|----------|------------|---|---|----------------------------|---------------------|--|--|--|
| 5 | 2 | | Exam | | | | | |
| 6 | 2 | Verb patterns+ Future forms+ Phrasal verb | Unit ° | Datashow + White board | Quiz | | | |
| 7 | 2 | What like? + as as + Relative pronouns | Unit ٦ | Datashow + White board | Quiz | | | |
| 8 | 2 | Present Perfect+ for and since+ ever and never | Unit V | how + Datas White board | Quiz | | | |
| 9 | 2 | have to+ should + must | Unit ^ | Datashow + White board | Quiz | | | |
| 10 | 2 | Past Perfect+ Narrative tenses+ Joining sentences | Unit ۹ | Datashow + White board | Quiz | | | |
| 11 | 2 | | Exam | | | | | |
| 12 | 2 | Passives | Unit \ • | Datashow + White board | Quiz | | | |
| 13 | 2 | Present Perfect Continuous | Unit \ \ | Datashow + White board | Quiz | | | |
| 14 | 2 | First conditional $if + will +$ Second conditional $if +$ would | Unit 17 | Datashow + White board | Quiz | | | |
| 15 | 2 | | Exam | | | | | |
| 11. | Course E | valuation | • | | • | | | |
| 60% or | n the wri | tten final exam, 40% on the | e course (30 | % on the monthly | v exams, 5% on the | | | |
| quizzes | s, 5% on t | he assignments. | | | | | | |
| 12. | Learning | and Teaching Resources | | | | | | |
| Require | ed | The core textbook is So | oars, John ar | nd Liz, (2011), New | v Headway Plus Pre- | | | |
| textboo | oks | Intermediate Student's | Intermediate Student's Book, Special Edition, Oxford University Press | | | | | |
| (curricu | ılar book | cs, | | | | | | |
| if any) | | | | | | | | |
| Main | referenc | es The core textbook is So | The core textbook is Soars, John and Liz, (2011), New Headway Plus Pre- | | | | | |
| (source | s) | Intermediate Student's | Intermediate Student's Book, Special Edition, Oxford University Press | | | | | |
| Recom | mended | New Headway Plus pr | New Headway Plus provides an integrated skills course with each unit | | | | | |
| books a | und | divided into grammar | divided into grammar, vocabulary, skills work and everyday English | | | | | |
| referen | ces | segments | | | | | | |
| (scienti | fic | | | | | | | |
| journal | s, | | | | | | | |
| Flootro |) nio | Oxford University Pr | osse The N | ow Hoodway cor | og ig published by | | | |
| Referen | | Oxford University Pro | V_{i} | ir wabaita at | and soon and soonsh | | | |
| Websit | es | for "New Herderse P | be. visit ulei | Edition and Let | madiata" and search | | | |
| | | for New Headway P | | Edition, pre-Inter | mediate or browse | | | |
| | | their English language | teaching sec | tion for informatio | n on the course. | | | |

Object Oriented Programming Course Description

| Course Name: Object Oriented Programming Course Code: | |
|---|------------------------------------|
| Object Oriented Programming 2 Course Code: | |
| 2 Course Code: | |
| 2. Course Cours. | |
| | |
| 3. Semester / Year: | |
| Semester/ 2 Grade/ Academic Year 2023 - 1 + 12 | |
| 4. Description Preparation Date. March/ 21/ 2024 | |
| 5 Available Attendance Forms: | |
| | |
| 6. Number of Credit Hours (Total) / Number of Units (Total) | |
| | |
| 7. Course administrator's name (mention all, if more than one name) | |
| Name: Name: Dunia Fadheel Saffo | |
| Email: <u>dunia.f@sc.uobaghdad.edu.iq</u> | |
| Name: Sura Abed Sarab | |
| Elliali. <u>sura.a@sc.uobagiidad.edu.iq</u> | |
| 6. Course Objectives | |
| Learning Outcomes 1 thinking about and organizing code for natural of | biec s. us |
| classes definitions | b jee b , a b |
| | |
| Learning Outcomes 2 such as classes and ,objects | |
| Learning Outcomes 3 ,data abstraction, methods, method overloading, | |
| | |
| Learning Outcomes 4 thinking about and organizing code for natural of | bjec s, us |
| classes definitions | |
| Learning Outcomes 5 understanding and practical mastery of object-orn | ient d |
| Concepts | — — |
| Strategy 1- Explaining the scientific material to students in detail | |
| 2- Students' participation in solving programming problems | |
| 3- Discussion and dialogue about vocabulary related to the topic | |
| 4. Use the electronic classroom (Google Classroom) to unload lectures in | |
| the form of DDE files (in short form), where their details are explained in | |
| the lecture, with many examples solved on the blackboard, discussion | |
| with students, and answers to their inquiries | |
| The electronic electrony is electrony to give how every endermonte | |
| The electronic classroom is also used to give nomework assignments | |
| and upload answers within the electronic classroom. The classroom is | |
| also used to announce exam dates and grades etc. | |
| 10. Course Structure | |
| Week Hours Required Unit or subject name Learning Evaluat | |
| Learning method ion | |
| Outcomes method | |
| 1 2 hrs. + Revision of structured Data quiz | |
| 2hrs. lab.programmingshow | |

| | | | Principles of o | biect programming | | | |
|--------|----------------|--------------------|------------------|--------------------------|------------|-------------------|---------|
| 2 | 2 hrs. + | | Functions in | C++ and funct | Data | quiz | |
| | 2hrs. lab. | | overloading | | show | 1 | |
| | | | Passing parame | eters by value | | | |
| | | | Passing parame | eters by reference | | | |
| 3 | 2 hrs. + | | classes as data | types, Objects, syntax, | Data | quiz | |
| | 2hrs. lab. | | how to declare | objects | show | - | |
| 4 | 2 hrs. + | | Member funct | ions, Data members | Data | quiz | |
| | 2hrs. lab. | | Access specifie | ers, public members | show | _ | |
| | | | private memb | ers | | | |
| 5 | 2 hrs. + | | Accessing of n | nember functions, | Data | quiz | |
| | 2hrs. lab. | | from within it | s class, | show | | |
| | | | from non-men | nber functions | | | |
| 6 | 2 hrs. + | | Arrays of obje | ets | Data | quiz | |
| | 2hrs. lab. | | (declaration, in | itialization, | show | | |
| | | | processing) | | | | |
| 7 | 2 hrs. + | | Objects as fund | ction arguments | Data | quiz | |
| | 2hrs. lab. | | | | show | | |
| 8 | 2 hrs. + | | Objects as pa | rameters to member | Data | quiz | |
| | 2hrs. lab. | | functions | | show | | |
| 9 | 2 hrs. + | | Objects as p | parameters to non- | Data | quiz | |
| | 2hrs. lab. | | member funct | tions | show | | |
| 10 | 2 hrs. + | | Objects as pa | rameters to member | Data | quiz | |
| | 2hrs. lab. | | functions of an | other class | show | | |
| 11 | 2 hrs. + | | Objects as r | eturned types with | Data | quiz | |
| | 2hrs. lab. | | examples | | show | | |
| 12 | 2 hrs. + | | Constructors a | nd destructors | Data | quiz | |
| | 2hrs. lab. | | Default an | nd parameterized | show | | |
| | | | constructors | | | | |
| 11. (| Course Evalu | ation | | | | | |
| 60% (| 50% on the v | written final exam | , 10% on the fir | nal lab exam), 40% on | the course | (5% on the | |
| attend | lance, 15% or | n the monthly exa | m, 5% on the qu | izzes, 15% on the lab. | | | |
| 12. I | Learning and | Teaching Resour | ces | | | | |
| Requi | red textbook | s (curricular book | s, if any) | | | | |
| Main | references (se | ources) | | 1. C++ Primer'' by | Stanley B. | Lippman, | |
| | | | | Josée Lajoie, and B | arbara E. | Moo (2012) | |
| | | | | 2. Effective C++: 55 | Specific V | Ways to | |
| | | | | Improve Your Prop | grams and | Designs'' | |
| | | | | by Scott Meyers (2 | 005) | | |
| | | | | | | | |
| Recor | nmended bo | oks and reference | ces (scientific | "Effective Modern | C++: 42 | Specific Way | ys to n |
| journa | als, reports) | | | Scott Meyers (2014) |) | | · [] |
| - | - , | | | | | | |
| | | | | <u> </u> | | | |
| L | | | | L | | | |

| 1. | Course N | lame: | | | |
|-------|-----------------------|-------------------------------------|-------------------------------------|---------------|---------------|
| | Data Structures | | | | |
| 2. | 2. Course Code: | | | | |
| | | | | | |
| 3. | Semester | / Year: | | | |
| | 1 st Semes | ster/ 2 nd Grade/ Acaden | nic Year 2023 - ۲۰۲٤ | | |
| 4. | Descripti | on Preparation Date: | | | |
| | March/ 2 | 21/ 2024 | | | |
| 5. | Available | e Attendance Forms: | | | |
| | Mandato | ry | | | |
| 6. | Number | of Credit Hours (Total) | / Number of Units (Total) | | |
| | 60/3 | 1 • • • • • • • • • • | | ```` | |
| 7. | Course a | dministrator's name (m | ention all, if more than one nam | | |
| | Name: D | r. Sarab M. Hameed | Email: sarab.m@sc.uobagl | ndad.edu.iq | |
| 0 | Name: M | lays Mohammed Hoob | Email: mays.m@sc.uobaghe | lad.edu.1q | |
| 8. | Course C | bjectives | 1 | | |
| | | densional the fundament | tale of data structures in compute | | |
| | | erstand the fundament | to solve the problem | er science. | |
| 0 | Teaching | and Learning Strategi | s to solve the problem. | | |
|). | | Delivering lectures to | introduce and explain essential | concents n | rinciples and |
| | 1. | theories related to det | attractures. This halps students | build a stror | a foundation |
| | | | a structures. This helps students | build a strol | ig foundation |
| | | of knowledge. | | | |
| | 2. | Giving hands-on pro | ogramming exercises helps the | em to apply | the learned |
| | | concepts and implem | ent data structures. This helps | s their under | standing and |
| | | enhances their program | nming skills. | | |
| | 3. | Providing code walkt | hroughs and examples demonst | rating the im | plementation |
| | | and use of various dat | a structures. | | |
| | 4. | Conducting problem-s | solving sessions, both in class a | nd through as | ssignments to |
| | | allows students to app | ly data structures to solve problem | ems | 0 |
| | 5 | Encouraging group r | projects and activities among | students. Tl | his promotes |
| | 5. | teamwork and enhanc | es understanding | | promotes |
| | | Regular evaluations a | nd agaminations halp gauge st | udants' undar | estanding and |
| | | | nd examinations help gauge st | udents under | standing and |
| | | progress. | | | |
| 10. C | ourse Stru | icture | | | |
| Week | Hours | Required | Unit or subject name | Learning | Evaluation |
| | | Learning | | method | method |
| | | Outcomes | | | |
| ۲_۱ | ٤ | Understand the | Overview of data structures | Data show | Daily quiz |
| | | importance and | Primitive & non-primitive | | |
| | | type of data | Data structures | | |
| | | structures | Static & dynamic variables | | |
| ٣ | ۲ | learn how to write | Algorithm definitions, | Data show | Daily quiz |
| | | an algorithm and | algorithm analysis | | |
| | | | | | |

Data Structures Course Description

| | I | | | 1 | 1 |
|----------|------------|------------------------|---|--------------|------------------|
| | | compute the | | | |
| | | complexity of the | | | |
| | | algorithm in terms | | | |
| | | of space and time | | | |
| ٦_٤ | ٦ | The student | Array data structure, storage | PDF | Orel |
| | | acquires knowledge | allocation, applications | PowerPoi | questions |
| | | about linear data | Stack data structure | nt | Daily quiz |
| | | structures such as | Applications of stack data | | 5 1 |
| | | arrays and stacks. | structure: Infix, postfix, and | | |
| | | understanding their | prefix expressions. | | |
| | | functionalities | algorithm to evaluate a | | |
| | | applications and | postfix expression and the | | |
| | | methods of | algorithm to convert an infix | | |
| | | implementation | expression into a postfix | | |
| | | implementation. | recursion | | |
| V | 2 | | exam | | |
| 8-11 | 6 | The student learns | Oueue data structure | Data show | Daily quiz |
| ~ | | about linear data | definition, basic operations | 2 and bill W | 2 mil quil |
| | | structures such as | and types Circular queue | | |
| | | Queue and their | double-ended queue | | |
| | | types operations | priority queue array | | |
| | | applications and | representation of queue | | |
| | | how to implement | Priority queue array | | |
| | | them | representation of queue | | |
| 12-14 | 8 | The student learns | Linked List types | Data show | Daily quiz |
| 12-17 | 0 | about linear data | advantages disadvantages | Data Show | Daily quiz |
| | | structures | operations application | | |
| | | specifically linked | Single linked linear list & | | |
| | | lists their types | and its algorithms | | |
| | | advantages | Circular linked linear list & | | |
| | | diagduanta aga | ita faatura | | |
| | | disadvantages, | its leature | | |
| | | operations, | | | |
| | | applications, and | | | |
| | | now to represent | | | |
| | | stacks and queues | | | |
| 1.5 | 2 | using linked lists | | | |
| 15 | 2 | 1 | Exam | | <u> </u> |
| 11. Co | ourse Eva | luation | | | |
| Daily pr | reparation | 1 5%. Daily Ouiz 5%. I | Monthly exam 20%. Assignmen | t 10%. Final | exams 60% |
| 12. Le | earning ar | d Teaching Resources | | | |
| Require | ed | 8 | | | |
| textboo | ks | | | | |
| (curricu | ılar | | | | |
| books. j | if anv) | | | | |
| Main | J) | | | | |
| referenc | ces | | | | |
| (sources | s) | | | | |
| (33 4100 | -/ | 1. Yedidvah Lang | sam, Moshe J. Augenstein, Aar | on M. Tenen | baum Data |
| | | | | | , , D uuu |
| | | Structured using | (C) and $(C \perp \perp D)$ Drantica Uall | | |

| | 2. Nell Dale, Chip Weems Tim Richards, C++ Plus Data Structures, Jones |
|-------------|---|
| | and Bartlet, Inc. |
| | 3. D.S. Malik, Data Structures Using C++, Second Edition |
| | Mark Allen Weiss, Data Structures and Algorithm Analysis in C Addison Wesley. |
| Electronic | https://tutorialink.com/ds/ |
| References, | https://www.tutorialspoint.com/data_structures_algorithms/index.htm |
| Websites | |
| | |

Advanced Numerical Analysis Course Description

| 1. (| Course Na | ime: | | | |
|---------|--------------------------------|-----------------------------|---|-----------------------------|--------------------------|
| | Advanced | Numerical Ar | nalysis | | |
| 2. (| Course Co | de: | | | |
| | ~ | | | | |
| 3. 8 | Semester / | Year: | | | |
| | 2 nd Semest | ter/ 2 nd Grade/ | Academic Year 2023 -1.12 | | |
| 4. 1 | Descriptio | n Preparation | Date: | | |
| | 21/3/2024 | | | | |
| 5. 4 | Available | Attendance Fo | orms: | | |
| | Vlandatory | | $(\mathbf{T}_{2}, (z_{1})) / \mathbf{N}_{2}$ | | |
| 6. 1 | Number of | t Credit Hours | (10tal) / Number of Units (10tal) | | |
| | SO nours ti | neoretical and | practical / 3 Units | | |
| /. (| Jourse au | Mailee Make | ame (mention an, it more than one name) | | |
| | maile: Dr. | Inajiaa Ivional | unneu nussenn | | |
| נ ז | Sman. <u>na</u> j Name: Leo | rturer Ghusoo | n Ghazi Mohammed | | |
| | Email: oh | 10000 g@sc u | bhaghdad edu ig | | |
| 8. (| Course Ob | piectives | Jugnadiodang | | |
| Course | • | Numerical and | alysis is the study of algorithms for solvin | g mathemati | ical problems |
| Objecti | ves | using compu | ters by providing numerical methods | for solvi | ng nonlinear |
| 0 | | aguations inte | repolation and calculus | 101 501711 | ig nominear |
| | | Equations, mit | estudent's sleille in numerical matheda | | |
| | • | improving the | e student s skills in numerical methods | using nume | fical analysis |
| | | programs and | computer capabilities. | | |
| | • | Develop a bas | ic understanding of the construction of nu | imerical alg | orithms, their |
| | | application an | nd how to use them for the numerical | solution of | problems in |
| | | science and o | engineering, such as finding the root, a | approximatii | ng functions, |
| | | differential eq | uations, and direct and iterative methods in | n linear alge | bra. |
| | • | Learn how to | estimate and control errors and study the | convergence | and stability |
| | | of numerical a | lgorithms. | - | - |
| 9. 7 | Feaching a | and Learning S | Strategies | | |
| Strateg | v 1-E | xplain the scie | ntific material to students in detail. | | |
| | 2- T | he student's pa | articipation in solving mathematical proble | ems. | |
| | 3- D | iscussion and | dialogue about vocabulary related to the to | opic. | |
| | 4- U | se the Google | e classroom to upload lectures in the for | m of PDF f | files (in short |
| | form |), where their | details are explained in the lecture, with r | nany examp | les solved on |
| | the b | lackboard, dis | cussion with students, and answers to their | r inquiries. | |
| | Also | , the Google | classroom is used to give homework's ar | nd upload th | e answers and |
| 10 5 | anno | ounce exam da | tes and grades etc. | | |
| 10. Co | urse Struc | ture | | T • | |
| Week | Hours | Required | Unit or subject name | Learnin | Evaluation |
| | | Cuteomes | | g | method |
| 1 | e e | Outcomes | 1 Numerical Linear Algebra | | Z S H M H |
| 1 | eor | | 1. Tumencal Linear Algebra 1.1 Linear Systems of Equations | pl <i>נ</i> ר ווו oje |)uiz em(em(me |
| 2 | L L | | 1.1 Enter Systems of Equations. | Ex I pr | C St St ho |
| - | 1 | | | | |

| | | 1.3 Special Types of Square Matrices. | |
|-----------|--------------|--|---------------------------------------|
| | | 1.3.1 Symmetric Matrix. | |
| | | 1.3.2 Diagonal Matrix. | |
| | | 1.3.3 Identity Matrix. | |
| | | 1.3.4 Upper Triangular Matrix. | |
| | | 1.3.5 Lower Triangular Matrix. | |
| L | | 1.3.6 Banded Matrix. | |
| 3 | | 1.4 Matrix Operating Rules. | |
| | | 1.5 Representing Linear Algebraic | |
| | | Equations in Matrix Form. | |
| 4 | | 1.6 Numerical Methods for Solving | |
| | | Linear System of Equations: | |
| | | 1.6.1 Gauss Elimination Method | |
| 5 | - | | |
| 5 | | 1.6.2 LU Decomposition Method. | |
| 0 | - | 1.0.5 VECTORS and Matrix Norms. | |
| / | - | 1.0.4 Jacobi's Method. | |
| 8 | | 1.6.5 Gauss-Seidel Method. | |
| 9 | | 2. Interpolation and Polynomial | |
| | | Approximation | |
| | | 2.1 Polynomials. | |
| 10 | | 2.2 Interpolation and the Lagrange | |
| | | Polynomial. | |
| 11 | | 2.3 Newton's Divided Differences. | |
| 12 | | 2.4 Forward Differences. | |
| 13 | | 2.5 Backward Differences. | |
| 14 | | 2.6 Centered Differences. | |
| 15 | 2 | Exam | |
| 11. Co | ourse Evalua | ation | |
| Midtern | 1 exam – 15 | 5 score, Quizzes – 5 score, Homeworks – 5 score, Mid 1 | aboratory – 15 score. |
| Final ex | am - 20 sc | bre laboratory + 40 score theoretical. | |
| 12. Le | arning and | Teaching Resources | |
| Require | d textbooks | | |
| (curricu | lar books | | |
| if any) | | | |
| Main | references | 1- "Numerical Methods for Engineers and Scier | tists Using MATLAB", |
| (sources | 3) | Ramin S. Esfandiari, CRC Press (Taylor & Fra | ncis Group), 2 nd edition, |
| | | 2017. | |
| | | 2- "Numerical Analysis", Richard. L. Burden, | J. Douglas. Faires and |
| | | Annette M. Burden, Brooks/Cole, Cengage Learn | ning, 10 th edition, 2016. |
| | | 3- "Programming with MATLAB for Science | entists: A beginner's |
| | | Introduction", Eugeniy E. Mikhailov, CRC I | Press (Taylor & Francis |
| | | Group), 2017. | |
| Darr | l1 | | |
| kecomn | nended | | |
| DOOKS | anc | | |
| reterenc | es | | |
| (scientif | ic journals | | |
| reports | .) · | | |
| HIOOteo- | nc Retere | 74 | |
| Electron | | | |

Computer architecture Course Description

| 1. | Course Na | me: | | | | | |
|---|--|----------------------------------|--------------|----------------------|-------------------------|--|--|
| | Computer | architecture | | | | | |
| 2. | Course Co | de: | | | | | |
| 2 | C / | V | | | | | |
| 5. | 2 nd Semester / | rear: | 022 8.85 | | | | |
| 1 | 2 Semest | Preparation Date: | 023 - 1 + 12 | | | | |
| 4. | 22_3_2024 | Treparation Date. | | | | | |
| 5 | Available Attendance Forms: | | | | | | |
| | Theoretical | | | | | | |
| 6. | Number of | Credit Hours (Total) / Number | of Units (T | otal) | | | |
| | 2 hours per | week\ 2 unites | | | | | |
| 7. | Course adr | ninistrator's name (mention all, | if more that | n one name) | | | |
| | Name: lect | urer Qaswaa Khaled abood | | | | | |
| | Email: <u>qas</u> | waa.k@sc.uobaghdad.edu.iq | | | | | |
| 8. | Course Ob | jectives | | 1 | 1 1 | | |
| Course | e Objective | I ne topic aims to define the co | ncepts of co | omputer architecture | in an expanded | | |
| | manner and focuses on modern microprocessor architectures, identifying the types | | | | | | |
| of memory that make up modern computer architectures, and the methods and reasons for improving the performance of modern computers | | | | ne memous and | | | |
| | | | | | | | |
| | | | | | | | |
| 9. | Teaching a | nd Learning Strategies | | | | | |
| Strateg | gy | - Explanation on the board and | l projector. | | | | |
| | | Uploading PDF files of lecture | s and expla | nation videos within | electronic classes | | |
| | | and official department channe | ls.2- Giving | g multiple examples | related to the subject | | |
| | | them quickly | nem in clas | s and urging them to | compete and solve | | |
| 10 C | ourse Struc | ture | | | | | |
| Week | Hours | Required Learning | Unit or | Learning | Evaluation | | |
| VV CCI | liouis | Outcomes | subject | method | method | | |
| | | | name | | | | |
| 1 | 2\week | Introduction to computer | | Data show | aniz | | |
| 1 | Z\WEEK | architecture | | Data show | quiz | | |
| 2 | 2\week | Method for I\O | | Data show | auiz | | |
| - | 2(| programing | | | Y ⁴¹² | | |
| 3 | 2\week | Programmed I/O tech. | | Data show | quiz | | |
| | | soft ware | | | | | |
| 4 | 2\week | Interrupt tech. | | Data show | quiz | | |
| 5 | 2\week | Direct Memory Access | | Data show | quiz | | |
| | | (DMA) tech. | | | | | |
| 6 | 2\week | Multiprogramming | | Data show | quiz | | |
| / | 2\week | Multiprocessing | | Data show | quiz | | |
| 8 | | Nulticore Even | | Data show | quiz | | |
| 9 | | Exam Momony system | | Data show | quiz | | |
| | Z\Week | wiemory system | | Data snow | quiz | | |

| | | · · · · · · · · · · · · · · · · · · · | | | |
|-----------|--------------|---------------------------------------|------------|-------------------|-----------------------|
| 11 | 2\week | Memory hierarchy | | Data show | quiz |
| | | architecture | | | |
| 12 | 2\week | Exam | | Data show | quiz |
| 13 | 2\week | Main and cash memory | | Data show | quiz |
| 14 | | Exam | | Data show | quiz |
| 15 | 2\week | Microcode | | Data show | quiz |
| 11. C | ourse Evalı | ation | | | |
| • Mont | hly and dai | ly written exams | | | |
| Daily | class atten | dance and comments | | | |
| • Imple | menting an | d completing the required tasks | | | |
| • Final | written exa | m | | | |
| 12. Le | earning and | Teaching Resources | | | |
| - Con | nputer Orga | nization and Architecture | - Com | puter Organizatio | n and Architecture |
| Desi | igning for I | Performance, 8th Edition, by | Desig | gning for Perform | ance, 8th Edition, by |
| Will | liam Stallin | gs. | Willi | am Stallings. | |
| | | | | | |
| Basic | Computer A | Architecture, Smruti R. Sarangi, | Basic C | Computer Archite | cture, Smruti R. |
| 2021 | | | Sarangi | i, 2021 | |
| Mode | rn Compute | er Architecture and | Moderr | n Computer Arch | itecture and |
| Organ | ization: Le | arn X86, ARM, and RISC-V | Organiz | zation: Learn X80 | 5, ARM, and RISC-V |
| Archit | ectures and | I the Design of Smartphones, | Archite | ctures and the De | esign of Smartphones, |
| PCs, a | ind Cloud S | bervers | PCs, an | d Cloud Servers | |
| Jim Le | edin, 2022. | | Jim Leo | din, 2022. | |
| https:// | /www.geek | sforgeeks.org/computer- | https://v | www.geeksforgee | ks.org/computer- |
| organiz | ation-and-a | architecture. | organiza | tion-and-architec | <u>eture</u> . |
| https:// | electronics. | lesk.com/ | https://el | lectronicsdesk.co | <u>m/</u> |
| https://o | en.wikipedi | a.org/ | https://er | n.wikipedia.org/ | |

Object Oriented Programming II Course Description

| 1. Course Nat | ne: | |
|-------------------------|----------------------------------|---|
| Object Orie | ented Programming | П |
| 2. Course Coo | le: | |
| | | |
| 3. Semester / | Year: SECOND Sen | nester/ SECOND |
| 2 nd Semeste | er/ 2 nd Grade/ Acade | mic Year 2023 - ۲ • ۲ ٤ |
| 4. Description | Preparation Date: | |
| March/ 21/ | 2024 | |
| 5. Available A | Attendance Forms: | |
| | | |
| 6. Number of | Credit Hours (Total) |) / Number of Units (Total) |
| 7 Course adn | ninistrator's name (m | ention all if more than one name) |
| Name: Dur | nia Fadheel Saffo | |
| Email: dun | ia f@sc.uobaghdad. | edu ja |
| Name: Sura | a Abed Sarab | |
| Email: sura | a.a@sc.uobaghdad.ec | lu.iq |
| 8. Course Obj | jectives | - |
| Course Objective | s Knowledge | |
| | Learning | Giving some flexibility to objects |
| | Outcomes 1 | access restrictions. |
| | | |
| | Learning | Reusability feature through the |
| | Outcomes 2 | use of inheritance property |
| | Learning | Classes and objects as |
| | Outcomes 3 | dynamic allocated memory locations |
| | Loorning | Tracting different classes |
| | Qutcomes 4 | as objects of a common superclass |
| | Outcomes 4 | (Polymorphism) |
| | Learning | Implementing Operator overloading feature |
| | Outcomes 5 | |
| 9. Teaching a | nd Learning Strategi | es |
| Strategy | 1- Explaining | the scientific material to students in detail. |
| | 2- Students' pa | articipation in solving programming problems. |
| | 3- Discussion | and dialogue about vocabulary related to the topic. |
| | 4- Use the elec | ctronic classroom (Google Classroom) to upload lectures |
| | in the form | of PDF files (in short form), where their details are |
| | explained in | the lecture with many examples solved on the |
| | blackboard | discussion with students and answers to their inquiries |
| | The electro | nic classroom is also used to give homework assignment |
| | and upload also used to | answers within the electronic classroom. The classroon announce exam dates and grades etc. |
| | | |

| 10 C | ourse Struct | lire | | | |
|------------------|------------------------|----------------------------------|--|------------------------------|--------------------------|
| Week | Hours | Required Learning Outcomes | Unit or subject name | Learning method | Evaluat ion method |
| 1 | 2 hrs. + 2hrs. lab. | | Friendly functions, SYNTAX HOW TO CALL FRIEND FUNCTIONS | Data show | quiz |
| 2 | 2 hrs. + 2hrs. lab | | Members of a class and friend to another class, Non-member functions and friend to many classes, Friend classes | Data show | quiz |
| 3 | 2 hrs. + 2hrs. lab | | Introduction to inheritance, protec access type, differences between priv and protected members | Data show | quiz |
| 4 | 2 hrs. + 2hrs. lab | | Inheritance modes, Private mode Public mode, Protected mode | Data show | quiz |
| 5 | 2 hrs. + 2hrs. lab | | Inheritance types, Single inheritance Hierarchical inheritance | Data show | quiz |
| 6 | 2 hrs. + 2hrs. lab | | Inheritance types, multi-level type Multiple type | Data show | quiz |
| 7 | 2 hrs. + 2hrs. lab | | Inheritance types, Hybrid type Diamond problem | Data show | quiz |
| 8 | 2 hrs. + 2hrs. lab | | Solving diamond problem Using scope resolution operator Using virtual inheritance | Data show | quiz |
| 9 | 2 hrs. + 2hrs. lab | | Constructors and destructors within inheritance, Default constructors Parameterized constructors | Data show | quiz |
| 10 | 2 hrs. + 2hrs. lab | | Pointers, Pointers to objects | Data show | quiz |
| 11 | 2 hrs. + 2hrs. lab | | Polymorphism, Binding, Compile time binding, Run time binding Virtual inheritance | Data show | quiz |
| 12 | 2 hrs. + 2hrs. lab | | Operator overloading | Data show | quiz |
| 11. Co | ourse Evalu | ation | | | |
| 60% (5 the atte | 0% on the ndance, 15% | written final % on the mon | exam, 10% on the final lab exam), 40% thly exam, 5% on the quizzes, 15% on th | on the cours e lab. | se (5% on |
| 12. Le | earning and | Teaching Re | sources | | |
| (curricu anv) | ilar books, | if | | | |
| Main (source | references) | ces 1. C++ Barbar 2. Effe | Primer" by Stanley B. Lippman, Josée ra E. Moo (2012) ctive C++: 55 Specific Ways to Improve esigns" by Scott Meyers (2005) | e Lajoie, and e Your Prog | d grams |
| | | | 2003) | | |

| Recommended books and references (scientific journals, reports) | Scientific Researches on Internet |
|--|-----------------------------------|
| Electronic References, Websites | |

Basic Language Translation Course Description

| 1. Course N | Name: |
|--|--|
| Basic La | anguage Translation |
| 2. Course C | Code: |
| 2 9 1 | |
| 3. Semester | r / Year: |
| 2 Seme | ester/ 2 Grade/ Academic Year 2023 - 1 + 1 2 |
| 4. Descript | |
| $5 \Delta vailabl$ | e Attendance Forms: |
| J. Available Mandate | rv |
| 6 Number | of Credit Hours (Total) / Number of Units (Total) |
| 60 hours | s theoretical and practical / 3 Units |
| 7. Course a | administrator's name (mention all, if more than one name) |
| Name: W | Vejdan Abdul Ameer Hassan |
| Email: w | vijdan.a@sc.uobaghdad.edu.iq |
| Name: Z | Zainab Jawed Ahmed |
| Email: Z | Zainab, jawad@sc.uobaghdad.edu.iq |
| 8. Course C | Objectives |
| Course Objectives | Compilers play a vital role in the design and implementation of programming languages. By studying compilers, the students gain insights into how programming languages are structured, how syntax and semantics are defined, and how languages are transformed into executable code. Understanding the principles and techniques used by compilers allows programmers to write code that can be optimized effectively, resulting in faster and more efficient programs. Compiler course cover topics such as lexical analysis, parsing, and semantic analysis. These concepts are crucial for understanding how compilers detect and report errors in source code. Compilers employ a range of optimization techniques to improve the performance of programs. By studying compilers, the students learn these optimization strategies and apply them in code, making it run faster and consume fewer resources. Understanding Program Execution. |
| 9. Teaching | g and Learning Strategies |
| Strategy 1 2 3 4 tl b A a | Explain the scientific material to students in detail. The student's participation in solving mathematical problems. Discussion and dialogue about vocabulary related to the topic. Use the Google classroom to upload lectures in the form of PDF files, where heir details are explained in the lecture, with many examples solved on the blackboard, discussion with students, and answers to their inquiries. Also, the Google classroom is used to give homework's and upload the answers and nnounce exam dates and grades etc. |

| 10. Co | ourse Struc | cture | | | |
|----------------------|-------------|----------------------|--|--------------------|----------------|
| Week | Hours | Required Learning | Unit or subject name | Learning method | Evaluati on |
| | | Outcomes | | | method |
| 1 | | | -Language Processing System | | |
| | | | - Programming Languages | | Ü. |
| | | | - Translator | _ | exa |
| 2 | | | - Introduction to compiler | | al e |
| | | | - phases of compiler | as | fin |
| 3 | | | - Lexical Analysis(scanner) | rrd, | the |
| | | | - Recognition of token | b 08 | ı pu |
| | 5 | | - Lexical Error | ickl ins | s ai |
| 4 | ato | | - Symbol table | bla | ent |
| 4 | ora | | - Syntax analyzer(parser) | the | um |
| | Lab | | - Syntax error handling | nd t d g | sigı |
| | 5 | | - Strategies of error recovery | an | ass |
| 5 | -+ | | - Context free grammar, parse tree | tors | ork |
| | lica | | - Ambiguity, Left Recursion, and | jec | ewo |
| 6 | oret | | - Left Factoring | pro scu |)me |
| 0 | hea | | - Top-down parsing | lg l dis | , hc |
| 7 | 2 T | | - Predictive parsing | las | ms |
| / | | | - Bottom-up parsing, Shift reduce persing | n u vell | exa |
| Q | | | - Shift feduce paising | atic | er 6 |
| 0 | | | -LK Faising | lan | est |
| 9 | | | - Semanuc analysis | [dx | em |
| 10 | | | Intermediate code Generation (IP) | Щ | s, s |
| 10 | | | Implementation of three address code | | ZCe |
| 12 | | | -Infiltementation of three address code | - |) Uuiz |
| 12 | | | -Code Optimization Methods | - | 0 |
| 13 | | | -Code Generation | - | |
| 15 | 2 | | -Fxam | - | |
| 11 Co | urse Eval | uation | -LAdii | | |
| 1- 1 | Midterm e | xam = 15 scc | pre | | |
| 2_ (| Juizzes | 5 score | | | |
| 2- 1 | Jamawar | | | | |
| | | ks = 5 score. | | | |
| 4- 1 | VIId labora | atory - 15 sco | bre. | | |
| 5- I | Final exan | n - 20 score l | aboratory $+40$ score theoretical. | | |
| 12 Lo | arning and | d Teaching P | esources | | |
| Require | d textboo | ks | 0000000 | | |
| (curricu | lar book | S. | | | |
| (curricul if any) | | | | | |
| Main | reference | es 1-Con | milers Principles Techniques & Tools by | Alfred V Ah | 0.1986 |
| (sources | | | design and construction of councils 1. I | | 7 0_ |
| (2341000 | 1 | 2- I he | e design and construction of compilers by J | URIN WILE | æ |
| | | SONS | ,1981. | | |
| | | 3- Co | mpilers Principles, Techniques, & Tools by | Alfred V. | Aho, 2016. |
| Recomm | nended | | | | |
| books | а | ind | | | |
| | | | | | |

| references (scientific journals, reports) | |
|---|-------------------------------|
| Electronic | Many References from websites |
| References, | |
| Websites | |

Data Structures and Algorithms Course Description

| 1. | Course | e N | ame: | | | |
|--------------|--|-----------|----------------|--|----------------|-------------------|
| 2 | Data S | tru | ctures and Al | gorithms | | |
| ۷. | Course | | Jue. | | | |
| 3. | Semes | ter | / Year: | | | |
| | 2 nd Sei | nes | ster/ 2nd Grad | e/ Academic Year 2023 -۲۰۲٤ | | |
| 4. | Descri | ptio | on Preparatio | n Date: | | |
| | 22/3/2 | 024 | 1 | | | |
| 5. | Availa | ble | Attendance | Forms: | | |
| 6 | Numb | er (| of Credit Hou | rs (Total) / Number of Units (Total) | | |
| 0. | Units = | = 4. | credit hours | = 60 | | |
| 7. | Course | e ac | lministrator's | name (mention all, if more than one nam | ne) | |
| - | Name: | Dı | . Nasreen Jav | vad | | |
| | Email: | <u>na</u> | sreen.kadhim | @sc.uobaghdad.edu.iq | | |
| | Name: | Di | Tareq Zaid | abdad adv in | | |
| Q | Email: | tai | 1K.Z@SC.UOD | ignaad.edu.iq | | |
| 0. Course | Course | 1- | Understand | ling data structures and algorithms and | measure its | efficiency and |
| Objecti | ves | 1 | its compley | xity and understanding its application | | entrenergy and |
| 9 | | 2- | Solving cu | rrent problems in community or in work | ing market u | sing them |
| | | - 2 | Dealing wi | th scientific and application problems an | nd put solutio | ons to them |
| | | 5 | Dealing wi | in scientific and appreadon problems an | la put solutio | bills to them. |
| 9. | Teachi | ng | and Learning | Strategies | | |
| Strateg | y | 1 | - Giving lec | tures to introduce and explain basic con | cepts and p | rinciples related |
| | | | data struct | ures and algorithms. This helps the stude | ent build a st | rong foundatior |
| | | | knowledge | ¢ | | |
| | | 2 | . Giving pra | ctical programming exercises helps then | n apply the o | concepts they h |
| | | | learned an | d implement data structures. This helps | them unders | tand and enhan |
| | | | their progr | amming skills | | |
| | 3. Provide code instructions and examples that illustrate the implementation and | | | | | |
| | | | of various | data structures | | |
| | | 4 | . Conduct p | problem-solving sessions, either in class | ss or throug | h assignments, |
| | | | allow the s | tudent to apply data structures to solve p | oroblems | |
| | | 5 | . Encouragi | ng group projects and activities amo | ong student | s. This prome |
| | | | teamwork | and promotes understanding. | | |
| | | 6 | . Regular a | ssessments and exams help measure | e student u | inderstanding |
| | | | progress. | These can include tests, assignments | and examin | ations that ass |
| | | | theoretical | knowledge and practical application | | |
| 10 C | uiree (| tru | cture | | | |
| Week | Hour | 's | Required | Unit or subject name | Learning | Evaluation |
| | | | Learning | | method | method |
| | | | Outcomes | | | |
| 1 | 2 | | | 1. Non-Linear Data Structures | | |
| | | | | | | |

| 2 | 2 | 2 Tree Data Structure | |
|---|-----------------------|-------------------------------------|--|
| - | <i>~</i> | 2. Ringry Trees | |
| 3 | 2 | 4. Binary Tree Traversal and | |
| 4 | 2 | Representation | |
| - | | 5. Binary Tree Applications | |
| 5 | 2 | 6. Binary Tree Operations and | |
| | | Algorithms | |
| 6 | 2 | 7 Graph Data Structure | |
| 7 | 2 | 8 Sorting Algorithms: Classificati | |
| | | Objectives and Programmer | |
| 8 | 2 | objectives and Flogrammer | |
| 0 | 2 | Considerations. | |
| 7 | | 9. Sorting Algorithms: Selection se | |
| 10 | 2 | Bubble sort and Insertion sort. | |
| | | 10. Sorting Algorithms: Bin sort, | |
| 11 | 2 | Radix sort and Merge sort. | |
| 12 | 2 | 11. Sorting Algorithms: Quick sort, | |
| 12 | | Shell sort and Tree sort. | |
| 13 | 2 | 12. Complexity of Sorting Algorith | |
| | | 13. Searching Algorithms: Sequent | |
| 14 | 2 | search and Binary search. | |
| 15 | 2 | 14. Hashing algorithms | |
| | | 15. Complexity of Searching | |
| 16 | 2 | Algorithms. | |
| | | 16. Preparatory week before the | |
| | | final Exam | |
| 11 0 | Jourse Ew | aluation | |
| $\frac{11. \text{C}}{\text{Daily } \text{f}}$ | preparatio | n 5% | |
| Daily (| Quiz 5% | | |
| Month Assign | Ty exam 2 ment 10% | 20% 6 | |
| Final e | exams 60% | ~ ⁄o | |
| 12. L | earning a | nd Teaching Resources | |
| 1. Mar | rk Allen | weiss (2014). Data Structures and | |
| Alg | oritinm A | Analysis in C++. Fourth Edition. | |
| Add | lison-Wes | Sley Publishing Company. | |
| 2. Ken | t D. Lee | e and Steve Hubbard (2015). Data | |
| | Structures and Algorithms with Python. Springer |
|-----|---|
|] | international Publishing Switzerland. |
| 3.1 | Rance D. Necaise (2011). Data Structures and |
| 1 | Algorithms Using Python. John Wiley & Sons, |
|] | nc. |
| | |

Programming Language Techniques Course Description

| 1. | ~ | | | | | |
|--|--|---|--|--|---|--|
| | Course Name: | | | | | |
| | Programming Language Techniques | | | | | |
| 2. | 2. Course Code: | | | | | |
| 2 | Comostan | / Voor | | | | |
| 5. | 2 nd Somo | / Year: stor/2 nd Grada/ Acadom | No. Voor 2023 X.X. | | | |
| 1 | 2 Selle | on Preparation Date: | | | | |
| . | 22/3/202 | | | | | |
| 5. | Available | Attendance Forms: | | | | |
| | In person | | | | | |
| 6. | Number of | of Credit Hours (Total) | / Number of Units (Total) | | | |
| | 4 credit h | ours / 4 units | | | | |
| 7. | Course ad | lministrator's name (me | ention all, if more than one | e name) | | |
| | Name: D | r. Maysa Ibrahim Abdu | ılhussain | | | |
| | Email: M | aysaa.i@sc.uobaghdad. | .edu.iq | | | |
| <u>8.</u> | Course O | bjectives | Leave abs4 the TIM | | A COD NIET | |
| Course | Objectiv | /es | Learn about the HIL | ML,CSS and A | AS?P.NE1 | |
| | | | Learn the basics of v Identify the libraries | nrovided by | lenguaga | |
| | | | • Design and implem | ent granhica | l interfaces that | |
| | | | respond to events | ent gruphica | | |
| | | | • | | | |
| 9. | Teaching | and Learning Strategie | S | | | |
| Strateg | gy | Providing the stude | nt with the basics of the te | opics - Discuss | sions and problem solv | |
| | | during the lecture | A alvin a intalla studl ave | | | |
| assignments | | | | stions, such a | s why and how - Giv | |
| | | assignments | - Asking intellectual que | stions, such a | s why and how - Giv | |
| 10 C | ourse Stru | assignments | - Asking interfectual que | stions, such a | s why and how - Giv | |
| 10. Co Week | ourse Stru | assignments | Unit or subject name | stions, such a | s why and how - Giv | |
| 10. Co Week | ourse Stru Hours | assignments cture Required Learning Outcomes | Unit or subject name | stions, such a Learning method | s why and how - Giv Evaluation method | |
| 10. Co Week | ourse Stru Hours | assignments acture Required Learning Outcomes Web Design Basics | Unit or subject name Web Design Basics | Learning method Lectures | s why and how - Giv Evaluation method Midterm exam | |
| 10. Co Week | ourse Stru Hours ε | assignments Required Learning Outcomes Web Design Basics | Unit or subject name Web Design Basics | Learning method Lectures | s why and how - Giv Evaluation method Midterm exam Daily evaluations | |
| 10. Co Week | ourse Stru Hours ٤ | assignmentsactureRequired LearningOutcomesWeb Design BasicsIntroductionto | Unit or subject nameWeb Design BasicsIntroduction | Learning method Lectures Lectures | s why and how - Giv Evaluation method Midterm exam Daily evaluations Midterm exam | |
| 10. Co Week | ourse Stru Hours ٤ ٤ | during the fectureassignmentsictureRequired Learning OutcomesWeb Design BasicsIntroductionto HTML | Unit or subject name Web Design Basics Introduction to HTML | Learning method Lectures Lectures | s why and how - Giv Evaluation method Midterm exam Daily evaluations Midterm exam Daily evaluations | |
| 10. Co Week 1 Y | ourse Stru Hours ٤ ٤ ٤ | assignmentsRequired Learning OutcomesWeb Design BasicsIntroduction HTMLHTML | Unit or subject name Web Design Basics Introduction to HTML HTML elements | Learning method Lectures Lectures Lectures | s why and how - Giv Evaluation method Midterm exam Daily evaluations Midterm exam Daily evaluations Midterm exam | |
| 10. Co Week | ourse Stru Hours έ έ | assignments acture Required Learning Outcomes Web Design Basics Introduction to HTML HTML elements | Unit or subject name Web Design Basics Introduction to HTML HTML elements | Learning method Lectures Lectures | s why and how - Giv Evaluation method Midterm exam Daily evaluations Midterm exam Daily evaluations Midterm exam Daily evaluations | |
| 10. Co Week 1 7 5 | ourse Stru Hours ź ź ź | auting the fectureassignmentsRequired Learning OutcomesOutcomesVeb Design BasicsWeb Design BasicsIntroduction to HTMLHTMLHTML elementsASP.Net Basics | Unit or subject name Web Design Basics Introduction to HTML HTML elements ASP.Net Basics | Learning method Lectures Lectures Lectures Lectures | s why and how - Giv Evaluation method Midterm exam Daily evaluations Midterm exam Daily evaluations Midterm exam Daily evaluations Midterm exam Daily evaluations | |
| 10. C Week 1 7 5 | ourse Stru Hours ٤ ٤ ٤ ٤ | assignments assignments acture Required Learning Outcomes Web Design Basics Introduction to HTML HTML elements ASP.Net Basics | Unit or subject name Web Design Basics Introduction to HTML HTML elements ASP.Net Basics | Learning method Lectures Lectures Lectures Lectures | s why and how - Giv Evaluation method Midterm exam Daily evaluations Midterm exam Daily evaluations Midterm exam Daily evaluations Midterm exam Daily evaluations Midterm exam Daily evaluations | |
| 10. Co Week 1 7 2 2 | ourse Stru Hours ź ź ź ź | assignments assignments acture Required Learning Outcomes Web Design Basics Introduction HTML HTML elements ASP.Net Basics ASP.Net Lifecycle and Lifecycle | Unit or subject name Web Design Basics Introduction to HTML HTML elements ASP.Net Basics ASP.Net Lifecycle and Lifecycle and | Learning method Lectures Lectures Lectures Lectures Lectures Lectures | s why and how - Giv Evaluation method Midterm exam Daily evaluations Midterm exam Daily evaluations Midterm exam Daily evaluations Midterm exam Daily evaluations Midterm exam Daily evaluations | |
| 10. C Week 1 7 5 0 | ourse Stru Hours ٤ ٤ ٤ ٤ ٤ ٤ | assignments assignments acture Required Learning Outcomes Web Design Basics Introduction to HTML HTML elements ASP.Net Basics ASP.Net Lifecycle and Lifecycle events | Visiting intellectual que Unit or subject name Web Design Basics Introduction Introduction to HTML HTML elements ASP.Net Basics ASP.Net Lifecycle and Lifecycle events | Learning method Lectures Lectures Lectures Lectures Lectures Lectures | s why and how - Giv Evaluation method Midterm exam Daily evaluations Midterm exam Daily evaluations Midterm exam Daily evaluations Midterm exam Daily evaluations Midterm exam Daily evaluations | |
| 10. Co Week 1 7 2 2 | ourse Stru Hours ź ź ź ź ź | assignments assignments Required Learning Outcomes Web Design Basics Introduction HTML HTML elements ASP.Net Basics ASP.Net Lifecycle and Lifecycle events State Management | Unit or subject name Web Design Basics Introduction to HTML HTML elements ASP.Net Basics ASP.Net Lifecycle and Lifecycle events State | Learning method Lectures Lectures Lectures Lectures Lectures Lectures | s why and how - Giv Evaluation method Midterm exam Daily evaluations Midterm exam Daily evaluations Midterm exam Daily evaluations Midterm exam Daily evaluations Midterm exam Daily evaluations Midterm exam Daily evaluations Midterm exam Daily evaluations | |
| 10. C Week 1 7 5 0 | ourse Stru Hours ź ź ź ź ź | assignments Required Learning Outcomes Web Design Basics Introduction to HTML HTML elements ASP.Net Basics ASP.Net Lifecycle and Lifecycle events State Management techniques | Value Unit or subject name Web Design Basics Introduction Introduction to HTML HTML elements ASP.Net Basics ASP.Net Lifecycle and Lifecycle events State Management techniques of | Learning method Lectures Lectures Lectures Lectures Lectures Lectures | s why and how - Giv Evaluation method Midterm exam Daily evaluations Midterm exam Daily evaluations Midterm exam Daily evaluations Midterm exam Daily evaluations Midterm exam Daily evaluations Midterm exam Daily evaluations | |
| 10. Co Week 1 7 2 2 | ourse Stru Hours ź ź ź ź ź | assignments Required Learning Outcomes Web Design Basics Introduction to HTML HTML elements ASP.Net Basics ASP.Net Lifecycle and Lifecycle events State Management techniques of ASP.Net | Unit or subject name Web Design Basics Introduction to HTML HTML elements ASP.Net Basics ASP.Net Lifecycle and Lifecycle events State Management techniques ASP.Net | Learning method Lectures Lectures Lectures Lectures Lectures Lectures | s why and how - Giv Evaluation method Midterm exam Daily evaluations Midterm exam Daily evaluations Midterm exam Daily evaluations Midterm exam Daily evaluations Midterm exam Daily evaluations Midterm exam Daily evaluations | |
| 10. C Week 1 7 5 0 7 | ourse Stru Hours ź ź ź ź ź ź ź | assignments Required Learning Outcomes Web Design Basics Introduction to HTML HTML elements ASP.Net Basics ASP.Net Lifecycle and Lifecycle events State Management techniques of ASP.Net Session, Cookies, | Value Unit or subject name Web Design Basics Introduction Introduction to HTML HTML elements ASP.Net Basics ASP.Net Lifecycle and Lifecycle events State Management techniques of ASP.Net Session, | Learning method Lectures Lectures Lectures Lectures Lectures Lectures Lectures Lectures | s why and how - Giv Evaluation method Midterm exam Daily evaluations Midterm exam Daily evaluations Midterm exam Daily evaluations Midterm exam Daily evaluations Midterm exam Daily evaluations Midterm exam Daily evaluations Midterm exam Daily evaluations | |
| 10. C Week 1 γ . γ . γ . γ . γ . | ourse Stru Hours ٤ ٤ ٤ ٤ ٤ ٤ ٤ | assignments Required Learning Outcomes Web Design Basics Introduction to HTML HTML elements ASP.Net Basics ASP.Net Lifecycle and Lifecycle events State Management techniques of ASP.Net Session, Cookies, Hidden Fields | Value Unit or subject name Web Design Basics Introduction Introduction to HTML HTML elements ASP.Net Basics ASP.Net Lifecycle and Lifecycle events State Management techniques techniques of ASP.Net Session, Cookies, Hidden Fields | Learning method Lectures Lectures Lectures Lectures Lectures Lectures Lectures | s why and how - Giv Evaluation method Midterm exam Daily evaluations Midterm exam Daily evaluations Midterm exam Daily evaluations Midterm exam Daily evaluations Midterm exam Daily evaluations Midterm exam Daily evaluations | |
| 10. C Week 1 γ ξ ο ζ γ ζ Λ | ourse Stru Hours ٤ | assignments Required Learning Outcomes Web Design Basics Introduction to HTML HTML elements ASP.Net Basics ASP.Net Lifecycle and Lifecycle events State Management techniques of ASP.Net Session, Cookies, Hidden Fields Server Side | Unit or subject name Web Design Basics Introduction to HTML HTML elements ASP.Net Basics ASP.Net Lifecycle and Lifecycle events State Management techniques of ASP.Net Session, Cookies, Hidden Fields Server-Side Controls Server | Learning method Lectures Lectures Lectures Lectures Lectures Lectures Lectures Lectures | s why and how - Giv Evaluation method Midterm exam Daily evaluations Midterm exam Daily evaluations | |

| ٩ | ٤ | Web Forms and common Controls | Web Forms and common Controls | Lectures | Midterm exam Daily evaluations |
|----------|---------------------------------|-------------------------------|---|-----------------------------|-----------------------------------|
| ۱. | ٤ | Page events | Page events | Lectures | Midterm exam Daily evaluations |
|)) | ٤ | Menus | Menus | Lectures | Midterm exam Daily evaluations |
| 17 | ٤ | Connecting ASP with SQL | Connecting ASP with SQL | Lectures | Midterm exam Daily evaluations |
| 17 | ٤ | Data Controls | Data Controls | Lectures | Midterm exam Daily evaluations |
| 15 | ٤ | Master Details | Master Details Pages | Lectures | Midterm exam |
| | | Pages | | | Daily evaluations |
| C | ourse Eva | luation | | | |
| Monthl | y exams, | Preparing reports, Labo | ratory evaluation | | |
| 11. Le | earning ar | nd Teaching Resources | | | |
| Require | ed textbo | oks (curricular books, | Mastering Microsoft C# | ⁴ 2010, 1st Edit | ion |
| any) | | | by <u>Evangelos Petroutsos</u> , 2010 | | |
| Recom | mended | books and references | Beginning ASP.NET3.5 in C#2008 by Matthew Macdonald | | |
| (scienti | fic journa | lls, reports) | | | |
| | | | Online lectures and You | Tube lessons. | |
| Electro | Electronic References, Websites | | | | |

Third Grade

Introduction to AI Course Description

| 1. Co | urse Name: | | |
|---|---|--|--|
| Int | Introduction to AI | | |
| 2. Co | urse Code: | | |
| | | | |
| 3. Se | mester / Year: | | |
| 1 st | Semester/ 3 rd Grade/ Academic Year 2023 - ۲۰۲٤ | | |
| 4. De | scription Preparation Date: | | |
| 01 | -09-2024 | | |
| 5. Av | ailable Attendance Forms: | | |
| | | | |
| 6. Ni | mber of Credit Hours (Total) / Number of Units (Total) | | |
| 4/3 | | | |
| 7. Co | urse administrator's name (mention all, if more than one name) | | |
| Name: Assistant Prof. Dr. Rawaa Dawoud Al-Dabbagh | | | |
| En | nail: rawaa.hassan @sc.uobaghdad.edu.iq | | |
| Na | me: Dr. Dhuha Abdulhadi Abduljabbar | | |
| En | nail: <u>dhuha.abd@sc.uobaghdad.edu.iq</u> | | |
| 8. Co | urse Objectives | | |
| Course Objective | Provide an overview of fundamental AI concepts, including machine learning, natural language processing, robotics, expert systems, and more. | | |
| | Explore various AI algorithms and techniques, such as search algorithms, knowledge representation, and optimization methods. Familiarize students with AI programming languages (e.g., Python) and tools commonly used in AI development. Provide hands on experience in | | |
| | Develop problem-solving skills in the context of AI applications. Develop students to analyze real-world problems and devise AI-based solutions. | | |

| 9. Teachi | ng and Learning Strategies |
|-----------|--|
| Strategy | 1. Lectures: Traditional lectures can be used to introduce foundational |
| | concepts, theories, and algorithms in AI. Lectures can incorporate visual |
| | aids, examples, and case studies to enhance understanding. |
| | 2. Practical Coding Assignments: Assigning coding assignments that involve |
| | implementing AI algorithms and techniques allows students to gain hands-on |
| | experience. They can work with programming languages such as Python. |
| | 3. Group Projects: Encouraging students to work in groups on AI projects |
| | promotes collaboration, problem-solving, and teamwork. Projects can |
| | involve tasks like developing a chatbot, building a recommendation system, |
| | or designing an image recognition system. |
| | 4. Case Studies: Analyzing real-world case studies that demonstrate the |
| | application of AI techniques in various domains (e.g., healthcare, finance, or |
| | transportation) helps students understand practical challenges and ethical |
| | considerations. |
| | |
| | |
| | |
| | |
| | |

| 10 C | 10 Course Structure | | | | |
|------|---------------------|----------------------|--------------------------------------|--------------------|----------------------|
| Week | Hours | Required Learning | Unit or subject name | Learning method | Evaluation method |
| \ | ۲ | Outcomes | Introduction to AI | | |
| 1 | 1 | | Definition and history of AI | | |
| | | | • Definition and history of Al. | | |
| | | | • Types of Al: Narrow Al vs. | | |
| | | | General AI. | | |
| | | | Applications of AI in various | | |
| ۲ | ۲ | | uomains. Droblem Selving Concenta | | |
| 1 | 1 | | Problem-Solving Concepts | | |
| | | | • Definition of problems and | | |
| | | | states. | | |
| | | | • Problem-solving agents. | | |
| | | | • Breadth-First Search (BFS) | | |
| | | | algorithm: principles and | | |
| يت | , | | applications. | | |
| 1 | 1 | | Depth-First Search and Uniform | | |
| | | | Cost Search | | |
| | | | • Depth-First Search (DFS) | | |
| | | | algorithm. | | |
| | | | • Uniform Cost Search (UCS) | | |
| | | | for optimal pathfinding. | | |
| | | | • Comparing BFS, DFS, and | | |
| 6 | ~ | | | | |
| 2 | , | | Rear Singt Second | | |
| | | | Best-First Search | | |
| | | | • Introduction to neuristic | | |
| | | | Tuncuons. | | |
| | | | • Greedy Best-First Search | | |
| | | | argorium. | | |
| | | | • Applications and limitations | | |
| 2 | ۲ | | A * Secret Algorithm | | |
| 0 | , | | A" Search Algorithm | | |
| | | | • Overview of A* Search. | | |
| | | | • Admissibility and | | |
| | | | consistency of A* neuristic. | | |
| | | | • Optimality of A* and its | | |
| 4 | , | | applications. | | |
| • |) | | Adversarial Search | | |
| | | | • Introduction to adversarial | | |
| | | | searcn. | | |
| | | | Minimax algorithm: | | |
| | | | principles and | | |
| | | | implementation. | | |
| | | | • Hands-on session: | | |
| | | | Simulating and visualizing | | |
| | | | adversarial games. | | |

| V | _ | | |
|----|----------|-------------------------------|--|
| v | 7 | Alpha-Beta Pruning | |
| | | • Understanding Alpha-Beta | |
| | | Pruning for optimization. | |
| | | • Implementation of Alpha- | |
| | | Beta Pruning in adversarial | |
| | | search. | |
| | | • Comparing the performance | |
| | | of Minimax with and | |
| | | without Alpha-Beta Pruning. | |
| A | | Comparison and Evaluation | |
| | | • Comparing uninformed and | |
| | | informed search algorithms. | |
| | | • Real-world applications and | |
| ٩ | | Case studies. | |
| • | | Basics of Knowledge | |
| | | • Polo of translator | |
| | | • KULE OI KIIOWIEdge | |
| | | Semantia Naturally and their | |
| | | • Semantic Networks and then | |
| | | Introduction to Frames | |
| ١. | ۲ ۲ | First-Order Logic | |
| , | | • Syntax and semantics of | |
| | | First-Order Logic | |
| | | Representing knowledge | |
| | | using logic. | |
| | | Rule-based systems. | |
| 11 | ۲ | Ontologies and Semantic Web | |
| | | • Understanding ontologies. | |
| | | • Introduction to RDF | |
| | | (Resource Description | |
| | | Framework). | |
| | | Overview of OWL (Web | |
| | | Ontology Language). | |
| ١٢ | ۲ | AI Project Kickoff | |
| | | • Overview of the AI project. | |
| | | • Selecting a problem domain. | |
| | | • Planning and scoping the | |
| | | project. | |
| ١٣ | ۲ | Practical Implementation of | |
| | | Search Algorithms | |
| | | Hands-on session: | |
| | | Implementing search | |
| | | algorithms in Python. | |
| | | • Debugging and optimizing | |
| | | code. | |
| | | • Integrating search | |
| | | algorithms into the project. | |

| 16 | ۲ ۲ | | Ethical Considerations in AI | | |
|--------|-----------|---------------|--|----------|------------|
| 12 | , Y | | Eunical Considerations in Al | | |
| | | | • Importance of ethics in Al. | | |
| | | | • Ethical guidelines and | | |
| | | | responsible AI development. | | |
| | | | • Group discussions on ethical | | |
| | | | dilemmas. | | |
| 10 | ۲ | | Final Project Presentation | | |
| | | | • Project presentations. | | |
| | | | • Reflective essays on project | | |
| | | | experiences. | | |
| ١٦ | ۲ | | Dronovotowy wooly hofers the final | | |
| | | | Preparatory week before the linal | | |
| | | | exam | | |
| Course | Structure | (Practical Pa | art) | [| |
| Week | Hours | Required | Unit or subject name | Learning | Evaluation |
| | | Learning | | method | method |
| | | Outcomes | | | |
| 1 | ۲ | | Python Basics and Setup | | |
| | | | • Introduction to Python | | |
| | | | programming. | | |
| | | | • Setting up the Python | | |
| | | | environment for AI | | |
| | | | development. | | |
| | | | • Basic Python syntax, data | | |
| | | | types, and control structures. | | |
| ٢ | ٢ | | AI Lab Orientation | | |
| | | | • Overview of the AI Lab | | |
| | | | projects. | | |
| | | | • Introduction to tools and | | |
| | | | resources for AI | | |
| | | | development. | | |
| | | | • Collaborative tools setup. | | |
| ٣ | ۲ | | Implementing Breadth-First | | |
| | | | Search (BFS) | | |
| | | | • Understanding BFS | | |
| | | | algorithm. | | |
| | | | • Hands-on: Coding BFS in | | |
| | | | Python. | | |
| ٤ | ۲ | | Depth-First Search (DFS) and | | |
| | | | Uniform Cost Search (UCS) | | |
| | | | • Practical implementation of | | |
| | | | DFS and UCS. | | |
| | | | • Debugging and optimizing | | |
| | | | search algorithms in Python | | |
| 0 | ۲ | | Greedy Best-First Search | | |
| | 1 | | | | |
| | | | Implementation | | |
| | | | Principles of Greedy Rest- | | |
| | | | Principles of Greedy Best- First Search | | |
| | | | Principles of Greedy Best- First Search. Coding exercise: | | |

| | | Search in Python. | |
|----|---|--|--|
| | | | |
| ٦ | | | |
| ` | , | Implementing A* Search | |
| | | Algorithm | |
| | | • Overview of A* algorithm. | |
| | | • Hands-on: Coding A* | |
| | | Search in Python. | |
| v | 7 | Minimax Algorithm | |
| | | • Introduction to adversarial | |
| | | search. | |
| | | Minimax algorithm: | |
| | | principles and | |
| | | implementation in Python. | |
| ٨ | ۲ | Alpha-Beta Pruning | |
| | | Understanding Alpha-Beta | |
| | | Pruning for optimization. | |
| | | Implementation of Alpha- | |
| | | Beta Pruning in adversarial | |
| | | search. | |
| | | Practical coding exercises | |
| | | and application in board | |
| | | games. | |
| ٩ | ۲ | Advanced Topics in Adversarial | |
| | | Search | |
| | | • Extensions and variations of | |
| | | adversarial search | |
| | | algorithms. | |
| | | Practical coding exercises | |
| | | exploring variations in game | |
| | | scenarios. | |
| 1. | ۲ | Implementing Semantic Networks | |
| | | and Frames | |
| | | Hands-on: Coding semantic | |
| | | networks and frames in | |
| | | Python. | |
| | | • Practical applications and | |
| | | case studies. | |
| 11 | ۲ | First-Order Logic in Python | |
| | | Representing knowledge | |
| | | using First-Order Logic. | |
| | | Coding exercises for rule- | |
| | | based systems. | |
| ١٢ | ۲ | Group Project Kickoff | |
| | | • Defining the project scope. | |
| | | • Initial planning and task | |
| | | distribution | |
| ١٣ | ۲ | Project Work | |
| | | Hands on coding cossions | |
| | | • Hallus-Oli Coullig Sessions | |
| | | for the group project. | |

| | | Group discussions and consultations. | |
|-----|---|--|--|
| 1 £ | Y | Project Presentations and Reviews Group presentations of final projects. | |
| 10 | ٢ | • Q&A sessions and peer reviews. | |
| 17 | ٢ | Preparatory Week before the Final Exam | |

| 11. Course Evaluation | |
|--------------------------|---|
| Distributing the score | out of ξ , according to the tasks assigned to the student such as daily |
| preparation, daily oral, | monthly, or written exams, reports etc |
| 12. Learning and Teac | ching Resources |
| Required textbo | |
| (curricular books, if an | |
| Main references (sourc | Nilsson, N. J. (1998). <i>Artificial intelligence: Structures and strategies for complex problem solving</i> (5th ed.). Pearson. |
| | Russell, S., & Norvig, P. (2010). Artificial intelligence: A modern approach (3rd ed.). Pearson. |
| | Poole, D. L., & Mackworth, A. K. (2017). <i>Artificial Intelligen Foundations of Computational Agents</i> . Cambridge University Press. |
| Recommended books | |
| and references | Mitchell, M. (2019). Artificial intelligence: A guide for thinking huma |
| (scientific journals, | Farrar, Straus and Giroux. |
| reports) | |
| Electronic Reference | Coursera AI Courses |
| Websites | (https://www.coursera.org/courses?query=artificial%20intelligence) |
| | |

Computer Graphics Course Description

| . ~ | N | | | |
|------------|--|--|--|--|
| 1. Cour | 1. Course Name: | | | |
| Com | 2 Course Code: | | | |
| 2. Cour | 2. Course Code. | | | |
| 3 Sem | ester / Vegr: | | | |
| J. Sem | emester/ 3 rd Grade/ Academic Year 2023 - V • V £ | | | |
| 4 Desc | erintion Preparation Date: | | | |
| 21-3 | -2024 | | | |
| 5. Avai | lable Attendance Forms: | | | |
| Clas | s attendance system | | | |
| 6. Num | ber of Credit Hours (Total) / Number of Units (Total) | | | |
| ٤/٣ | | | | |
| 7. Cour | rse administrator's name (mention all, if more than one name) | | | |
| Nam | e: Dr. Suhaila Najim Mohammed | | | |
| Ema | il: <u>suhailan.mo@sc.uobaghdad.edu.iq</u> | | | |
| Nam | e: Dr. Huda M. Radha | | | |
| Ema | il: huda.rada@sc.uobaghdad.edu.iq | | | |
| 8. Cour | rse Objectives | | | |
| Course | The main objective of this course is to introduce students the fundamental | | | |
| Objectives | concepts in computer graphics including a range of computer graphics | | | |
| | techniques and algorithms covering 2D graphics. It focuses on key algorithmic | | | |
| | techniques, mathematical and programmatic foundations of computer graphics, | | | |
| | including modeling and animating 2D and. Topics include digital image | | | |
| | representation, two- dimensional shape representations (e.g. Lines, circles, and | | | |
| | curves), geometrical transformations (e.g. rotations, scales, translations, | | | |
| | reflection, shearing and combined transformation), the rasterization pipeline, ray | | | |
| 0 | tracing & visual perception. | | | |
| 9. Teau | | | | |
| Strategy | 1 Delivering lectures to introduce and explain essential concepts principles | | | |
| | and theories related to computer graphics. This helps students build a strong | | | |
| | foundation of knowledge | | | |
| | 2. Giving hands-on programming exercises helps them to apply the learned | | | |
| | concepts and implement 2D graphics. This helps their understanding and | | | |
| | enhances their programming skills. | | | |
| | 3. Providing code walkthroughs and examples demonstrating the modeling of | | | |
| | 2D scenes. | | | |
| | 4. Conducting problem-solving sessions, both in class and through assignments | | | |
| | to allows students to use graphics primitives and transformations for objects | | | |
| | modeling and rendering. | | | |
| | 5. Encouraging group projects and activities among students. This promotes | | | |
| | teamwork and enhances understanding. | | | |
| | 6. Regular evaluations and examinations help gauge students' understanding | | | |
| | and progress. These can include quizzes, assignments, and exams that assess | | | |
| | theoretical knowledge and practical application of computer graphics. | | | |
| | 7. Recommending textbooks, internet resources, and supplementary references | | | |
| | might help students study more effectively. | | | |
| | | | | |
| 10. Course | Structure | | | |
| | | | | |

| Week | Hours | Required Learning Outcomes | Unit or subject name | Learni ng method | Evalu ation metho d |
|------|-------|---|---|------------------------|------------------------------|
| 1 | 4 | Introduction to computer graphics | Introduction to the C# programming language environment and the tools it provides for dealing with computer graphics | Data show | quiz |
| 2 | 4 | Understanding the human visual system, computer image representation, color models, display devices, vector graphics, raster graphics, basic terms related to display devices. | Dealing with geometric shapes (point, line, and rectangle) | Data show | quiz |
| 3 | 4 | Understanding 2D graphics, graphics output primitives, basic geometric shapes, desired properties of line drawing algorithms, DDA line drawing algorithm | Dealingwithgeometricshapes(circle,arc,polygon,andcurve) | Data show | quiz |
| 4 | 4 | Understanding line drawing algorithms (Bresenham line drawing algorithm and Mid-Point algorithm) | Modeling some 2D shapes (such as cube and grid) | Data show | quiz |
| 5 | 4 | Understanding circle drawing algorithms, circle properties, polar coordinate method, and circle symmetry property | Modeling some scenes (such as a smiling face, and drawing birds) | Data show | quiz |
| 6 | 4 | Understanding circle drawing algorithms (Bresenham circle drawing algorithm and Mid-Point algorithm) | Programming line drawing algorithms | Data show | quiz |
| 7 | 4 | Curve definition, Bezier curves, types of Bezier curves (linear Bezier curves, quadratic Bezier curves, cubic Bezier curves), applications of curves | Programming circle drawing algorithms | Data show | quiz |
| 8 | 4 | Understanding basic 2D transformations (translate, scale, and shear) | Programming methods for drawing curved shapes | Data show | quiz |
| 9 | 4 | Understanding basic 2D transformations (reflection, rotation, composition, and affine transformations) | Dealing with basic 2D transformations | Data show | quiz |
| 10 | 4 | Introducing the concepts of 2D views (cuts, point cuts, and line | Modeling some complex | Data show | quiz |

| | | cute) | | geometric shapes | | |
|-------------------------------------|------------------|--|--|--|------------------------------|----------------------|
| | | cuts) | | using translation, scaling, rotation | | |
| 11 | 4 | Buildin | g hierarchical modeling of | and reflection Modeling some | | |
| | | comple and trai | x objects, scene diagrams, nsformation stacks | scenes using basic transformations (such as drawing a butterfly) | Data show | quiz |
| 12 | 4 | Introdu dimens projecti and dep | cing the concepts of three- ional views, parallel on, perspective projection, oth determination | Introduction to OpenGL | Data show | quiz |
| 13 | 4 | Unders represe and sur | tanding polygon ntation of objects, meshes faces | Drawing a 3D shape using OpenGL | Data show | quiz |
| 14 | 4 | Unders transfor reflect, transfor | tanding basic 3D rmations (move, rotate, scale, shearing, and compound rmations | Dealing with basic 3D transformations | Data show | quiz |
| 15 | 4 | Mid-Ex | am | Mid-Exam + display of projects completed by students | Data show | quiz |
| 11. Co | urse Eva | luation | t of 100 according to the tool | a accienced to the stu | dant avak | aa dailar |
| preparat | ion, dail | y oral, m | onthly, or written exams, report | ts etc | dent such | as daily |
| 12. Lea | arning ar | nd Teach | ing Resources | | | |
| Require (curricul | d tex lar boo | tbooks ks, if | 1) "Fundamentals of Compute Shirley, CRC Press (A K Pete | er Graphics", S. Mars ers), 2021. | chner, and | P. |
| any) | | | 2) "Computer Graphics: Prin V. Dam, M. McGuire, D. F. Akeley, Addison-Wesley (Pea | ciples and Practice", Sklar, J. D. Foley, S. arson Education), 201 | J. F. Hug K. Feiner 4. | ghes, A. , and K. |
| Main (sources | refe | erences | 1. Steve Marschner and Pete Shirley. Fundamentals of Computer Graphics. A K Peters, 2021. | | | |
| | | | 2. John F. Hughes, Andries van Dam, Morgan McGuire, David F. Sklar, James D. Foley, Steven K. Feiner, and Kurt Akeley. Computer Graphics: Principles and Practice. 2014. | | | |
| Recommended books and references | | | 1) "Introduction to Computer Graphics". F. Klawonn, Springer- Verlag London, 2 nd Edition, 2012. | | | |
| reports | .) | | 2) "OpenGL Programming Guide", Addison-Wesley (Pear Education), D. Shreiner, G. Sellers, J. Kessenich, B. Licea-Kane, Edition, 2013. | | | |
| Electron | ic Refe | rences, | 1) <u>https://www.coursera.org/l</u> | earn/interactive-comp | outer-graph | nics |
| W ebsite | S | | 2) <u>https://www.sciencedirect.</u> | com/journal/computer | rs-and-gra | phics |
| | | | 3) <u>https://www.frontiersin.org/journals/computer-</u> <u>science/sections/computer-graphics-and-visualization</u> | | | |

Course Description Form

| 1 | 1. Course Name: | | | | | | | | |
|------|---------------------------------|--------------------------|------------------------------|-------------------------|----------------------|--------------------------|--|--|--|
| | D | ataba | se fundamental | s | | | | | |
| 2 | 2. C | ourse | Code: | | | | | | |
| | | | | | | | | | |
| 3 | 3. Se | emeste | er / Year: | | | | | | |
| | 1 | st Sem | ester/ 3 rd Grade | e/ Academic Year 202 | 3-7.72 | | | | |
| 4 | I. D | escrip | tion Preparatio | on Date: | | | | | |
| | 3/2024 | | | | | | | | |
| 5 | 5. A | vailab | ble Attendance | Forms: | | | | | |
| | A | ttenda | ince time | | | | | | |
| 6 | $\frac{1}{6}$ | $\frac{\text{umber}}{2}$ | r of Credit Hou | irs (10tal) / Number of | f Units (Total) | | | | |
| 7 | | J/S | administrator's | name (mantion all if | more then one no | ma) | | | |
| / | <u> </u> | ame | Mehdi G. Duai | mi | | | | | |
| | E | mail· | mehdi k@sc.uc | haghdad edu ig | | | | | |
| 8 | $\frac{\mathbf{L}}{\mathbf{R}}$ | ourse | Objectives | <u>Joughaud.cdu.rq</u> | | | | | |
| Cou | rse | | Defining and | explaining fundament | tal of database cor | cepts. Designing a | | | |
| Obje | ectiv | es | database sche | ema. Executing SQL s | tatements for data | retrieval and | | | |
| | | | manipulation | | | | | | |
| | | | Understandin | g the role of databases | s in applications. I | Performing data | | | |
| | | | modeling and | l schema design. Optin | nizing query perfo | ormance. | | | |
| 9 | Э. Т | eachin | ig and Learning | g Strategies | | | | | |
| Stra | tegy | | Instructors a | im to consolidate ac | tive learning and | d critical thinking by | | | |
| | | | engaging stu | idents in practical a | activities such a | s designing database | | | |
| | | | schemas, writ | ing SQL queries, and | solving real-worl | d database challenges. | | | |
| | | | The strategy | encourages collabora | tion, independent | problem-solving, and | | | |
| | | | achieved thro | ugh classes interaction | tutorials and b | x considering types of | | | |
| | | | various lab | assignments involving | some activities | that are interesting to | | | |
| | | | the students. | | 5 some dettitles | that are interesting to | | | |
| 10. | Cou | rse St | ructure | | | | | | |
| V | Η | Requ | uired | Unit or subject | Learning | Evaluation method | | | |
| Vee | lou | Lear | ning | name | method | | | | |
| k | rs | Outo | comes | | | | | | |
| | | | | | | | | | |
| 1 | 4 | Unde | erstand | Database System | Lectures | Exams (various | | | |
| | | fund | amental | Concepts | | types) | | | |
| | | datał | base | | | Student feedback | | | |
| | | princ | ciples. | | T (| | | | |
| 2 | 4 | Com | prehend | Database | - Lectures | Exams (various | | | |
| | | datat | base system | Architecture | - keports and | (ypes) | | | |
| | | com | jonents. | | studies | Assessment of | | | |
| 3 | 1 | Knor | w the role | Database | Lectures | Exame (various | | | |
| 3 | 4 | and f | inctions of | Management | Lectures. | types) | | | |
| | | DRM | Is | System | | (ypcs) | | | |
| 4 | 4 | Lear | n about | Database Schema | Lectures. | Student feedback. | | | |

| | | 1 | | | 1 |
|----|---|---|---|--|--|
| | | database structure and user roles. | & Database Users | Exams (various types). Group work | Workshops. Assessment of reports and studies |
| 5 | 4 | Model real-world entities and relationships. | The Entity Relationship Data Model | Lectures. Exams (various types). Group work | Student feedback. Workshops. Learning matrix |
| 6 | 4 | Ensure data quality & Applying advanced E-R modeling and business rules. | Relational Integrity & The Enhanced E-R Model and Business Rules | Lectures | Exams (various types). Learning matrix |
| 7 | 4 | Design databases using the ER model. | Conceptual Design with the ER Model | Lectures. Exams (various types). Group work | Student feedback 3. Workshops 4. Reports and studies |
| 8 | 4 | Master SQL for data retrieval and manipulation. | Queries and Updates in SQL | Lectures. Group work | Exams (various types). Learning matrix |
| 9 | 4 | Understand the basics of relational databases. | The Relational Data Model | Lectures. Group work Workshops Reports and studies | Exams (various types). Student feedback. Assessment of reports and studies |
| 10 | 4 | Convert ER diagrams to relational schemas. | Mapping from ER Diagrams to Relational Model | Lectures. | Exams (various types). Student feedback |
| 11 | 4 | Explore advanced SQL and DBMS features. | SQL and DBMS Functionality | Lectures. | Exams (various types) Student feedback Learning matrix |
| 12 | 4 | Define and apply data integrity constraints. | Constraints and Keys | Lectures. Group work | Exams (various types). Student feedback |
| 13 | 4 | Create relation schemas in SQL. | Defining a Relation Schema in SQL | Lectures. Reports and studies | Exams (various types). Assessment of reports and studies |
| 14 | 4 | Model data hierarchies effectively. | DBMS Generalization & Specialization | Lectures. Workshops | Exams (various types) Student feedback Learning matrix |
| 15 | 4 | Understand relational algebra for querying data. | Relational Algebra Syntax and Semantics | Lectures. | Exams (various types). Student feedback |

| Week | Hours | Required | Unit or subject name | Learning | Eval | iatio |
|-------------|--------------|---------------------------------------|--------------------------------------|-------------------|---------|--------------|
| | | Learning | | method | meti | od |
| | | Outcome | | | | |
| | | s | | | | |
| 1 | 1 | | Introduction to Database System | | | |
| 2 | 1 | | Importing and Linking Information | | | |
| | | | from an External Source | _ | | |
| 3 | 1 | | Creating and working with Tables | | | |
| 4 | 1 | | Data Types and Table Properties | _ | | |
| 5 | 1 | | Field Properties | | | |
| 6 | 1 | | Formatting Fields | | | |
| 7 | 1 | | Sorting and Filtering | Discussions | Quiz | les |
| 8 | 1 | | Creating Relationship and | 1 Seminars | Seme | ster |
| | | | Referential Integrity | HomoWorks | ГШа | Еха |
| 9 | 1 | | Introduction to SQL and Query types | Reports | | |
| 10 | 1 | | Creating and working with Queries | s Reports | | |
| | | | (QBE) | _ | | |
| 11 | 1 | | DDL: Part I | | | |
| 12 | | | DDL: Part II | _ | | |
| 13 | 1 | | DML: Select Query | | | |
| 14 | 1 | | Action Queries | _ | | |
| 15 | | | Exam | | | |
| Course E | valuation | | | | | |
| 60% (50 | % on the v | written final e | exam, 10% on the final lab exam), | 40% on the co | urse (5 | % с |
| attendanc | e, 15% on t | he monthly ex | am, 5% on the quizzes, 15% on the l | ab. | | |
| Learning | g and Tead | ching Resou | rces | | | |
| Required | textbooks (c | curricular book | s if any) | | | <u></u> |
| Main rofo | | | | | | |
| main reie | rences (sou | rces) | 1- Kroenke D M A | uer D-I-Vanden | herg S | L. A |
| | | | Yoder, R. C. (2018 |). Database Proce | ssing. | L., 、 |
| | | | Fundamentals. Des | sign, and Impleme | ntation | |
| | | | 2- Alexander, M., & | Kusleika, R. (20 | 19). A | cess |
| | | | Bible. John Wilev | & Sons. | | |
| | | | | | | |
| Recomme | ended books | and reference | es Books and research p | apers from Scopu | s and W | oS |
| (scientific | journals, re | ports…) | databases. | | | |
| \ | | · · · · · · · · · · · · · · · · · · · | | | | |
| Electronic | References | s, vvedsites | | | 1 | |
| Electronic | c References | n vvedsites | | | | |

| Required textbooks | Raghu Ramakrishnan, Johannes Gehrke, "Database Management | | | |
|-----------------------|--|--|--|--|
| (curricular books, if | Systems", 4th Edition, McGraw Hill, 2018. | | | |
| any) | S. Sumathi, S. Esakkirajan, "Fundamentals of Relational Datab | | | |
| | Management Systems", Springer, 2007. | | | |
| Main references | David M. Kroenke, David J. Auer. "Database processing: | | | |
| (sources) | fundamentals, design, and implementation."-Edition 15, Pearson | | | |
| | Education, Prentice Hall. 2018. | | | |
| | Mike McGrath. 'Access in easy steps: Illustrated using Acc | | | |
| | 2019 Paperback. In Easy Steps Limited (2019). | | | |
| Recommended books | https://www.inderscience.com/jhome.php?jcode=ijiids | | | |
| and references | https://dl.acm.org/journal/tods | | | |
| (scientific journals, | | | | |
| reports) | | | | |
| Electronic | https://www.inderscience.com/jhome.php?jcode=ijiids | | | |
| References, Websites | https://www.sciencedirect.com/topics/immunology-and- | | | |
| | microbiology/database-management-system | | | |
| | | | | |

English Language III Course Description

| 1 | Course Name: |
|---------|---|
| 1. | English Language III |
| 2 | Course Code: |
| <i></i> | LIOB23118 |
| 3 | Semester / Year: |
| 5. | 1 st Semester/ 3 rd Grade/ Academic Year 2023 - Y • Y £ |
| 1 | Description Preparation Date: |
| т. | 24/3/2024 |
| 5 | Available Attendance Forms: |
| 5. | In person - In classroom |
| 6 | Number of Credit Hours (Total) / Number of Units (Total) |
| | 2 |
| 7. | Course administrator's name (mention all, if more than one name) |
| | Name: Zainab Raed Ahmed |
| | Email: zainab.raid@sc.uobaghdad.edu.iq |
| 8. | Course Objectives |
| 1. | To develop students' language skills in English, focusing on the intermediate level. |
| 2. | To enhance students' ability to communicate effectively and confidently in various |
| | everyday situations. |
| 3 | To expand students' vocabulary and understanding of grammar structures |
| л Д | To promote cultural awareness and understanding through authentic texts and materials |
| | To provide a solid foundation for further language learning and progression |
| 5. | To provide a solid foundation for further language learning and progression. |
| 9. | Teaching and Learning Strategies |
| 1. | Communicative Approach: Emphasize communicative activities that promote interaction |
| | among students. Encourage pair and group work, role-plays, and discussions to practice |
| | language skills in meaningful contexts. |
| 2. | Integrated Skills: Integrate the four language skills (speaking, listening, reading, and |
| | writing) in lessons to create a balanced approach to language learning. Provide |
| | opportunities for students to use and develop these skills simultaneously |
| 3 | Vocabulary Expansion: Incorporate vocabulary building exercises and activities |
| 5. | throughout the source. Use real life contexts, visuals, and practical examples to help |
| | unroughout the course. Use real-file contexts, visuals, and practical examples to help |
| | students learn and remember new words. |
| 4. | Grammar Focus: Teach and reinforce grammar structures in a systematic and progressive |
| | manner. Provide clear explanations, examples, and practice exercises to ensure students |
| | understand and can apply the grammar rules correctly. |
| 5. | Authentic Materials: Include authentic texts, such as articles, newspaper clippings, songs, |
| | and videos, to expose students to real-world language usage. This helps develop their |
| | reading and listening comprehension skills and exposes them to cultural aspects of |
| | English-speaking countries. |
| 6. | Cultural Awareness: Integrate cultural topics and discussions into the lessons to foster |
| | cultural awareness and sensitivity. Encourage students to share their own cultural |
| | backgrounds and experiences to promote understanding and appreciation of diverse |
| | perspectives |
| _ | Perspectives. |
| 7. | Error Correction: Provide constructive feedback and error correction during speaking and |

writing activities. Help students identify and correct their mistakes, focusing on accuracy while encouraging fluency and self-expression.

- 8. Technology Integration: Utilize technology tools, such as interactive whiteboards, online resources, and language learning apps, to engage students and enhance their language learning experience. Incorporate multimedia materials for listening and speaking practice.
- 9. Regular Assessment: Assess students' progress regularly through quizzes, tests, and assignments. Provide timely feedback to guide their learning and address areas that need improvement.
- 10. Individualization: Cater to the individual needs and learning styles of students. Offer differentiated tasks and activities to ensure all learners are appropriately challenged and supported.
- 11. Cooperative Learning: Promote collaboration and teamwork among students through pair work, group projects, and peer feedback. This encourages active participation and a supportive learning environment.
- 12. Review and Revision: Schedule regular review sessions to consolidate previously learned material. Encourage students to revise and practice independently, providing resources for self-study and additional practice.

| 10. Co | 10. Course Structure | | | | | | | | |
|--------|----------------------|---|--------------------------|--------------------------------|--|--|--|--|--|
| Week | Hours | Required Learning Outcomes | Unit or subject name | Learning method | Evaluation method | | | | |
| 1 | 2 | Naming tenses Present, Past, Present Perfect Auxiliary verbs | A world of difference | Lecture in Classroo m | Either quiz (Listening, reading, grammar, vocabulary), or writing assignment | | | | |
| 2 | 2 | Present tenses Simple and contiuous | The working week | Lecture in Classroo m | Either quiz (Listening, reading, grammar, vocabulary), or writing assignment | | | | |
| 3 | 2 | Past tenses Simple and continuous | Good times, bad times | Lecture in Classroo m | Either quiz (Listening, reading, grammar, vocabulary), or writing assignment | | | | |
| 4 | 2 | Advice, obligation, and permission Modal and related verbs | Getting it right | Lecture in Classroo m | Either quiz (Listening, reading, grammar, vocabulary), or writing assignment | | | | |
| 5 | 2 | Future forms Will, going to, or Present Contint1ous? | Our changing world | Lecture in Classroo m | Either quiz (Listening, reading, grammar, vocabulary), or writing assignment | | | | |
| 6 | 2 | Information | What matters to me | Lecture | Either quiz | | | | |

| | | | 1 | | • | (7.1.) |
|-------------|-----------|---------------------------------------|--------------|-----------------|-------------------------------|----------------------|
| | | questions, | | | in | (Listening, reading, |
| | | Adjectives | | | Classroo | grammar, |
| | | | | | m | vocabulary), or |
| | | | | | | writing assignment |
| 7 | | | <u>Mi</u> | dterm Exam | - | |
| 8 | 2 | Present Perfect | Passio | ns and | Lecture | Either quiz |
| | | Simple and | fashio | ns | in | (Listening, reading, |
| | | continuous | | | Classroo | grammar, |
| | | | | | m | vocabulary), or |
| | | | | | - | writing assignment |
| 9 | 2 | Verb patterns | No fea | ır | Lecture | Either quiz |
| | | idioms | | | 1n | (Listening, reading, |
| | | | | | Classroo | grammar, |
| | | | | | m | vocabulary), or |
| 10 | | | T . 1 | | | writing assignment |
| 10 | 2 | Conditionals | It depe | ends how you | Lecture | Either quiz |
| | | Second & Third | look a | t it | 1n | (Listening, reading, |
| | | conditionals | | | Classroo | grammar, |
| | | | | | m | vocabulary), or |
| 11 | | | 4 11 .1 | | . | writing assignment |
| 11 | 2 | Noun phrases | All thi | ngs high tech | Lecture | Either quiz |
| | | Possessives | | | 1n | (Listening, reading, |
| | | | | | Classroo | grammar, |
| | | | | | m | vocabulary), or |
| 10 | 2 | M 11 C | <u>с</u> . | • 1 1• • | T (| writing assignment |
| 12 | 2 | Modals of | Seeing | g is believing | Lecture | Either quiz |
| | | probability | | | 1n | (Listening, reading, |
| | | Phrasal verbs | | | Classroo | grammar, |
| | | | | | m | vocabulary), or |
| 12 | 2 | Demonstral and all | T-11: | - :4 1 :4 :- | T. e. e.tere wee | Fith an assignment |
| 13 | 2 | Reported speech | Tellin | g it now it is | Lecture | Either quiz |
| | | | | | | (Listening, reading, |
| | | | | | Classioo | granninar, |
| | | | | | 111 | vocabulary), or |
| 14 | 2 | Pavision weak | | | | |
| 15 | L | Kevision week | l T | Final avom | | |
| 13 11 Co | urso Evo | lustion | 1 | mai exam | | |
| 11. CO | | iuation | | | | |
| | | | | | | |
| Listening | g quiz (1 | 0%)+Reading quiz (10% | %)+ writ | ing assignmen | t (10%)+ Gr | ammar & |
| Vocabul | ary quiz | (10%) = 40% + 60% fir | nal exan | 1 | | |
| 12 Les | arning ar | nd Teaching Resources | | | | |
| Required | textbo | ks (curricular books if | anv) | Soars John a | nd Liz (201 | 1) New Headway |
| Required | | KS (curricular books, II | any) | Plus Special | Edition Inte | rmediate Level |
| | | | | Oxford Unive | ersity Press | |
| Main ref | erences | (sources) | | New Headwar | v Plus provi | des an integrated |
| | erences | (5001005) | | skills course s | y i tus provi with each un | it divided into |
| | | | | orammar voo | abulary eki | lls work and |
| | | | | evervday Fno | lish seomen | ts |
| D | hended b | ooks and references (sci | ientific | Oxford Unive | rsity Prese | The New Headway |
| Recomm | | · · · · · · · · · · · · · · · · · · · | | | | |

| journals, reports) | series is published by Oxford University Press. |
|---------------------------------|---|
| | Visit their website at www.oup.com and search |
| | for "New Headway Plus, Special Edition, |
| | Intermediate" or browse their English language |
| | teaching section for information on the course. |
| Electronic References, Websites | https://elt.oup.com/student/headway/beg/?cc=glo |
| | l&selLanguage=en |

Advance Computer Architecture Course Description

| 1. | Course Name: | | | | | | | | |
|---|---|---|---|--------------------|---|--|--|--|--|
| | Advance Computer Architecture | | | | | | | | |
| 2. | Course Code: | | | | | | | | |
| | | | | | | | | | |
| 3. | Semester | / Year: | | | | | | | |
| | 1 st Semes | ster/ 3 rd Grade | e/ Academic Year 2023 - | 7.72 | | | | | |
| 4. | Descripti | on Preparatio | on Date: | | | | | | |
| | 22/03/20 | 24 | | | | | | | |
| 5. | Available | e Attendance | Forms: | | | | | | |
| | | | | | | | | | |
| 6. | Number | of Credit Hou | urs (Total) / Number of U | Inits (Total) | | | | | |
| | Credit Ho | ours (Total) is | s 30 / 2 Units | | | | | | |
| 7. | Course a | dministrator's | s name (mention all, if m | ore than one nam | e) | | | | |
| | Name: L | ecturer: Nahl | ah Abdulrahman Alkhali | di | | | | | |
| | Email: na | ahlah.a@sc.u | obaghdad.edu.iq | | | | | | |
| 8. | Course C | bjectives | | | | | | | |
| Course | Objective | es 1- Und | erstand and understand c | computers and so | lve existing problems in | | | | |
| | | socie | ety or in the labor market | • | | | | | |
| | | 2- Deal | ing with scientific and a | oplied problems a | and developing solutions | | | | |
| | | to th | em. | | | | | | |
| | | 3- Und | erstanding computer m | ethods and tecl | nniques in solving the | | | | |
| | | prob | lems of scientific and eco | onomic institutio | ns. | | | | |
| 9. | Teaching | and Learnin | g Strategies | | | | | | |
| Strateg | <u>y</u> | Strategy | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| 10. Co | ourse Stru | icture | | | | | | | |
| 10. Co Week | ourse Stru Hours | acture Required | Unit or subject | Learning | Evaluation method | | | | |
| 10. Co Week | ourse Stru Hours | acture Required Learning | Unit or subject name | Learning method | Evaluation method | | | | |
| 10. Co Week | ourse Stru Hours | acture Required Learning Outcomes | Unit or subject name | Learning method | Evaluation method | | | | |
| 10. Co Week | Hourse Stru Hours | Icture Required Learning Outcomes | Unit or subject name Introduction to | Learning method | Evaluation method - Short exams | | | | |
| 10. Co Week | Hourse Stru Hours | Incture Required Learning Outcomes | Unit or subject name Introduction to computer | Learning method | Evaluation method - Short exams Quarterly and final. | | | | |
| 10. Co Week | Hourse Stru Hours | Acture Required Learning Outcomes | Unit or subject name Introduction to computer architecture | Learning method | Evaluation method - Short exams Quarterly and final Homework | | | | |
| 10. Co Week | Hourse Stru Hours | Icture Required Learning Outcomes | Unit or subject name Introduction to computer architecture | Learning method | Evaluation method - Short exams Quarterly and final Homework assignments. | | | | |
| 10. Co Week | Hourse Stru Hours | Incture Required Learning Outcomes | Unit or subject name Introduction to computer architecture | Learning method | Evaluation method - Short exams Quarterly and final Homework assignments Discussion sessions | | | | |
| 10. Co Week | Pourse Stru Hours | Icture Required Learning Outcomes | Unit or subject name Introduction to computer architecture | Learning method | Evaluation method - Short exams Quarterly and final Homework assignments Discussion sessions - Presentations for | | | | |
| 10. Co Week | Purse Stru Hours 2 | Incture Required Learning Outcomes | Unit or subject name Introduction to computer architecture | Learning method | Evaluation method - Short exams Quarterly and final Homework assignments Discussion sessions - Presentations for students. | | | | |
| 10. Co Week | Purse Stru Hours | Icture Required Learning Outcomes | Unit or subject name Introduction to computer architecture | Learning method | Evaluation method - Short exams Quarterly and final Homework assignments Discussion sessions - Presentations for students Making posters. | | | | |
| 10. Co Week | Purse Stru Hours 2 2 | Icture Required Learning Outcomes | Unit or subject name Introduction to computer architecture Processor and its | Learning method | Evaluation method - Short exams Quarterly and final Homework assignments Discussion sessions - Presentations for students Making posters. | | | | |
| 10. Co Week | Durse Stru Hours 2 2 2 | Incture Required Learning Outcomes | Unit or subject name Introduction to computer architecture Processor and its architecture | Learning method | Evaluation method - Short exams Quarterly and final Homework assignments Discussion sessions - Presentations for students Making posters. | | | | |
| 10. Co Week 1 | Hourse Stru 2 2 2 2 2 | Icture Required Learning Outcomes | Unit or subject nameIntroduction to computer architectureProcessor and its architectureIntel 80x86 Base | Learning method | Evaluation method - Short exams Quarterly and final Homework assignments Discussion sessions - Presentations for students Making posters. | | | | |
| 10. Co Week 1 2 3 | Hourse Stru 2 2 2 2 2 | Incture Required Learning Outcomes | Unit or subject name Introduction to computer architecture Processor and its architecture Intel 80x86 Base Architecture | Learning method | Evaluation method - Short exams Quarterly and final Homework assignments Discussion sessions - Presentations for students Making posters. | | | | |
| 10. Co Week 1 2 3 4 | Hourse Stru 2 2 2 2 2 2 2 2 2 | Incture Required Learning Outcomes | Unit or subject nameIntroduction to computer architectureProcessor and its architectureIntel 80x86 Base ArchitectureIntel 80386 MP | Learning method | Evaluation method - Short exams Quarterly and final Homework assignments Discussion sessions - Presentations for students Making posters. | | | | |
| 10. Co Week 1 2 3 4 | Pourse Stru Hours 2 2 2 2 2 2 2 | Incture Required Learning Outcomes | Unit or subject nameIntroduction to computer architectureProcessor and its architectureProcessor and its architectureIntel 80x86 Base ArchitectureIntel 80386 MP architecture | Learning method | Evaluation method - Short exams Quarterly and final Homework assignments Discussion sessions - Presentations for students Making posters. | | | | |
| 10. Co Week 1 2 3 4 5&6 | Durse Stru Hours 2 2 2 2 2 2 2 2 2 2 | Incture Required Learning Outcomes | Unit or subject nameIntroduction to computer architectureProcessor and its architectureIntel 80x86 Base ArchitectureIntel 80386 MP architectureInstructionDistriction | Learning method | Evaluation method - Short exams Quarterly and final Homework assignments Discussion sessions - Presentations for students Making posters. | | | | |
| 10. Co Week 1 1 2 3 4 5&6 | Pourse Stru Hours 2 2 2 2 2 2 2 2 2 | Icture Required Learning Outcomes | Unit or subject nameIntroduction to computer architectureProcessor and its architectureProcessor and its architectureIntel 80x86 Base ArchitectureIntel 80386 MP architectureInstruction Pipelining | Learning method | Evaluation method - Short exams Quarterly and final Homework assignments Discussion sessions - Presentations for students Making posters. | | | | |
| 10. Co Week 1 2 3 4 5&6 7 | Durse StruHours22222222222 | Incture Required Learning Outcomes | Unit or subject nameIntroduction to computer architectureProcessor and its architectureProcessor and its architectureIntel 80x86 Base ArchitectureIntel 80386 MP architectureInstruction PipeliningIntel 80386 MP | Learning method | Evaluation method - Short exams Quarterly and final Homework assignments Discussion sessions - Presentations for students Making posters. | | | | |
| 10. Co Week 1 2 3 4 5&6 7 | Pourse Stru Hours 2 | Incture Required Learning Outcomes | Unit or subject nameIntroduction to computer architectureProcessor and its architectureProcessor and its architectureIntel 80x86 Base ArchitectureIntel 80386 MP architectureInstruction PipeliningIntel 80386 MP processing Modes | Learning method | Evaluation method - Short exams Quarterly and final Homework assignments Discussion sessions - Presentations for students Making posters. | | | | |
| 10. Co Week 1 2 3 4 5&6 7 8 | Hourse Stru222222222222222222222 | Incture Required Learning Outcomes | Unit or subject nameIntroduction to computer architectureProcessor and its architectureProcessor and its architectureIntel 80x86 Base ArchitectureIntel 80386 MP architectureInstruction PipeliningIntel 80386 MP Processing ModesIntel 80486 MP | Learning method | Evaluation method - Short exams Quarterly and final Homework assignments Discussion sessions - Presentations for students Making posters. | | | | |

| 0 & 10 | 2 | | Intel Pentiu | ım | | | |
|-----------------------|------------|---------------------------------|--------------|---|--------------------|----------------------------|--|
| J & 10 | 2 | | Processor | 1111 | | | |
| 11 | 2 | | Memory Su | ıbsvstem | | | |
| | | | The Fetch/D | Decode | | | |
| | | | Unit | | | | |
| | | | | | | | |
| 12 | 2 | | Instruction | Set | | | |
| | | | Architectur | e Features | | | |
| 13 | 2 | | ММХтм Те | echnology | | | |
| | | | Instructions | 5 | | | |
| 14 & 15 | 2 | | Intel Pentiu | ım III | | | |
| | | | Processor | | | | |
| | | | | | | | |
| 11 C | | 1 | | | | | |
| 11. Course Evaluation | | | | nding to the | toolso agaigmed to | the student such as deily | |
| DISUIDU | tion dail | v oral month | ly written e | vame repor | tasks assigned to | the student, such as daily | |
| 12 Le | arning a | y, oral, month nd Teaching R | esources | xams, repor | 15, 010. | | |
| Require | d textbo | oks (curricular | · books | Computer Organization and Architecture Designing | | | |
| if any) | a lexibo | | 00000, | for Performance. 8th Edition. by William Stallings. | | | |
| | | | | | | | |
| Main re | ferences | (sources) | | Basic Computer Architecture, Smruti R. Sarangi, | | | |
| | | | | 2021 | | | |
| | | | | Modern Computer Architecture and Organization: | | | |
| | | | | Learn X86, ARM, and RISC-V Architectures and the | | | |
| | | | | Design of Smartphones, PCs, and Cloud Servers Jim | | | |
| | | | | Ledin, 202 | 2. | | |
| Recomm | nended | books and | references | | | | |
| (scienti | tic journa | als, reports) | | 1 | // 1.0 | | |
| Electron | nic Refer | ences, Websit | es | - <u>http</u> | os://www.geeksto | orgeeks.org/computer- | |
| | | | | <u>org</u> | anization-and-arc | sintecture. | |
| | | | | - <u>1111</u> | s://en_wikinedia | org/ | |
| | | | | - <u>1111</u> | <u>,,</u> | <u>01<u>z/</u></u> | |

Programming with Java Course Description

| 1 0 | NT | | | | | | |
|-------------------------|--------------------------------|---------------------------|---------------------|-----------------|--------------------------------------|--|--|
| 1. Course Name: | | | | | | | |
| Programm | Programming with Java | | | | | | |
| 2. Course | code: | | | | | | |
| 5. Semest | ler / Year: | | | | | | |
| 2023/202 | 4 ntian Duananatia | n Datas | | | | | |
| 4. Descrij 22/3/2024 | ption Preparatio 4 | n Date: | | | | | |
| 5. Availa | ble Attendance | Forms: | | | | | |
| In person | | | | | | | |
| 6. Numbe | er of Credit Hou | rs (Total) / Number of | Units (Total) | | | | |
| 3 credit h | ours / 2 units | | | | | | |
| 7. Course | administrator's | name (mention all, if n | nore than one nar | me) | | | |
| Name: Di | r Haneen Ahme | d | | | | | |
| Email: ha | ineen.a@sc.uob | aghdad.edu.iq | | | | | |
| 8. Course | Objectives | | | | | | |
| Course | • Learn | about the Java prog | amming metho | d and its capa | bilities | | |
| Objective | es • Learr | the basics of the Java | a language | | | | |
| | • Ident | ity the libraries provid | led by the langu | age | | | |
| | • Desig | n and implement grap | ohical user inter | faces that resp | pond to events | | |
| | • Dealin | ng with files | | | | | |
| 9. Teachi | ng and Learning | g Strategies | | | | | |
| Strategy | - Provid | ing the student with the | e basics of the top | oics | | | |
| | - Discus | sions and problem solv | ing during the lea | cture | | | |
| | - Asking | g intellectual questions, | such as why and | how | | | |
| 10 9 | - Giving | assignments | | | | | |
| 10. Cours | se Structure | ~ | | | | | |
| Week | Hours | Required | Unit or | Learning | Evaluation | | |
| | | Learning | subject name | method | method | | |
| 1 | 1.1 .1 1 | Outcomes | T / 1 / | 1 / | N / 1 | | |
| 1 | I theoretical | Introduction to java | Introduction | lectures | Midterm exam | | |
| | + 2 practical | Programming | to java | | Daily | | |
| • | 1.1 .1 1 | | Programming | 1 / | evaluations | | |
| 2 | I theoretical | Java Fundamentals | Java | lectures | Midterm exam | | |
| | +2 practical | | Fundamentals | | Daily | | |
| 2 | 14.21 | Definition 1 | | 1 | evaluations | | |
| 5 | 1 theoretical | Principles of | Principles of | lectures | Midterm exam | | |
| | + 2 practical | object-oriented | object- | | Daily | | |
| | | programming | oriented . | | evaluations | | |
| | 4.4 .4 4 | T . 1 | programming | 1 . | A (* 1. | | |
| 4 | I theoretical | Introducing | Introducing | lectures | Midterm exam | | |
| | +2 practical | Classes, Objects, | Classes, | | Daily | | |
| | | and Methods | Objects, and | | evaluations | | |
| ~ | | | Methods | | | | |
| 5 | 1.1 | | | 1 / | 3.6.1 | | |
| | 1 theoretical | GUIs in Java | GUIs in Java | lectures | Midterm exam | | |
| | 1 theoretical + 2 practical | GUIs in Java | GUIs in Java | lectures | Midterm exam Daily | | |
| ſ | 1 theoretical + 2 practical | GUIs in Java | GUIs in Java | lectures | Midterm exam Daily evaluations | | |

| | + 2 practical | Java Swing toolkit and widgets | Java Swing toolkit and | | Daily evaluations |
|--|--------------------------------------|--------------------------------|---|--|---|
| 7 | 1 theoretical + 2 practical | GUI Components | GUI Components | lectures | Midterm exam Daily evaluations |
| 8 | 1 theoretical + 2 practical | Exam | Exam | lectures | Midterm exam Daily evaluations |
| 9 | 1 theoretical + 2 practical | Exception Handling | Exception Handling | lectures | Midterm exam Daily evaluations |
| 10 | 1 theoretical + 2 practical | Input/output and files | Input/output and files | lectures | Midterm exam Daily evaluations |
| 11 | 1 theoretical + 2 practical | Input/output and files | Input/output and files | lectures | Midterm exam Daily evaluations |
| 12 | 1 theoretical + 2 practical | Java Collections | Java Collections | lectures | Midterm exam Daily evaluations |
| 13 | 1 theoretical + 2 practical | Random number | Random number | lectures | Midterm exam Daily evaluations |
| 14 | 1 theoretical + 2 practical | Introduction client server | Introduction client server | lectures | Midterm exam Daily evaluations |
| 15 | 1 theoretical + 2 practical | Network programming | Network programming | lectures | Midterm exam Daily evaluations |
| 11. Course Evaluation Monthly exams Preparing reports Laboratory evaluation 12. Learning and Teaching Resources Required textbooks (curricular books, if any) | | | Cay S. Horstma Fundamentals Herbert Schildt Reference, 11th Education | nn, Core Java , 11th Edition, 1 , Java - The C o n Edition, McG | Volume I – Prentice Hall omplete raw Hill |
| Main refe Recomm | erences (sources) ended books and | references (scientific j | ournals, reports | .) | |
| Electronic References, Websites | | | https://www.tut http://docs.orac http://java.sun.c tml | orialspoint.com le.com/javase/t com/docs/books | n/java utorial/java s/tutorial/index.h |

Software engineering Course Description

| 1. | Course | e Name: | | | | | |
|------------|---|--|---|------------------------------|---|--|--|
| | Softwa | ftware engineering | | | | | |
| 2. | Course | e Code: CSC35129 | | | | | |
| 3 | Semes | ter / Year: Semester | | | | | |
| 5. | 1 st Sen | nester/ 3 rd Grade/ Ac | ademic Year 2023 - ۲۰۲٤ | | | | |
| 4. | Descri | ption Preparation Da | ate: | | | | |
| | 23/03/ | 2024 | | | | | |
| 5. | Availa | ble Attendance Forr | ns: In person | | | | |
| - | | | | • | | | |
| 6. | Numb | er of Credit Hours (| Total) / Number of Units (To | otal): | | | |
| 7 | 30 Ho | urs administrator's nan | ne (mention all if more than | one name) | | | |
| 7. Name | $\cdot 1$ - Dr | Faten Abed Ali Day | wood | one name) | | | |
| Email | faten. | dawood@sc.uobagh | dad.edu.ig | | | | |
| Name: | 2- Dr. | Safaa Khalil Mortad | a | | | | |
| Email: | safaa.a | <u>lwajidi@sc.uobaghc</u> | lad.edu.iq | | | | |
| 8. | Course | e Objectives | | | | | |
| Course | e | • Helping stude | nts to gain a broad unde | rstanding o | f software engineering | | |
| Object | ives | applications b | y analyzing requirement | ts to design | n and implement the | | |
| | | software prod | ict according to recognized | i standard s | design high quality | | |
| | | Developing ski software system | ns that enable students to a swith good reliability the | analyze and at meet the r | design nign-quality | | |
| | | labor market. | ns with good renability tha | it meet the I | equilements of the | | |
| 9. | Teachi | ing and Learning Str | ategies | | | | |
| Strate | gy | 1- Theoretical and | practical lectures using mod | ern presentat | ion | | |
| | | techniques and | students' participation in sci | entific discus | ssions | | |
| | | through brainsto | orming to obtain the required | l conclusions | s that enhance | | |
| | | the student's bro | bad understanding of the lec | ture. | | | |
| | | 2- Students' partici | pation in solving programm | ing problems | s that occur | | |
| | | during the desig | n and implementation of the | e applied soft | ware system. | | |
| | | 3- Discussion and (| lialogue about vocabulary re | elated to the | topic. | | |
| | | 4- Use the electron | files (in short form) where | they are evr | bad lectures in | | |
| | | the lecture with | many examples solved disc | ussed with s | tudents and | | |
| | | their questions a | nswered. The electronic clas | sroom is also | o used to give | | |
| | homework assignments, upload answers within the electronic classroom. | | | | | | |
| | and also announce exam dates and gradesetc. | | | | | | |
| 10. C | 10. Course Structure | | | | | | |
| Wee | Hour | Required | Unit or subject name | Learning | Evaluation method | | |
| k | S | Learning | | method | | | |
| 1 | 2 | Outcomes | | T | | | |
| | 2 | Understand the | Introduction to Software | In person | 1-Questions and | | |
| | | to apply them | Engineering | | answers, 2- Quiz, Homework | | |
| | | to apply mem | | | assignments | | |
| 2 | 2 | | Software Process | | ======================================= | | |
| | | | | | | | |

| 3 | 2 | | Types of requirements | | | |
|----------|--------------------|----------------------------------|---|--|--|--|
| | | | (User & System) | | | |
| 4 | 2 | | Requirements | | | |
| | | | engineering process | | | |
| 5 | 2 | | Functional & Non- | | | |
| | | | Functional | | | |
| | | | Requirements | | | |
| 6 | 2 | | Software Development | | | |
| | | | -Process Models | | | |
| 7 | 2 | | The Waterfall Model | | | |
| 8 | 2 | | V-shaped model | | | |
| 9 | 2 | | Evolutionary | | | |
| | 2 | | Development Model | | | |
| 10 | 2 | | Incremental Model | | | |
| 10 | 2 | | lifecycle | | | |
| 11 | 2 | | Spiral Model life cycle | | | |
| 11 | 2 | | Software Analysis & | | | |
| 12 | 2 | | Design Date Flow | | | |
| | | | Diagram | | | |
| 12 | 2 | | Software Testing | | | |
| 13 | 2 | | | | | |
| 14 | 2 | | Team- work | | | |
| 15 | 2 | | Presentation-1 | | | |
| 15 | 2 | | Presentation II | | | |
| 11 C | Presentation- II | | | | | |
| | | $\frac{1100101}{50(5)}$ | | | | |
| Quizze | is . monta C | $5 \qquad 5^{70}(3) \\ 1004(10)$ | | | | |
| Drojoot | | 2 10% (10 10% (10 | | | | |
| Doport | .5] | 1 10% (10) 1 5% (5) |) | | | |
| Midtor | m Evom | 1 5%(5) | (20) | | | |
| Final F | III LAaiii Ivom | 2111 2 3hr 5 | (0% (20)) | | | |
| | oorning | nd Toophing P | | | | |
| Doquir | earning a | | esources | | | |
| (curricu | cu ular book | (if any) | | | | |
| Main r | afaranca | (sources) | 1 Software Engineering 10th Edition by Ian Sommerville 2016 | | | |
| Wiain I | elelences | s (sources) | 2 Software Engineering: A Practitionar's Approach 8th Edition | | | |
| | | | by Poger S. Pressman, Bruce Maxim, 2015 | | | |
| | | | 3 Introduction to Software Engineering 2nd Edition by Ronald I | | | |
| | | | Jeach 2016 | | | |
| Recom | mended | books and | | | | |
| referen | Ces | (scientific | | | | |
| iournal | e renort | | | | | |
| Flootro | s, report | Deferences | 1 https://www.tutorialspoint.com/software_ongineering/index.htm | | | |
| Wobsit | | References, | 1- <u>https://www.tutoriaispoint.com/software_engineering/index.htm</u> | | | |
| websit | .69 | | 2 https://www.geeksforgeeks.org/software.org/noring | | | |
| | | | 2- <u>intps://www.geeksioigeeks.org/software-engineering</u> | | | |
| | | | mitoduction-to-software-engineering | | | |
| 1 | | | | | | |

Web organization Course Description

| · · · · · · · · · · · · · · · · · · · | | | | | | | |
|---------------------------------------|--|--|--|--|--|--|--|
| 1. Cou | rse Name: | | | | | | |
| Wet | organization | | | | | | |
| 2. Cou | rse Code: | | | | | | |
| | 24023 | | | | | | |
| 3. Sem | ester / Year: | | | | | | |
| | emester/ 3 Grade/ Academic Year 2023 - 1112 | | | | | | |
| 4. Desc | | | | | | | |
| $5 \Delta v_{2}$ | -2024 ilable Attendance Forms: | | | | | | |
| J. Ava | ndance: theoretical + practical | | | | | | |
| 6 Nun | aber of Credit Hours (Total) / Number of Units (Total) | | | | | | |
| <u> </u> | urs per week / 2 units | | | | | | |
| 7 Con | rse administrator's name (mention all if more than one name) | | | | | | |
| 1- | Name: Assistant Professor Dr. Ammar I Shihab | | | | | | |
| | Email: ammar.i@sc.uobaghdad.edu.ig | | | | | | |
| 2- 1 | Name: Lecturer Mustafa Salman | | | | | | |
|] | Email: mustafa.abd@sc.uobaghdad.edu.iq | | | | | | |
| 8. Cou | rse Objectives | | | | | | |
| Course | 1. Providing an easy-to-use user interface and an excellent user experience for users. | | | | | | |
| Objectives | 2. Improving the user experience through increasing speed of loading and | | | | | | |
| | responsiveness, and ensuring a responsive design that is suitable for all devices. | | | | | | |
| | 3. Organizing website content and making it easy to access and search. | | | | | | |
| | 4 Increasing website traffic and improving search angine rankings (SEO) | | | | | | |
| | 5. Improving quality and efficiency through applying best design practices and | | | | | | |
| | 5. Improving quarty and efficiency unough apprying best design practices and | | | | | | |
| | 6 Enhancing personal or business branding through the website and improve | | | | | | |
| | 6. Enhancing personal or business branding through the website, and improv | | | | | | |
| 1 Teachin | g and Learning Strategies | | | | | | |
| 1. I Cacilli Strategy | The main strategy that will be adopted in delivering this module are: | | | | | | |
| Strategy | 1 Power point presentation (Data show) | | | | | | |
| | 2. videos, is posted online and available so that students can read or listen to it | | | | | | |
| | whenever and as many times it is desired or needed | | | | | | |
| | 3. Lecture Document: i.e., a PDF file containing between 25 and 40 PowerPoint slides, | | | | | | |
| | with pointers to required or recommended textbooks, posted online | | | | | | |
| | 4. Lecture Video: i.e., one or more video recordings of an explanation of the lecture | | | | | | |
| | slides, posted together with the lecture document | | | | | | |
| | 5. Explanation on the white board using different color markers. | | | | | | |
| | 3. Discussions with the students through doily problems constinue through history | | | | | | |
| | 4. Interaction with students through daily problems practice through lecture. | | | | | | |
| | 5. Solve different problems with more exercises. | | | | | | |
| | o. Use tool kits in LADS to design simple cryptosystem in addition to simulator | | | | | | |
| | 7 Prepare reports that develop cryptography thinking for students | | | | | | |
| | 8. Submit assignment that develop student learning. | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

| 2. Cours | se Structure | | | | |
|----------|--------------|--------------------------|-------------------|-------------|-------------------|
| Week | Hours | Required Learning | Unit or subject | Learning | Evaluation |
| | | Outcomes | name | method | method |
| 1 | 3 hours/ | Chapter 1: Web | | Theoretical | Theoretical |
| | In weeks | Basics and | | and | exams + practical |
| | | Overview, What is | | practical | assessment + |
| | | the Internet, The | T (1 () | lectures | practical exams |
| | | World Wide Web, | Introduction to | | 1 |
| | | web Environment. | web concepts. | | |
| | | How does the | | | |
| | | Browser Fetch the | | | |
| | | Pages, What is an | | | |
| | | HTML File, | | | |
| | | Website styles | | | |
| 2 | 3 hours/ | Web Design, Site | | Theoretical | Theoretical |
| _ | In weeks | Planning. Site | | and | exams + practical |
| | | Goals and | | practical | assessment + |
| | | Guidelines. | Understanding | lectures | practical exams |
| | | Audience | web design | | r |
| | | Analysis, Analyze | | | |
| | | the "Competition". | | | |
| | | Know Resources | | | |
| | | & Abilities. | | | |
| 3 | 3 hours/ | | the site, Web | Theoretical | Theoretical |
| | In weeks | Site Map, | hosting, Domain | and | exams + practical |
| | | Storyboards, | name, publishing, | practical | assessment + |
| | | Design (or | Testing. | lectures | practical exams |
| | | redesign) | Marinating, | | 1 |
| | | 87 | Promotion | | |
| 4 | 3 hours/ | Search Engine, | Conceptual of | Theoretical | Theoretical |
| | In weeks | Robots and | SEO | and | exams + |
| | | Spiders and | | practical | practical |
| | | Crawlers, | | lectures | assessment + |
| | | Directories, Meta | | | practical exams |
| | | Tags, Defined, | | | |
| | | Description, | | | |
| | | Keywords. | | | |
| 5 | 3 hours/ | Chapter2:The | Topics in Web | Theoretical | Theoretical |
| | In weeks | Basic, Links, and | Design | and | exams + |
| | | Images, | - | practical | practical |
| | | HTML/XHTML, | | lectures | assessment + |
| | | CSS (Cascading | | | practical exams |
| | | Style Sheets), | | | |
| | | JavaScript/DOM | | | |
| | | scripting, Server- | | | |
| | | side programming, | | | |
| | | XML, Java, Ajax | | | |
| 6 | 3 hours/ | Site Types, Web | How the Web | Theoretical | Theoretical |
| | In weeks | Page Addresses | Works, Coping | and | exams + |
| | | (URLs), Default | with various | practical | practical |
| | | files | browser versions. | lectures | assessment + |

| | | | type of Link's | | practical exams |
|----|----------------------|--|---|---|--|
| | | | URL, Linking Within Your Own | | practical exams |
| 7 | 3 hours/ | | Site, Tables Forms and | Theoretical | Theoretical |
| | In weeks | Chapter 3 : Topics in Web Design: | the Standards, Advanced Table Elements, How Forms Work, From Data Entry to Response, The Action Attribute, The Method Attribute | and practical lectures | exams + practical assessment + practical exams |
| 8 | 3 hours/ In weeks | The POST method, The GET method, The Standards, HTML5. Character Encoding | Understanding new portal work | Theoretical and practical lectures | Theoretical exams + practical assessment + practical exams |
| 9 | 3 hours/ In weeks | Exam#1(Chapters 1, 2 & 3) | Exam mid1 | Theoretical and practical lectures | Theoretical exams + practical assessment + practical exams |
| 10 | 3 hours/ In weeks | Chapter 4 :CSS for Presentation, Cascading Style Sheets Orientation, Benefits of CSS, How CSS Work, CSS rules, CSS Providing Values | , How CSS Work, CSS rules, CSS Providing Values | Theoretical and practical lectures | Theoretical exams + practical assessment + practical exams |
| 11 | 3 hours/ In weeks | Attaching the styles to the document | CSS Concepts, Conflicting styles: the cascade | Theoretical and practical lectures | Theoretical exams + practical assessment + practical exams |
| 12 | 3 hours/ In weeks | Chapter 5: type of webpages and Data environment | Fixed pages, elastic pages, Liquid pages | Theoretical and practical lectures | Theoretical exams + practical assessment + practical exams |
| 13 | 4 hours/ In weeks | Chapter 6 : information architecture | Information architecture , web Usability, web categories etc | Theoretical and practical lectures | Theoretical exams + practical assessment + practical exams |
| 14 | 4 hours/ In weeks | CSS rules Specificity, | Rule order, Assigning Importance, box, | Theoretical and practical | Theoretical exams + practical |

| | | | and table model | lectures | assessment + practical exams | |
|---------------------------------|------------------------|---|------------------------------|---|--|--|
| 15 | 4 hours/ In weeks | Final Exam | Final Exam | Theoretical and practical lectures | Theoretical exams + practical assessment + practical exams | |
| 3. Cours | se Evaluatio | on | | | | |
| Conducting | g daily, m | onthly exams and da | ily evaluation in add | dition to the p | ractical part in the | |
| laboratory. | The pursuit | it grade is 40% and the | e final exam grade is 6 | 50%. | | |
| 4. Learn | ing and Te | aching Resources | | | | |
| Required (curricular any) | textbooks books, if | Sklar, Joel. <i>Principles of web design: the web technologies series</i> . Cengage Learning, 2011. | | | | |
| Main 1 | references | Beaird, Jason, Alex Walker, and James George. The principles of beautiful y | | | | |
| (sources) | | design. Sitepoint, 2020 | | | | |
| Recommen | nded | | | | | |
| books | and | | | | | |
| references | | Various research wo | rks in internet | | | |
| (scientific | journals, | | | | | |
| Electronic | | https://books.coog | la ja/hooke?hl-on er! | - & d-logIAAA | AOPAI & i-frd & | |
| References | | Intps://books.goog | | | AQDAJ&01-IIIu& | |
| Websites | , | pg=PR5&dq=web- | +design+principles&c | bts=05f68YTSkt | z&sig=9cQxWgfw | |
| | | uCe0_KdfoaQrWo | <u>YSvdw&redir_esc=y</u> | /#v=onepage&q | =web%20design% | |
| | | 20principles&f=fa | lse | | | |
| | | | | | | |
| | | | | | | |

Digital Image Processing Course Description

| 1 Course Normer |
|--|
| 1. Course Maine: |
| Digital Image Processing |
| 2. Course Code: |
| CUE31055 |
| 3. Semester / Year: |
| 2 nd Semester/ 3 nd Grade/ Academic Year 2023 - ۲۰۲۶ |
| 4. Description Preparation Date: |
| 22/March/2024 |
| 5. Available Attendance Forms: |
| Morning and Evening attendance |
| 6. Number of Credit Hours (Total) / Number of Units (Total) |
| 4 hours (2 Theoretical / 2 Practical) / 3 Units |
| 7. Course administrator's name (mention all, if more than one name) |
| Name: Mohammed Sabih |
| Email: <u>mohammed.s@sc.uobaghdad.edu.iq</u> |
| Name: Rafal Ali |
| Email: <u>Rafal.a@sc.uobaghdad.edu.iq</u> |
| 8. Course Objectives |
| 1. Enable students to define the scope of the field called digital image processing. |
| 2. Knowledge of image processing in its space domain and in the frequency domain. |
| 3. Discussing the methods used in this field, as well as knowing the basics of the digital image |
| in terms of its composition, the processes of converting it into a digital image, and processing |
| color and non-color digital images. |
| 4. Using computer programming in the laboratory to clarify and achieve the above-mentioned |
| goals using programming languages. |
| 5. Discussing the basics of digital image compression and the algorithms used in this field. |
| 6. Building applied projects that employ digital images for community service purposes. |
| 9. Teaching and Learning Strategies |
| 1. Explaining the scientific material to students in detail, having students participate in |
| solving mathematical problems, and using the blackboard to explain and solve examples. |
| 2. Use Power Point presentation programs in the classroom when giving lectures. |
| 3. Discussion and dialogue about vocabulary related to the topic |
| 4. Using computer programming in the laboratory for practical application using the C# |
| environment. |
| 5. Use the electronic platform Google Classroom to provide students with lectures. |
| |
| |
| |

| 10. | 10. Course Structure | | | | |
|------|---|---|--------------------|----------------------|--|
| Week | Hours (Theoretical and Practical) | Unit or subject name | Learning method | Evaluation method | |
| 1 | 4 | Imaging system Source of Images Image Digitization (Quantization and Sampling) | Data Show | Quiz | |
| 2 | 4 | Basic Operation on Digital image Basics of Digital image Image representation Types and Format of digital image | Data Show | Quiz | |
| 3 | 4 | Relationship between pixelsTypes of operation | Data Show | Quiz | |
| 4 | 4 | Mathematical operation on Digital image Array and matrix operation Linear and Nonlinear Arithmetic and Logic operations Convolution | Data Show | Quiz | |
| 5 | 4 - Image Histogram - Histogram Modification - Equalization - Global Features | | Data Show | Quiz | |
| 6 | 4 | - Frequency domain and filters | Data Show | Quiz | |
| 7 | 4 | - Enhance brightness of digital image | Data Show | Quiz | |
| 8 | 4 | Digital image enhancement Spatial Filters (Mean and Weighted Mean Filter) | Data Show | Quiz | |
| 9 | 4 | Digital image enhancement Spatial Filters (Min, Max and Median Filter) | Data Show | Quiz | |
| 10 | 4 | Edge DetectionPrewitt, Sobel and Laplace Filter | Data Show | Quiz | |
| 11 | 4 | Discrete Fourier Transform (DFT) and Low Pass Filter Convert image to frequency domain | Data Show | Quiz | |
| 12 | 4 | Image compressionDiscrete Wavelets Transform (DWT) | Data Show | Quiz | |

11. Course Evaluation

60% (50% on the written final exam, 10% on the final lab exam), 40% on the course (5% on the attendance, 15% on the monthly exam, 5% on the quizzes, 15% on the lab.

| 12. Learning and Teaching Resources | |
|---|---|
| Required textbooks (curricular books, if any) | Rafael C. Gonzalez, Richard E. Wood. Digital |
| | image processing 4th edition 2018. Pearson |
| | Education. Inc. Pearson, Prentice Hall. |
| Main references (sources) | Digital Image Processing and Analysis, 2 nd edit |

| | | by Scott E Umbaugh, 2010. |
|---------------------------------|--|---|
| Recommended books and refer | rences | Wilhelm Burger, Principles of Digital Image |
| (scientific journals, reports) | Processing: Fundamental Techniques, 2009th | |
| | | Edition. |
| Electronic References, Websites | | https://sisu.ut.ee/imageprocessing/book/1 |

Cryptography Course Description

| 1. | Course Name: | | | | | | | | | | | |
|------------|--|--|------------------------|----------------------------|-----------------|-----------------|--|--|--|--|--|--|
| | Cryptography | | | | | | | | | | | |
| 2. | Course Code: | | | | | | | | | | | |
| | | | | | | | | | | | | |
| 3. | Semeste | Semester / Year: | | | | | | | | | | |
| | 2 nd Sem | nd Semester/ 3 rd Grade/ Academic Year 2023 - ۲ • ۲ ٤ | | | | | | | | | | |
| 4. | Description Preparation Date: | | | | | | | | | | | |
| | March/ 21/ 2024 | | | | | | | | | | | |
| 5. | Availab | vailable Attendance Forms: | | | | | | | | | | |
| | Mandat | ndatory | | | | | | | | | | |
| 6. | Number | Sumber of Credit Hours (Total) / Number of Units (Total) | | | | | | | | | | |
| | 60/3 | | | | | | | | | | | |
| 7. | Course | Course administrator's name (mention all if more than one name) | | | | | | | | | | |
| | Name: Dr. Sarab M. Hameed Email: sarab.m@sc.uobaghdad.edu.ig | | | | | | | | | | | |
| | Name: Mustafa Basim Mahmood Email: mostafa.bassem@sc.uobaghdad.edu.ig | | | | | | | | | | | |
| 8. | Course Objectives | | | | | | | | | | | |
| 1. | Understand the basic concepts, history, and importance of cryptography in modern | | | | | | | | | | | |
| | computing and communication systems. | | | | | | | | | | | |
| 2. | Understand different encryption algorithms, characteristics, operations, and applications. | | | | | | | | | | | |
| 3. | Student | Students will learn a strong understanding of the mathematical principles underlying | | | | | | | | | | |
| | cryptog | raphy. | U | C | 1 1 | | | | | | | |
| 4. | Explore | the math | ematical principles u | inderlying cryptography, | including nur | nber theory and | | | | | | |
| | algebrai | ic structur | ces. | | | - | | | | | | |
| 5. | Learn about classical cryptographic techniques such as substitution ciphers, transposition | | | | | | | | | | | |
| | ciphers, and their vulnerabilities. | | | | | | | | | | | |
| 6. | Study modern cryptographic primitives including symmetric cryptography, public key | | | | | | | | | | | |
| | cryptography, and cryptographic hash functions. | | | | | | | | | | | |
| 7. | Explore different cryptographic tools and how to use these tools effectively. | | | | | | | | | | | |
| 9. | Teaching and Learning Strategies | | | | | | | | | | | |
| 1. | Delivering lectures to introduce and explain essential concepts, principles, and theories | | | | | | | | | | | |
| | related t | to cryptog | graphy. This helps stu | idents build a strong four | idation of know | wledge. | | | | | | |
| 2. | Giving | hands-on | programming exerc | cises helps them to app | oly the learned | d concepts and | | | | | | |
| | implem | ent crypto | ographic algorithms. | | | | | | | | | |
| 3. | 3. Conducting problem-solving sessions, both in class and through assignments to both in class | | | | | | | | | | | |
| | and through assignments to allow students to apply cryptographic algorithms | | | | | | | | | | | |
| 4. | 4. Encouraging group projects and activities among students. This promotes teamwork and | | | | | | | | | | | |
| 5 | ennances understanding. | | | | | | | | | | | |
|). 10 C | 5. Regular evaluations and examinations help gauge students' understanding and progress. | | | | | | | | | | | |
| Woolz | Jourse St | Hours | Required | Unit or subject | Learning | Evaluation | | | | | | |
| WEEK | | 110015 | Loorning | name | mothod | mothod | | | | | | |
| | | | Outcomes | name | memou | memou | | | | | | |
| 1-2 | | ٤ | Understand the | Introduction to | Data show | Daily ouiz | | | | | | |
| _ | | | importance of | cryptography, types | White | , , , , | | | | | | |
| | | | cryptography. | of cryptography | Board | | | | | | | |
| | | | goals, and types. | Jr - Or-J | | | | | | | | |
| ۳-4 | | 4 | Learn about | Classical | Data show | Daily guiz | | | | | | |
| | | | classical | cryptography | White | ~ 1 | | | | | | |
| | | | cryptographic | Including | Board | | | | | | | |
| L | | | | | 1 | | | | | | | |

| | | techniques such as substitution, and transposition ciphers, and their vulnerabilities. | substitution and transposition ciphers | | |
|--|--|---|---|-----------------------------|------------|
| 5 | 2 | Understand the mathematical principles underlying cryptography. | Some notions of number theory | Data show White Board | Daily quiz |
| 6 | 2 | | Exam | | |
| 7-9 | 6 | Learn modern cryptographic primitives including symmetric key cryptography such as DES, 3 DES, and AES | Modern symmetric cipher | Data show White Board | Daily quiz |
| 10-12 | 6 | Learn modern public key cryptography such as RSA, Diffie Hellman | Asymmetric cipher and its applications | Data show White Board | Daily quiz |
| 13-14 | 4 | Understand what cryptographic hash functions and their applications | Cryptographic hash function | Data show White Board | Daily quiz |
| 15 | 2 | | Exam | | |
| 11. Course | Evaluation | n | | | |
| Daily prepar | ation 5%, | Daily Quiz 5%, Month | ly exam 20%, Assignme | ent 10%, Final | exams 60% |
| 12. Learnir | ng and Tea | ching Resources | | , | |
| Required tex | tbooks (cu | rricular books, if any) | | | |
| Main referen | ices (sourc | es) | | | |
| 1. Willi | am Stallir | ngs. Cryptography and | d Network Security | | |
| Princ | iples and l | Practice, eighth Edition | n, Pearson, 2023. | | |
| 2. Bruc | e Schneier | r, Applied Cryptograp | hy, Second Edition: | | |
| Proto | cols, Algo | orithms, and Source Co | ode in C, John Wiley | | |
| & So | ns, Inc. | 1 17: 01 ··· | Cratate C | | |
| 3. Dan Appl | Bonen ar ied Crypto | graphy, 2023. | Graduate Course in | | |
| Electronic R https://crypto https://docs.n cryptography | eferences, p.stanford. microsoft.c | Websites edu/~dabo/courses/On com/en-us/windows/wi | lineCrypto/ in32/seccrypto/about- | | |
| <u>nttps://www</u> | .tutorialspo | oint.com/cryptography/ | /index.htm | | |
Relational database Course Description

| 1. Course Name: |
|---|
| Relational database |
| 2. Course Code: |
| |
| 3. Semester / Year: 2/3 |
| 2 nd Semester/ 3 rd Grade/ Academic Year 2023 - Y • Y £ |
| 4. Description Preparation Date: |
| 3/2024 |
| 5. Available Attendance Forms: |
| Attendance time |
| 6. Number of Credit Hours (Total) / Number of Units (Total) |
| 45/2 |
| 7 Course administrator's name (mention all, if more than one name) |

7. Course administrator's name (mention all, if more than Name: Mehdi G. Duaimi Email: mehdi.k@sc.uobaghdad.edu.iq

8. Course Objectives

In this course, the student is expected to learn how to create databases efficiently, as well as learn database programming languages and understand their basic structure. The student gains a deep understanding of the design and development of database systems based on foundations, standards and practical applications. The course is also interested in addressing recent trends in the field of databases, such as relational databases and databases that rely on multi-object programming.

9. Teaching and Learning Strategies

Thinking strategy according to the student's ability. High thinking skill strategy. Critical thinking strategy in learning. Brainstorming. Creative thinking.

10. Course Structure

| Wee | Hou | Required | Unit or subject | Learning | Evaluation method |
|-----|-----|--|---|-------------------------------------|--|
| Ъ. | Irs | Learning | name | method | |
| | | Outcomes | | | |
| 1 | ٣ | Understand the foundational principles and methodologies of database design. | Database Design Theory and Methodology | Lectures Reports and studies | Exams (various types) Student feedback. |
| 2 | ٣ | Learn how to design and implement relational databases effectively. | Relational Database Design & Implementation | Lectures Workshops | Exams (various types). Assessment of reports and studies |
| 3 | ٣ | Comprehend the concept of functional dependencies in database design. | Functional Dependencies | Lectures. | Exams (various types) |
| 4 | ٣ | Learn rules to derive additional functional dependencies from existing ones. | Inference Rules for Functional Dependencies | Lectures Group work Workshops | Exams (various types. Student feedback. Learning matrix. Assessment of reports and studies |
| 5 | ٣ | Understand the | Normalization; | Lectures | Exams (various types). |

| | | normalization process to organize data | Defining Forms: | g Normal | Group work Workshops | Student feedback. Learning matrix | | |
|--|---|--|--|-----------------|--|---|------------------------|--|
| 6 | ٣ | efficiently. Define basic and further normal forms for structured data. | Basic and Further Normal forms | | Lectures | Exams (various types). | | |
| 7 | ٣ | Explore techniques for improving the quality and efficiency of database schemas. | Schema Refinement in Database Design | | Lectures Group work Workshops | Exams (various types). Student feedback. | | |
| 8 | ٣ | Learn the stages of developing a database application system from conception to implementation. | The Database Application System Life Cycle | | Lectures. Group work | Exams (various types). Learning matrix | | |
| 9 | ٣ | Understand the process of designing the database schema; Explore transaction design for data consistency. | Schema and Transaction Design | | Lectures. Group work Reports and studies | Exams (various types). Student feedback. Assessment of reports and studies | | |
| 10 | ٣ | Learn how to manage transactions and control concurrency in a multi-user database environment. | Transaction management and concurrency control | | Transaction management and concurrency control | | Lectures. Workshops | Exams (various types). Student feedback |
| 11 | ٣ | Optimize database performance by tuning its design and configurations. | Database Tuning; Tuning the Database Design | | Lectures. Reports studies | Exams (various types) Student feedback Learning matrix | | |
| 12 | ٣ | Explore techniques for enhancing the overall performance of a database system. | Database Performance Optimization | | Lectures. Group work. workshops | Exams (various types). Student feedback | | |
| 13 | ٣ | Understand strategies and mechanisms for database recovery in case of failures. | Databa | se Recovery | Lectures. Reports studies | Exams (various types) Assessment of reports and studies | | |
| 14 | ٣ | Explore advanced database design concepts beyond the basics. | Extende Design | d Database | Lectures. Workshops | Exams (various types) Student feedback Learning matrix | | |
| 15 | ٣ | Review and consolidate knowledge of the covered topics. | Review topics | for the above | Lectures. | Exams (various types). Student feedback | | |
| 11 | . C | ourse Evaluation | | | | | | |
| Quizz | es 5, | Assignments 5, Lab. 10, | Projects : | 5, Midterm Exam | a 25, Final Exam 50 | | | |
| 12 | . L | earning and Teac | hing R | esources | | | | |
| Requ book | Required textbooks books, if any)(curricular (curricular Raghu Ramakrishnan, Johannes Gehrke, "Database Management Systems", 4th Edition, McGraw Hill, 2018. S. Sumathi, S. Esakkirajan, "Fundamentals of Relational D Management Systems", 4th Edition, McGraw Hill, 2018. | | | | | | | |
| Main references (sources) Substitution Main references (sources) Main references (sources) Substitution Main references (sources) Substitution Main references (sources) Substitution Main references (sources) Main references (sources) Substitution Main references (sources) Substitution Main references (sources) Main references (sources) Main references (sources) Substitution Main references (sources) Main references (sources) Substitution Main references (sources) Substitution Main references (sources) Main references (sources) Main references (sources) Substitution Main references (sources) Main references (sources) Substitution Main references (sources) Subst | | | | | | Database processing: ntation."—Edition 15, 018. ps: Illustrated using Access ited (2019). | | |

| Recommended books and references (scientific journals, reports) | https://www.inderscience.com/jhome.php?jcode=ijiids https://dl.acm.org/journal/tods |
|---|--|
| Electronic References, Websites | https://www.inderscience.com/jhome.php?jcode=ijiids https://www.sciencedirect.com/topics/immunology-and- microbiology/database-management-system |

Computer Networks Course Description

| | | _ | _ | | | | | | |
|-----------------|--|------------------------|---|----------------|------------|--|--|--|--|
| 1. Course Name: | | | | | | | | | |
| Co | Computer Networks | | | | | | | | |
| 2. Cou | 2. Course Code: | | | | | | | | |
| | | | | | | | | | |
| 3. Sen | 3. Semester / Year: | | | | | | | | |
| 2 nd | 2 nd Semester/ 3 rd Grade/ Academic Year 2023 - ۲۰۲٤ | | | | | | | | |
| 4. Des | 4. Description Preparation Date: | | | | | | | | |
| Ma | March/ 21/ 2024 | | | | | | | | |
| 5. Ava | 5. Available Attendance Forms: | | | | | | | | |
| | | | | | | | | | |
| 6. Nu | mber of Cree | dit Hours (To | tal) / Number of Units (Total) | | | | | | |
| | | | | | | | | | |
| 7. Cou | irse adminis | trator's name | (mention all, if more than one name) | | | | | | |
| Nai | ne: Asst. Pr | of. Dr. Husan | n Ali | | | | | | |
| Em | ail: <u>husam.a</u> | <u>@sc.uobaghd</u> | ad.edu.1q | | | | | | |
| | ne: Suhad F | aisal | ad advia | | | | | | |
| Em | all: <u>sunad.f@</u> | <u>esc.uobaghda</u> | | | | | | | |
| 8. Col | irse Objectiv | ves | 1 ~ | 1 | | | | | |
| • Working | g with netwo | orks often inv | olves teamwork and collaboration. St | udents should | l enhance | | | | |
| their con | nmunicatio | n skills and le | arn to collaborate effectively with pee | ers in network | t design, | | | | |
| Impleme | entation, and | 1 troubleshoot | ing scenarios. | | 1 41 1 1 | | | | |
| • Inrough | n nands-on l | labs, projects, | , and case studies, students should d | evelop critica | u thinking | | | | |
| and and | nition and n | is necessary | to evaluate network arcmitectures, | identity op | umization | | | | |
| | obing and I | lake momet | | | | | | | |
| 9. Tea | loining the c | value of the state | egies | | | | | | |
| 1. Exp | laning the s | ination in solu | ving programming problems | | | | | | |
| 2Stut | le about voc | abulary relate | ad to the tonic Discussion and dia | | | | | | |
| 4 Use | the electron | ic classroom | (Google Classroom) to upload lectur | es in the form | n of PDF | | | | |
| files (in | short form |), where their | r details are explained in the lecture | with many | examples | | | | |
| .ion wi | th students. | and answers t | o their inquiriessolved on the blackbo | ard. discuss | examples | | | | |
| 5. The | electronic cl | lassroom is al | so used to give homework assignmer | its and uploa | d answers | | | | |
| within | he electron | ic classroom. | The classroom is also used to anne | ounce exam | dates and | | | | |
| .grades | etc | | | - | | | | | |
| 10. Cours | se Structure | | | | | | | | |
| Week | Hours | Required | Unit or subject name | Learning | Evaluat | | | | |
| | | Learning | | method | ion | | | | |
| | | Outcomes | | | method | | | | |
| 1 | 1 | | Network Components | Data | quiz | | | | |
| | | | | show | | | | | |
| 2 | 1 | | Network Representations and | Data | quiz | | | | |
| | | Topologies show | | | | | | | |
| 3 | 1 | | Common Types of Networks | Data | quiz | | | | |
| | | | | show | | | | | |
| 4 | 1 | | Internet Connections | Data | quiz | | | | |
| | | | | show | | | | | |
| 5 | 1 | | Reliable Networks | Data | quiz | | | | |
| | | | | show | | | | | |

| | | I | | | | 1 |
|---------------|--------------|------------------|---------------------------------|--|--------------|-------------|
| 6 | 1 | ľ | Network Tre | nds | Data | quiz |
| | | | | | show | |
| 7 | 1 | Ν | Network Secu | ırity | Data | quiz |
| | | | | | show | |
| 8 | 1 |] | The IT Profes | ssional | Data | quiz |
| | | | | | show | |
| 9 | 1 | ŀ | Basic Switch | and End Device | Data | quiz |
| | | (| Configuration | n | show | |
| | | | _ | | | |
| 10 | 1 | i | sco IOS Acce | essC | Data | quiz |
| | | | | | show | _ |
| 11 | 1 | Ι | OS Navigatio | n | Data | quiz |
| | | | C | | show | - |
| 12 | 1 |] | The Comman | d Structure | Data | quiz |
| | | | | | show | - |
| 11. Course | e Evaluation | 1 | | | | • |
| 60% (50% (| on the writt | en final exam, 1 | 10% on the fi | nal lab exam), 40% or | the course (| 5% on the |
| attendance, | 15% on the | monthly exam. | 5% on the qu | uizzes, 15% on the lab | ` . | |
| 12. Learni | ng and Tea | ching Resource | s I | , | | |
| Required tex | xtbooks (cu | rricular books, | if any) | | | |
| Main refere | nces (sourc | es) | , | 1. Cisco Network | ting Acad | lemv 20 |
| | | | | https://www.netacad | .com/courses | /networking |
| | | | | cna-introduction-netv | works. | 2 |
| | | | | 2. Computer networking a top down appr | | |
| | | | | 5th edition. Kurose. | Ross. | TT - |
| | | | 3. Data Communica | tions and N | etworking | |
| | | | Behrouz A.Forouzan 5th edition. | | | |
| | | | 4. CISCO websites. I | References. | | |
| Recommend | ded books | and references | s (scientific | | | |
| journals, rer | oorts) | | Mastering Compute | er Networkir | ng: | |
| | . / | | G I I I I I I I I I I | | 5 | |
| | | | Essential Technique | es Kindle Ed | ition | |
| Electronic F | References, | Websites | | - | | |

Operating System I Course Description

| 1. | Course Name: | | | | | | | | | |
|-------------------------|---|--|--|--|--|--|--|--|--|--|
| | Operating System I | | | | | | | | | |
| 2. | Course Code: | | | | | | | | | |
| | | | | | | | | | | |
| 3. | Semester / Year: | | | | | | | | | |
| | 2 nd Semester/ 3 rd Grade/ Academic Year 2023 - 7 • 7 5 | | | | | | | | | |
| 4. | Description Preparation Date: | | | | | | | | | |
| | 22\3\2024 | | | | | | | | | |
| 5. | 5. Available Attendance Forms: | | | | | | | | | |
| | Mandatory attendance | | | | | | | | | |
| 6 | Number of Credit Hours (Total) / Number of Units (Total) | | | | | | | | | |
| 0. | 30 hours (2 units) | | | | | | | | | |
| 7 | Course administrator's name (montion all if more than one name) | | | | | | | | | |
| 1. | Nome: Dr. Node, A.Z. Abdullah | | | | | | | | | |
| | Name:Dr. Nada A.Z. Abdullan | | | | | | | | | |
| | Email: <u>nada.abdullan@sc.uobagndad.edu.iq</u> | | | | | | | | | |
| | Name: Dr. Mariam A. Yasir | | | | | | | | | |
| | Email: <u>Maryam.a@sc.uobgndad.edu.iq</u> | | | | | | | | | |
| 8. | Course Objectives | | | | | | | | | |
| | | | | | | | | | | |
| Rec | ognize the importance of the operating systems. | | | | | | | | | |
| Rec | ognize how the applications interact with the operating system as the later working as | | | | | | | | | |
| inte | rmediary program between the machine and the application. | | | | | | | | | |
| • Kn | ow how the operating systems transport the application requests to the hardware. | | | | | | | | | |
| Unc | lerstand how operating systems managing resources such as processors, memory and I/O. | | | | | | | | | |
| • Rea | lize the efficiency or the deficiency of the different techniques used by some operating | | | | | | | | | |
| syst | ems. | | | | | | | | | |
| ~) ~ . | | | | | | | | | | |
| 9 | Teaching and Learning Strategies | | | | | | | | | |
| Strate | gy 1 Attend Lectures: Regularly attend lectures to grash the foundational concepts | | | | | | | | | |
| Suat | and understand the material presented by the instructor | | | | | | | | | |
| | 2 Take Detailed Notes: Take thorough and organized notes during lectures to aid | | | | | | | | | |
| | in comprehension and review later | | | | | | | | | |
| | 3 Read the Teythook: Read the recommended teythook to gain additional | | | | | | | | | |
| | insights explorations and examples related to operating systems | | | | | | | | | |
| | 4. Engage in Discussions: Derticinete in class discussions, group study sessions | | | | | | | | | |
| | 4. Engage in Discussions. Faiticipate in class discussions, group study sessions, | | | | | | | | | |
| | 5. Complete Assignments and Prejector Activaly argane in practical activation | | | | | | | | | |
| | 5. Complete Assignments and Projects: Actively engage in practical assignments | | | | | | | | | |
| | and projects to apply theoretical concepts and enhance student hands-on skills. | | | | | | | | | |
| | o. Practice with Sample Problems: Solve sample problems and practice exercises | | | | | | | | | |
| | provided by the instructor or in the textbook to reinforce student understanding. | | | | | | | | | |
| | /. Utilize Online Resources: Make use of online tutorials, educational websites, | | | | | | | | | |
| | and video lectures to supplement student learning and explore different | | | | | | | | | |
| | perspectives on the topics. | | | | | | | | | |
| | 8. Create Concept Maps or Diagrams: Visualize complex concepts by creating | | | | | | | | | |
| | concept maps or diagrams to establish connections and enhance understanding. | | | | | | | | | |
| | 9. Form Study Groups: Collaborate with classmates to discuss challenging top | | | | | | | | | |
| | solve problems collectively, and share different perspectives | | | | | | | | | |
| 10. 0 | Course Structure | | | | | | | | | |
| | | | | | | | | | | |

| Week | Hours | Required Learning | Unit or subject | Learning | Evaluation |
|------|---------------|--------------------------|----------------------|---------------|------------|
| | | Outcomes | name | method | method |
| | 2 | Understanding OS | Operating System | White | Oral exam |
|) | | Overview | Overview | board+ Data | |
| | | O VEL VIEW | 0 ver view | show | |
| | 2 | Remember the | Computer system | White | Oral exam |
| ۲ | | Computer system | components | board+ Data | |
| | _ | components | components | show | |
| ٣ | 2 | Understand the | Interrupts | White board+ | Oral exam |
| | 2 | Interrupts | | Data show | |
| ٤ | 2 | Know the different ty | Input output devices | White board+ | Oral exam |
| | 2 | of Input output device | | Data show | |
| 0 | 2 | Exam1 | Exam1 | | |
| ٦ | 2 | Understand Process | Process | White board+ | Oral exam |
| | | Onderstand 1 10eess | 1100035 | Data show | |
| | 2 | How the Process | | White board+ | Oral exam |
| v | | creation and | Process creation and | Data show | |
| | | termination is | termination | | |
| | | performed | | | |
| Α | 2 | Understand Process | Process scheduling | White board+ | Oral exam |
| | 2 | scheduling | | Data show | 0.1 |
| ٩ | 2 | | IDC | White | Oral exam |
| , | | what is IPC | IPC | board+ Data | |
| | 2 | | | Show White | Oral ayom |
| ١. | 2 | Massaga System | Magaaga System | boord Doto | Orai exam |
| , . | | Message System | wiessage System | show | |
|)) | 2 | Exam2 | Exam2 | SHOW | |
| | $\frac{2}{2}$ | Know the types of | | White | Oral exam |
| ١٢ | - | Scheduling | Scheduling | board+ Data | |
| | | algorithms | algorithms | show | |
| | 2 | Know how the | | White | Oral exam |
| ۱۳ | | FCFS, SJF, and | FCFS, SJF, Priority | board+ Data | |
| | | Priority work | | show | |
| | 2 | Know how the | | White | Oral exam |
| ۱.4 | | Round robin, and | Round robin, Multi | board+ Data | |
| 12 | | Multi queue | queue scheduling | show | |
| | | scheduling work | _ | | |
| 10 | 2 | Exam3 | Exam | | |
| 11 (| Tourse Fy | aluation | | | |
| 11.0 | | uiuution | | | |

• Participation degrees in answering questions during the lecture

• Monthly exams

• Reports

• Seminars

12. Learning and Teaching Resources

| Required textbooks (curricular books, if any) | Silberschatz, Galvin, Gagne. Operating System Concepts. John Wiley & sons, inc 2013 |
|---|---|
| Main references (sources) | ^Y .Operating systems design and implementation, Andrew s. Tanenbaum, Prentice-Hall |
| Recommended books and references (scientific journals, reports) | |
| Electronic References, Websites | |

Software Engineering Course Description

| 1. | Course Name: |
|--------|---|
| | Software Engineering |
| 2. | Course Code: |
| | |
| 3. | Semester / Year: |
| | 2 nd Semester/ 3 rd Grade/ Academic Year 2023 - Y • Y £ |
| 4. | Description Preparation Date: |
| | ٢ • ٢ ٤ \٣\٢ • |
| 5. | Available Attendance Forms: |
| | |
| 6. | Number of Credit Hours (Total) / Number of Units (Total) |
| | ٢ |
| 7. | Course administrator's name (mention all, if more than one name) |
| | Name: Dr. Safaa Khalil & Dr. Fatin AbdAli |
| | Email: safaa.alwajidi@sc.uobaghdad.edu.iq |
| 8. | Course Objectives |
| • Tea | ching the Skills Software Engineering |
| • Kno | owing the SE Ethics |
| • Prep | pare Students for the SW market |
| 9. | Teaching and Learning Strategies |
| - Theo | retical and practical lectures using modern presentation techniques |

- Students participate in scientific discussions through brainstorming to obtain the required conclusions

Which enhances the student's broad understanding of the lecture

- Practical training through projects and homework

| 10. Co | . Course Structure | | | | | | | | |
|--------|--------------------|--------------------------|-----------------|----------|------------|--|--|--|--|
| Week | Hours | Required Learning | Unit or subject | Learning | Evaluation | | | | |
| | | Outcomes | name | method | method | | | | |
| ١ | ۲ | فهم الطرق وكيفية تطبيقها | Introduction to | محاضره | | | | | |
| | | | Software | | | | | | |
| | | | Engineering | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| ۲ | ۲ | Software Process | | | | | | | |
| ٣ | ۲ | Types of SW requirements | | | | | | | |
| ٤ | ۲ | Requirements Engineering | | | | | | | |
| | | Process | | | | | | | |
| 0 | ۲ | Functional and Non- | | | | | | | |
| | | functional Requirements | | | | | | | |
| ٦ | ۲ | Software Design Process | | | | | | | |
| ٧ | ۲ | Software Development | | | | | | | |
| | | Process Models | | | | | | | |
| ٨ | ۲ | The Waterfall Model | | | | | | | |
| ٩ | ۲ | V-Shaped Model | | | | | | | |

| ۱. | ۲ | Evolutionary Development | |
|----------|------------|----------------------------------|--|
| | | Model | |
| 11 | ۲ | Incremental Model Life | |
| | | Cycle | |
| ١٢ | ۲ | Spiral Modl Life Cycle | |
| 11. Co | ourse Eva | luation | |
| Report | 20% | | |
| Ouiz 5 | % | | |
| Daily p | reparatior | and attendance 5% | |
| Assignt | nents 109 | 6 | |
| Exams | 60% | | |
| 12. Le | arning an | d Teaching Resources | |
| Require | d textboo | ks (curricular books, if any) | 1- Software Engineering 10th Edition by Ian Sommerville, ISBN 978- 0133943030 |
| Main re | ferences | (sources) | 1- Software Engineering 10th Edition by Ian Sommerville, ISBN 978- 0133943030 |
| Recom | nended b | books and references (scientific | |
| journals | , reports. |) | |
| Electron | nic Refere | ences, Websites | https://software-engineering-book.com/ |

Course Description Form

| 1 | Course Name: | | | | | |
|------|---|------------------------------|---|----------------|-----------------|--|
| 1. | Research | Methodology | | | | |
| 2. | Course Code: | | | | | |
| | | | | | | |
| 3. | Semester | / Year: | | | | |
| | 2 nd Semes | ster/ 3 rd Grade/ | Academic Year 2023 - ۲۰۲٤ | | | |
| 4. | Description | on Preparation | Date: | | | |
| | March / ۲ | 1/7.75 | | | | |
| 5. | Available | e Attendance F | forms: | | | |
| | NT1 | | $-\langle \mathbf{T}_{24}, 1 \rangle \langle \mathbf{N}_{22}, \mathbf{n}_{1} \rangle = f \mathbf{I} \mathbf{I}_{22} \langle \mathbf{T}_{24}, 1 \rangle$ | | | |
| 0. | 15 Hours | / One Unit | s (Total) / Number of Units (Total) | | | |
| 7 | Course ac | ministrator's i | name (mention all if more than one na | me) | | |
| /. | Name: As | sst. Prof. Dr. Z | Zeina Mueen Mohammed | iiie) | | |
| | Email: ze | ina.m@uobag | hdad.edu.iq | | | |
| | Name: Dr | r. Dhuha Abdu | Ilhadi Abduljabbar | | | |
| | Email: dh | uha.abd@sc.u | obaghdad.edu.iq | | | |
| 8. | Course O | bjectives | | | | |
| 1. | Teach stu | dents the corre | ect methodology for conducting scient | ific research. | | |
| 2. | Developin | ng students' s | scientific writing skills, as they learn | n how to w | rite structured | |
| | academic | scientific repo | orts. | | | |
| 3. | Identify the types of scientific research and distinguish between them. | | | | | |
| 4. | Providing | g students with | the skill of scientific searching on the | Internet. | | |
| 5. | Encourag | ing research p | rograms and participating in scientific | conferences | and seminars. | |
| 9. | Teaching | and Learning | Strategies | | | |
| 1. | Lectures | (hard copy). | | | | |
| 2. | Presentati | ions. | | | | |
| 3. | Field visi | ts. | | | | |
| 4. | Electronic | c classes and v | vebsites. | | | |
| 5. | Assigning | g the student so | ome individual and group assignments | | | |
| 6. | Managing | g the lecture in | a way that indicates the importance of | f time. | | |
| | | | - 1 | | | |
| 10. | Course St | tructure | | T • | | |
| Week | Hours | Required | Unit or subject name | Learning | Evaluation | |
| | | Outcomes | | methou | methou | |
| | | S WUSHIUS | Introduction to Research | Data | quiz | |
| | | | Methodology –Part 1 | show | - | |
| , | 1 | | (a) A review of the Fundamentals | | | |
| | - | | (b) Definitions of Research | | | |
| | | | (c) Objectives of Research | | | |
| | | | Introduction to Research | Data | quiz | |
| | 1 | | Methodology –Part 2 | show | Y ***2 | |
| 7 | | | (d) Motivation in Research | | | |
| | | | (e) General Characteristics of | | | |

| | | Research (f) Types of Research | | |
|----|---|---|--------------|------|
| ٣ | 1 | The Research Problem –Part 1 (a) What is a Research Problem (b) Selecting the Problem (c) Sources of the Problem | Data show | quiz |
| ź | 1 | The Research Problem –Part 2 (d) Statement of a Problem (e) Evaluation of a Problem | Data show | quiz |
| 0 | 1 | The Review of Literature(a) Meaning of Review ofLiterature(b) Objectives of Review ofLiterature(c) Sources of Literature(d) Reporting the Review ofLiterature | Data show | quiz |
| ٦ | 1 | Exam | | |
| ۷ | 1 | The Research Approach –Part1 (a) The Qualitative Approach (b) The Quantitative Approach | Data show | quiz |
| 8 | 1 | The Research Approach –Part2 (c) The Mixed-Methods Approach (d) Criteria for Selecting a Research Approach | Data show | quiz |
| 9 | 1 | Data Collection Methods –Part1 (a) Questionnaires (b) Interviews | Data show | quiz |
| 10 | 1 | Data Collection Methods –Part2 (c) Focus Groups (d) Observation | Data show | quiz |
| 11 | 1 | Sampling (a) Meaning and Definition of Sampling (b) Functions of Population and Sampling (c) Methods of Sampling | Data show | quiz |
| 12 | 1 | Preparation of the Research – part 1 (a) Characteristics of a Good Research Title (b) Structure of research paper: (1) Abstract | Data show | quiz |

| | | I | | | | |
|---|-----------|----------------|---|--------------|-----------------|--|
| 13 | 1 | | Preparation of the Research – part 2 Structure of research paper: (2) Introductions (3) Review of the literature (4) Methodology | Data show | quiz | |
| 14 | 1 | | Preparation of the Research – part 3 Structure of research paper: (5) Result & Discussions (6) Conclusions | Data show | quiz | |
| 15 | 1 | | Exam | | | |
| 11. | Course E | valuation | | | | |
| 60% fo | r the wri | tten final exa | m, 40% for the course (5% for the att | endance, 159 | % for the first | |
| monthly | y exam, 1 | 5% for the se | cond monthly exam, 5% for the quizzes | s and homew | ork. | |
| 12. | Learning | and Teaching | g Resources | | | |
| Required textbooks | | | | | | |
| Main references (sources) | | | 1. Mishra, S. B., & Alok, S. (2022). Handbook of research methodology. | | | |
| | | | 2. Kumar, R. (2018). Research methodology: A step-by-step guide for beginners. Sage. | | | |
| | | | 3. Kothari, C. R. (2004). Research methodology: Methods and techniques. New Age International. | | | |
| Recommended books and references (scientific journals, reports) | | | Books and research papers from Scopu | us and WoS o | databases | |
| Electronic References, Websites | | | | | | |

Mobile Computing Course Description

| | 1. | Course Name: | | | | | | | |
|-----------|----------|-----------------------|--|---|-------------------|---------------------|---------------|--|--|
| | | Mobile Computing | | | | | | | |
| | 2. | Course Co | ode: | | | | | | |
| | | | | | | | | | |
| | 3. | Semester | /Year: | | | | | | |
| | 0. | 2 nd Semes | ter/ 3 rd Grade/ Academic Y | Year 202 | 23-5.55 | | | | |
| | 4 | <u>Descriptic</u> | on Preparation Date: | . ou i 201 | | | | | |
| | •• | 2023-202 | 74 | T | | | | | |
| | 5 | Available | Attendance Forms: | | | | | | |
| | | Physical a | ttendance | endance | | | | | |
| | 6 | Number o | f Credit Hours (Total) / Ni | umber o | of Units (Total) | | | | |
| | 0. | 1 theoretic | cal hours (weekly) $+ 2$ practical | $\frac{1}{100}$ hours (weekly) + 2 practical hours (weekly)/Two units | | | | | |
| | 7 | Course ad | ninistrator's name (mention all if more than one name) | | | | | | |
| | | Name: Dr | Alvaa Mohammed Noori | Idan A | l-Barrak | (indifie) | | | |
| | | Email: Al | vaa.al-barrak@sc.uobaghd | lad.edu. | ia | | | | |
| | 8. | Course Ol | biectives | | -1 | | | | |
| a. | Pre | paring sp | ecialists who are | • Cor | nducting scien | tific research a | nd trying to | | |
| | fam | iliar with | the basics of mobile | kee | n nace with sci | ientific developr | ment | | |
| | nho | | ting in theory and | KU | p pace with sci | lentine developi | nent. | | |
| | pno | | who con fill the needs | | | | | | |
| | pra | | who can fin the needs | | | | | | |
| _ | of t | he labor i | narket. | | | | | | |
| b. | Coo | perating | with state institutions | | | | | | |
| | and | the priva | ate sector by providing | | | | | | |
| | scie | ntific adv | rice and consultations. | | | | | | |
| | 9. | Teaching | and Learning Strategies | | | | | | |
| i. | The | oretical le | ectures in class, in addition | to dow | nloading PDF f | files into the elec | tronic class | | |
| | for | reference | when needed. | | - | | | | |
| ii. | Pra | ctical lectu | res in the laboratory in ad | dition to | o electronic clas | sses for practical | mobile | | |
| | nho | ne compu | tinσ | | | F | | | |
| iii | Edu | cational v | ideos via the official Voul | Fube ch | annel | | | | |
| | Dat | orded lost | sures for Google Mate that | | anner | otronia alagaroo | m recorded | | |
| 10. | rec c | | ules for Google Male that | are upr | | | iii, lecolueu | | |
| | Iror | n past yea | rs. | | | | | | |
| v. | Ele | ctronic bo | oks and lectures that can b | e consu | lted. | | | | |
| 10 | C | urgo Stru | oturo | | | | | | |
| 10. Wa | | Hours | Dequired Learning | | Unit or | Loorning | Evolution | | |
| vve | eek | Hours | Autcomes | | subject | method | method | | |
| | | | Outcomes | | name | memou | memou | | |
| Fi | rst | 1 | Understanding the l | ecture | Introduction | Attending a | Daily and | | |
| W | eek | - | from a theoretical perspe | ective. | to Mobile | theory lecture | monthly | | |
| | | future and pra | | actical | computing | | exam and | | |
| | | | developments, and | their | 1 0 | | homework | | |
| | | | impact on the stu | dent's | | | | | |
| | | | professional aspect and n | narket | | | | | |
| | | | requirements | | | | | | |
| 2 | nd | 1 | Understanding the le | ecture | Application | Attending a | Daily and | | |
| we | eek | | from a theoretical perspe | ective, | of Mobile | theory lecture | monthly | | |

| 2rd | 1 | future and practical developments, and their impact on the student's professional aspect and market requirements | Application and Limitations | In person | exam and homework |
|--------------------------|---|--|------------------------------------|-------------------------------|--|
| o week | 1 | exams | 1 exam | examination | |
| 4 th week | 1 | Understanding the lecture from a theoretical perspective, future and practical developments, and their impact on the student's professional aspect and market requirements | Multiplexing Types | Attending a theory lecture | Daily and monthly exam and homework |
| 5 th week | 1 | Understanding the lecture from a theoretical perspective, future and practical developments, and their impact on the student's professional aspect and market requirements | CDMA working examples | Attending a theory lecture | Daily and monthly exam and homework |
| 6 th week | 1 | Understanding the lecture from a theoretical perspective, future and practical developments, and their impact on the student's professional aspect and market requirements | Mobile computing Network | Attending a theory lecture | Daily and monthly exam and homework |
| 7 th week | 1 | Be prepared for the frequent exams | Second Exam | In-person examination | |
| 8 th week | 1 | Understanding the lecture from a theoretical perspective, future and practical developments, and their impact on the student's professional aspect and market requirements | Mobile generations | Attending a theory lecture | Daily and monthly exam and homework |
| 9 th week | 1 | Understanding the lecture from a theoretical perspective, future and practical developments, and their impact on the student's professional aspect and market requirements | A simplified reference model | Attending a theory lecture | Daily and monthly exam and homework |
| 10 th week | 1 | Understanding the lecture from a theoretical perspective, future and practical developments, and their impact on the student's professional aspect and market requirements | Introduction to GSM | Attending a theory lecture | Daily and monthly exam and homework |

| th | | r | | | 1 | |
|---------------------------------|------------|---------------------------------------|--|------------------|--|---------------|
| 11 ^m | 1 | Understanding the | lecture | GSM | Attending a | Daily and |
| week | | from a theoretical pers | spective, | Architecture | theory lecture | monthly |
| | | future and | practical | | | exam and |
| | | developments, and | their | | | homework |
| | | impact on the s | student's | | | |
| | | professional aspect and | l market | | | |
| | | requirements | | | | |
| 12^{th} | 1 | Understanding the | lecture | GSM | Attending a | Daily and |
| week | | from a theoretical pers | spective. | Architecture | theory lecture | monthly |
| | | future and 1 | practical | | | exam and |
| | | developments and | their | | | homework |
| | | impact on the s | student's | | | nomework |
| | | professional aspect and | l market | | | |
| | | requirements | 1 market | | | |
| 13 th | 1 | Understanding the | lecture | GSM | Attending | Daily and |
| 1J wool | 1 | from a theoretical par | spective | Services | theory lecture | monthly |
| WCCK | | future and | practical | Services | theory lecture | avam and |
| | | developments and | their | | | homework |
| | | impact on the | utudont'a | | | nomework |
| | | nipact on the s | d morket | | | |
| | | requirements | | | | |
| 1 4th | 1 | De grand for the | fue and | Third Exam | In noncon | |
| 14 | 1 | Be prepared for the | Irequent | I nira Exam | In-person | |
| 15 th | 1 | exams | 1 4 | | Attack line of | Dellas and |
| 15 | 1 | Understanding the | lecture | revision | Attending a | Daily and |
| week | | from a medical pers | spective, | | theory lecture | monuny |
| | | developments and | practical | | | exam and |
| | | impact on the | ulell tudont'a | | | nomework |
| | | mpact on the s | d montrot | | | |
| | | professional aspect and | I Market | | | |
| 11 Ca | urge Evel | lustion | | | | |
| 11. C0 | uise Eval | luation | | tod and the tree | high ant and at - | na ahaara) |
| • Quarte | rly attend | $\frac{1}{10}$ ance exams (5 exams an | | ted and the two | nignest grades a | re chosen) |
| • Daily e | exams ou | t of 10 and the best ones | are selec | | • ~~~ 1~ ~~~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ | |
| | ie practic | that gives a slage time to | and ch | Jose the nignes | i grade among th | CIII |
| • An ass | ignment | that gives a class time to | submit. | | | |
| 12. Le | arning an | u reaching Kesources | A = 1 T | | then) Decre V | |
| Kequire | u lextbo | oks (curricular dooks, | ASOKE K | ⊾ I alukaer (Au | mor), koopa Ya | vagai, Mobile |
| any) | | | Comput | mg: recnnolog | gy, Applications | , and Service |
| | | | Creation" McGraw Hill; 1st edition (November 16, | | | |
| M | C | () | 2006). | TT | - O | |
| D and D and D | erences (| sources) | Charles Harper, "Mobile Computing." (2022) | | | |
| Recomn | hended b | books and references | Pattnaik, P.K. and Mall, R., 2015. Fundamentals of | | | |
| (scientif | ic journal | is, reports) | Mobile Computing. PHI Learning Pvt. Ltd. | | | |
| Electronic References, Websites | | | www.geekstorgeeks.org | | | |



Course Description Form

| 1. Course Name: | |
|---|--|
| Operating System II | |
| 2. Course Code: | |
| | |
| 3. Semester / Year: | |
| 1 st Semester/ 4 th Grade/ Academic Year 2023 - ^r | • ٢ ٤ |
| 4. Description Preparation Date: | |
| 22\3\2024 | |
| 5. Available Attendance Forms: | |
| Mandatory attendance | |
| 6. Number of Credit Hours (Total) / Number | er of Units (Total) |
| | |
| 60 hours (3 units) | |
| 7 Course administrator's name (mention al | 1 if more than one name) |
| Name:Dr. Nada A.Z. Abdullah | |
| Email: nada abdullab@sc.uobagbdad.edu | n ia |
| Name: Dr. Mariam Abdulraheem | |
| Email : Maryam a@sc uobabdad edu ja | |
| 8 Course Objectives | |
| o. Course objectives | |
| Course Objectives | Recognize the importance of the operating systems. Recognize how the applications interact with the operating system as the later working as intermediary program between the machine and the application. Know how the operating systems transport the application requests to the hardware. Understand how operating systems managing resources such as processors, memory and I/O. Realize the efficiency or the deficiency of the different techniques used by some operating systems. |
| 9 Teaching and Learning Strategies | |
| Strategy | |
| 1 Attend Lectures Re | gularly attend lectures to grash the foundation |
| concepts and understand t 2. Take Detailed Notes: T aid in comprehension and 3. Read the Textbook: R insights, explanations, and 4. Engage in Discussio sessions, or online forums 5. Complete Assignmen assignments and projects | the material presented by the instructor. Take thorough and organized notes during lectures review later. Read the recommended textbook to gain addition d examples related to operating systems. The presented in class discussions, group stures to exchange ideas. The addition of the presented of |

hands-on skills.
6. Practice with Sample Problems: Solve sample problems and pract exercises provided by the instructor or in the textbook to reinforce stud understanding.
7. Utilize Online Resources: Make use of online tutorials, educatio websites, and video lectures to supplement student learning and expl different perspectives on the topics.
8. Create Concept Maps or Diagrams: Visualize complex concepts by creat concept maps or diagrams to establish connections and enha understanding.
9. Form Study Groups: Collaborate with classmates to discuss challeng topics, solve problems collectively, and share different perspectives

| 10. Co | 10. Course Structure | | | | | | | |
|--------|----------------------|--|---------------------------------------|---------------------------|----------------------|--|--|--|
| Week | Hours | Required Learning Outcomes | Unit or subject name | Learning method | Evaluation method | | | |
| ١ | 2 | understanding Synchronization and Race condition | Synchronization and R condition | White board+ Data show | Oral exa | | | |
| ۲ | 2 | understanding Critical section solutions | Critical sect solutions | White board+ Data show | Oral exa | | | |
| ٣ | 2 | understanding Atomic instruction | Atomic instructi | White boar Data show | Oral exa | | | |
| ٤ | 2 | understanding Semaphores | Semaphores | White boar Data show | Oral exa | | | |
| ٥ | 2 | | Exam | | | | | |
| ٦ | 2 | Main memory | Main memory | White boar Data show | Oral exa | | | |
| ٧ | 2 | Contiguous allocation | Contiguous allocation | White boar Data show | Oral exa | | | |
| ٨ | 2 | Paging | Paging | White boar Data show | Oral exa | | | |
| ٩ | 2 | Segmentation | Segmentation | White boar Data show | Oral exa | | | |
| ١. | 2 | Paging segmentation implementation | Paging segmentation implementation | White boar Data show | Oral exa | | | |
|)) | 2 | _ | Exam | | | | | |
| ۱۲ | 2 | | Seminars | White boar Data show | Oral exa | | | |
| ١٣ | 2 | Virtual memor | Virtual memory | White boar Data show | Oral exa | | | |
| ١٤ | 2 | Page fault | Page fault | White boar Data show | Oral exa | | | |
| 10 | 2 | | Exam | | | | | |

11. Course Evaluation

| • Daily exams | | | | | |
|---|--|--|--|--|--|
| • Participation degrees in answering questions during the lecture | | | | | |
| • Monthly exams | | | | | |
| • Reports | | | | | |
| • Seminars | | | | | |
| | | | | | |
| 12. Learning and Teaching Resources | | | | | |
| | | | | | |
| | | | | | |
| Required textbooks (curricular books, if any) | 1. Silberschatz, Galvin, Gagne. | | | | |
| | Operating System Concepts. | | | | |
| | John whey & sons, inc 2013 | | | | |
| | | | | | |
| | | | | | |
| Main references (sources) | • Operating systems design and implementation Andrew s | | | | |
| | Tanenbaum. Prentice-Hall | | | | |
| | | | | | |
| Recommended books and references (scientific | | | | | |
| journals, reports) | | | | | |
| Electronic References, Websites | | | | | |

| | | | | Electronic Commerce Course Description Form | | | |
|-----------------|---|------------------------|-------------------|---|--------------------|---------|----|
| | 1. | Course N | Name: | | | | |
| Ele | ctro | nic Com | merce | | | | |
| | 2. | Course C | Code: | | | | |
| 44' | CE | СОМ | | | | | |
| . et | 3. | Semester | r / Year: | | | | |
| 1 st | em | ester/ 4 th | Grade/ Acad | emic Year 2023 - ۲۰۲٤ | | | |
| • • | 4. | Descripti | ion Preparation | on Date: | | | |
| 20/ | 5/20 5 | 24 | A 1 | | | | |
| _ | 5. | Available | e Attendance | Forms: | | | |
| _ | 6 | 20/3/202 | 4 | re (Total) / Number of Unite (Total) | | | |
| _ | 0. | $\frac{11000}{2/2}$ | of Clean no | ins (Total) / Number of Onits (Total) | | | |
| | | 212 (30) | | | | | |
| | | | | | | | |
| | 7. | Course a | dministrator' | s name (mention all, if more than one name) | | | |
| | | Name: P | ro. Dr. Ghada | ıh K. Al-Khafaji | | | |
| | | Email: g | hada.toma@s | c.uobaghdad.edu.iq | | | |
| | | Nomo: A | aat Dro Dr | Puchro A Sulton | | | |
| | | Fmail: R | ushra sultan | \mathcal{D} usina A. Sunan \mathcal{D} se uobaghdad edu ig | | | |
| | | | usina.suitany | | | | |
| _ | 8. | Course (| Dbiectives | | | | |
| Co | irse | ; | 1- To gain a | n understanding of the theories and concepts underlying e | e-commerce. | | |
| Ob | jecti | ives | 2-To under | standing of basic concepts, theories, and business mod | lels underlying e- | | |
| | | | commerce v | with the theory and concepts to what e-marketers are o | doing in "the real | | |
| | | | world" via p | urchasing using online payments. | | | |
| | | | 3- To under | standing the relation between E-C and E-B. | | | |
| | | | 4- To impro | ve familiarity with current challenges and issues in e-con | mmerce especially | | |
| _ | the security one. | | | | | | |
| Str | 9. | Teaching | | g Strategies | | | |
| ธน | neg | S.Y | 1- 2- | Students' participation in solving programming problems | | | |
| | | | 3- | Discussion and dialogue about vocabulary related to the t | opic | | |
| | 4- Use the electronic classroom (Google Classroom) to unload lectures in the fo | | | | | | |
| | of PDF files (in short form), where their details are explained in the lecture, with ma | | | | | | |
| | examples solved on the blackboard, discussion with students, and answers to their inquiries. The electronic classroom is also used to give homework assignments and uple | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | answers within the electronic classroom. The classroom is also used to announce ex | | | | | | |
| | | | dates a | id grades etc. | | | |
| | | | | | | | |
| 10 | C | ourse Str | ucture | | | | |
| W | ek | Hours | Required | Unit or subject name | Learning | Evaluat | n |
| | | | Learning | | method | method | |
| | | | Outcomes | | | | |
| | | | | 1- Introduction to Commerce and E-Commerce: | Data | (u | iz |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

| | Introduction, An overview, History of ecommerce; show Differences/similarities between e-commerce and traditional commerce Advantages/Disadvantages, Features & scope characteristics, Development /infrastructures along process and examples. 2. Continue with e-Com Principles: E-Commerce Steps Flow, E-Commerce in Figures, Buyer/Seller Rules, Why Internet Commerce, Internet Commerce Strategies, Benefits and Types of E-Commerce Strategies, Benefits and Types of E-Commerce Strategies, Benefits and Types of E-Commerce Macro & environment. 4 E-C Classification Models: Identifying Transaction Partners Model with advantages/disadvantages and features of each type 5. Degree of digitization, Impact of E-C and Social Impact E-Commerce Process Models, The Criteria that Determine the Level of Advancement in EC/EB 6- On line Shopping/E-Shop 7. First Exam 8-The Benefits and Limitation of E-C (customer, organization & Social, Online Banking, Mat is online banking, buy to register for online banking, ad special facilities offered by some internet banking, ad special facilities offered by some internet banking. 9. Architecture framework of E-C. Lisues, challenges and problems (technical) 10. Second Exam 11. Components of E-C with Payment Systems & Online shopping: The Electronic payments (credit, debit, wallet), and on line shopping features and restrictions 12. Electronic Data Interchange: EDI documents, Steps in EDI system, structures, Advantages/Disadvantages of Online advertising: Advantages of online advertising: Advantages of Online advertising compared to traditional advertising types, Web Commerce & Online Auctions 14 - M-Commerce. 13. Online advertising: Introduction to online adverti | |
|-----------------|--|--|
| $\frac{1}{D_2}$ | . Course Evaluation | |
| Da ren | by and monumy exams and quizzes, class participation and attendance, in addition to preparing | |
| 10p | L Learning and Teaching Resources | |
| I Re | uired textbooks (curricular bod 1- E-Commerce Rusiness Model 2020: This Rook Includes: Online | |
| if a | Marketing Strategies Dropshipping Amazon FRA - Step-by Step | |
| 11 0 | marketing strategies, Dropsinpping, Anazon r bA - step-by-step | |
| | | |

ľ

| | | Guide with Latest Techniques to Make Money Online and Reach Financial Freedom. (2020). Jim, W. and George, B. Independently published 2The Business of Platforms: Strategy in the Age of Digital Competition, Innovation, and Power. (2019), Michael A. , Annabelle G., and David B. Harper Business; Illustrated edition 3- Electronic Commerce 2018 A Managerial and Social Networks Perspective. (2018) Turban, E., Outland, J., King, D., Lee, J.K., Liang, TP., Turban, D.C. Springer International Publishing 4-Introduction to E- Commerce: Combining Business and Information Technology. (2016), Martin, K. Deloitte. 5-E Commerce and EBuisness, Zorayda Ruth B. Andam , (2013) 6- E_ Commerce Strategy, Technologies and Applications, David Whiteley. (2010). |
|-----|------------------------------|--|
| Ma | n references (sources) | |
| Re | ommended books and | |
| ref | rences (scientific journals, | |
| rep | prts) | |
| Ele | ctronic References, Websites | https://www.slideshare.net/Saddamuddin/ecommerce-short-notes <u>http://wikipedia.org/wiki/online_advertising</u> https://backup.pondiuni.edu.in/storage/dde/dde_ug_pg_books/E- %20Commerce.pdf واستخدام لبعض مواقع التجاره الإلكترونيه الموثوقه مثل |
| | | |

| | Multimedia Course Description Form | | |
|---|--|--|--|
| 1. Course | Name: | | |
| | Multimedia | | |
| 2. Course | Code: | | |
| | CSC415 | | |
| 3. Semeste | r / Year: | | |
| | 1 st Semester/ 4 th Grade/ Academic Year 2023 - ۲ • ۲ ٤ | | |
| 4. Descript | tion Preparation Date: | | |
| | 23/March/2024 | | |
| 5. Availab | e Attendance Forms: | | |
| | | | |
| 6. Number | of Credit Hours (Total) / Number of Units (Total) | | |
| - ~ | 4 hours (2 Theoretical / 2 Practical) / 3 Units | | |
| 7. Course a | administrator's name (mention all, if more than one name) | | |
| Name: M | Viohammed Sabih | | |
| Email: 1 | vionammed.s@sc.uobagndad.edu.iq | | |
| Nama: I | | | |
| Fmail: I | Rafal a@sc uobaghdad edu ig | | |
| 8 Course Obi | ectives | | |
| | 1 Enable students to define the scope of the field called Multimedia | | |
| Course Objectives | Know the processing of multimedia components (including text, sound, image, video) in its space domain and in the frequency domain. Discussing the methods used in this field, as well as knowing the basics of the text, sound, image, video in terms of its composition, the processes of converting it into a digital, and processing. Using computer programming in the laboratory to clarify and achieve the above-mentioned goals using programming languages. Discussing the basics of sound, image, video compression and the algorithms used in this field. Building applied projects that employ Multimedia components for community service purposes. | | |
| 9. Teaching an | nd Learning Strategies | | |
| Strategy 1. Explaining the scientific material to students in detail, hav participate in solving mathematical problems, and using the b explain and solve examples. Strategy 2. Use Power Point presentation programs in the classroom lectures. 3. Discussion and dialogue about vocabulary related to the top 4. Using computer programming in the laboratory for practica using the C# environment. 5. Use the electronic platform Google Classroom to provide s | | | |
| | lectures. | | |

| 10. Cours | se Structure | | | |
|-----------|--|--|--|----------------------|
| Week | Hours (Theoretical and Practical) | Unit or subject name | Learning method | Evaluation method |
| 1 | 4 | -Definition of Multimedia -Components of MM -Digital representation of MM components -Compression in MM | Data Show | Quiz |
| 2 | 4 | -MM system -MM Related Technology -Media classification | Data Show | Quiz |
| 3 | 4 | -MM application -Interactivity -Categories of MM | -MM application -Interactivity Data Show -Categories of MM | |
| 4 | 4 | -Exploring MM on the web -Multimedia data -Global structure of MM | Data Show | Quiz |
| 5 | 4 | -Basics of Sound -Characteristics of sound wave -Frequency content of audio signal -Digital audio | Data Show | Quiz |
| 6 | 4 | -Nyquist Theorem -Quantization and transmission of audio | Data Show | Quiz |
| 7 | 4 | -Audio compression -Examples | Data Show Quiz | |
| 8 | 4 | -Basics of image -Number of colors -Types of images | Data Show Quiz | |
| 9 | 4 | -Types of Digital ImageFile FormatData Show-Image digitization | | Quiz |
| 10 | 4 | -Basics of Video -Characteristics of video -Color models | Data Show | Quiz |
| 11 | 4 | -Video size -Examples | Data Show | Quiz |
| 12 | 4 | -Video Formats Data Show Quiz | | Quiz |

11. Course Evaluation

60% (50% on the written final exam, 10% on the final lab exam), 40% on the course (5% on the attendance, 15% on the monthly exam, 5% on the quizzes, 15% on the lab.

| 12. Learning and Teaching Resources | |
|---------------------------------------|---|
| Required textbooks (curricular books, | Fundamentals of Multimedia, 2nd Edition, by Ze- |
| if any) | Nian Li, Jiangchuan Liu, Mark S. Drew. |
| Main references (sources) | Digital Video Processing, 2nd Edition, by A. Mu |
| | Tekalp. |
| Recommended books and references | Rafael C. Gonzalez, Richard E. Wood. Digital |
| (scientific journals, reports) | image processing 4th edition 2018. Pearson |
| | Education. Inc. Pearson, Prentice Hall. |
| Electronic References, Websites | What is Multimedia? - GeeksforGeeks |

Mobile Computing Course Description Form

| 1 (| Course N | ame. | | | | | |
|----------------------|--|-----------------------------|----------------|------------------|--------------------|-----------------|--|
| Mobile | Computir | ng (Advanced) | | | | | |
| 2 (| Course Co | nde. | | | | | |
| 2 | | | | | | | |
| 3. 5 | Semester | / Year: | | | | | |
| 1 st Seme | ester/4 th C | Grade/ Academic Year 2 | 2023 - ۲ • ۲ : | ٤ | | | |
| 4. 1 | Descriptio | on Preparation Date: | | | | | |
| 2023-20 |)224 | F | | | | | |
| 5. 4 | Available | Attendance Forms: | | | | | |
|] | Physical a | ittendance | | | | | |
| 6. 1 | Number o | f Credit Hours (Total) / | Number of | of Units (Total |) | | |
| | 2 theoretic | cal hours (weekly) + $2 p$ | practical ho | ours (weekly)/ | three units | | |
| 7. (| Course ad | ministrator's name (mer | ntion all, it | f more than on | e name) | | |
| 1 | Name: Dr | . Alyaa Mohammed No | ori Idan A | l-Barrak | , | | |
| I | Email: Al | yaa.al-barrak@sc.uobag | ghdad.edu. | iq | | | |
| 8. (| Course Ol | bjectives | | | | | |
| a. Prej | paring sp | ecialists who are famil | iar with | Conducting | ng scientific | research and | |
| the | the basics of mobile phone computing in trying to keep pace with scientific | | | | | | |
| theo | theory and practice and who can fill the development. | | | | | | |
| need | needs of the labor market. | | | | | | |
| b. Coo | perating | with state institutions | and the | | | | |
| priv | ate secto | r by providing scientif | ic | | | | |
| advi | ice and co | nsultations | | | | | |
| 9 7 | Teaching | and Learning Strategies | | | | | |
| Strateg | v i 7 | Theoretical lectures in cl | ass in add | dition to down | loading PDF file | es into the | |
| Bulance | y 1. 1 | lectronic class for refer | ence when | needed | foading i Di file | | |
| | с : т | Prostical lastyras in the l | ahoratory | in addition to | alastronia alassa | a for prostical | |
| | Practical lectures in the laboratory in addition to electronic classes for practical | | | | | | |
| | mobile phone computing | | | | | | |
| | 1. Educational videos via the official YouTube channel | | | | | | |
| | 7. F | Recorded lectures for Go | ogle Mate | e that are uploa | aded to the electr | ronic | |
| | C | classroom, recorded from | n past yea | rs. | | | |
| | 7. E | Electronic books and lec | tures that | can be consult | ed. | | |
| 10. Co | ourse Stru | cture | | | | | |
| Week | Hours | Required Learning | Unit or s | subject | Learning | Evaluation | |
| | | Outcomes | name | | method | method | |
| First | 2 | Understanding the | (| GSM | Attending a | Daily and | |
| Week | | lecture from a | | | theory lecture | monthly | |
| | | theoretical | | | | exam and | |
| | | perspective, future | | | | homework | |
| | | and practical | | | | | |
| | | developments, and | | | | | |
| | | student's | | | | | |
| | | professional aspect | | | | | |
| | | professional aspect | | | | 1 | |

| | | and market | | | |
|-----------------|---|---------------------|----------------------|----------------|--------------------|
| | | requirements | | | |
| 2^{nd} | 2 | Understanding the | GSM Frame | Attending a | Daily and |
| week | | lecture from a | | theory lecture | monthly |
| | | theoretical | | | exam and |
| | | perspective, future | | | homework |
| | | and practical | | | |
| | | developments, and | | | |
| | | their impact on the | | | |
| | | student's | | | |
| | | professional aspect | | | |
| | | and market | | | |
| | | requirements | | | |
| 3 rd | 2 | Be prepared for the | 1 st exam | In-person | |
| week | | frequent exams | | examination | |
| 4 th | 2 | Understanding the | GSM Protocols | Attending a | Daily and |
| week | _ | lecture from a | | theory lecture | monthly |
| | | theoretical | | | exam and |
| | | perspective, future | | | homework |
| | | and practical | | | |
| | | developments and | | | |
| | | their impact on the | | | |
| | | student's | | | |
| | | professional aspect | | | |
| | | and market | | | |
| | | requirements | | | |
| 5 th | 2 | Understanding the | GSM - Radio Air | Attending a | Daily and |
| week | 2 | lecture from a | Interface Edd/EDMA | theory lecture | monthly |
| WCCK | | theoretical | | theory feeture | exam and |
| | | nerspective future | | | homework |
| | | and practical | | | nomework |
| | | developments and | | | |
| | | their impact on the | | | |
| | | student's | | | |
| | | professional aspect | | | |
| | | and market | | | |
| | | requirements | | | |
| 6 th | 2 | Understanding the | CSM System Colling | Attending o | Doily and |
| U | Δ | lecture from a | Controystem Canning | theory locture | Daily allu |
| WEEK | | theoretical | | theory lecture | monuny avom and |
| | | nerspectivo futuro | | | bomowork |
| | | perspective, future | | | nomework |
| | | developments and | | | |
| | | their impost on the | | | |
| | | uter impact on the | | | |
| | | student's | | | |
| | | professional aspect | | | |
| | | and market | | | |
| _th | | requirements | | | |
| 7 ^m | 2 | Be prepared for the | Second Exam | In-person | |
| week | | trequent exams | | examination | · |
| 8" | 2 | Understanding the | Handover and | Attending a | Daily and |

| | | 1 | a 1 | | |
|------------------|---|---------------------|-------------------|----------------|--------------------|
| week | | lecture from a | Security | theory lecture | monthly |
| | | theoretical | | | exam and |
| | | perspective, future | | | homework |
| | | and practical | | | |
| | | developments, and | | | |
| | | their impact on the | | | |
| | | student's | | | |
| | | professional aspect | | | |
| | | and market | | | |
| oth | - | requirements | | | |
| 9 ^m | 2 | Understanding the | New Data Services | Attending a | Daily and |
| week | | lecture from a | | theory lecture | monthly |
| | | theoretical | | | exam and |
| | | perspective, future | | | homework |
| | | and practical | | | |
| | | developments, and | | | |
| | | their impact on the | | | |
| | | student's | | | |
| | | professional aspect | | | |
| | | and market | | | |
| 1 oth | | requirements | | | |
| 10 ^m | 2 | Understanding the | Motivation for a | Attending a | Daily and |
| week | | lecture from a | specialized MAC | theory lecture | monthly |
| | | theoretical | | | exam and |
| | | perspective, future | | | homework |
| | | and practical | | | |
| | | developments, and | | | |
| | | their impact on the | | | |
| | | student's | | | |
| | | professional aspect | | | |
| | | and market | | | |
| 1.1 th | | requirements | | A 11 | |
| 11 | 2 | Understanding the | Mobile IP | Attending a | Daily and |
| week | | lecture from a | | theory lecture | monthly |
| | | theoretical | | | exam and |
| | | perspective, future | | | nomework |
| | | and practical | | | |
| | | developments, and | | | |
| | | uter impact on the | | | |
| | | student s | | | |
| | | professional aspect | | | |
| | | and market | | | |
| 10 th | 2 | requirements | Mahila Tao (| A 44 1 | Da ¹ 11 |
| 12 waa1- | 2 | Understanding the | viobile Transport | Allending a | Daily and |
| week | | lecture from a | Layer | ineory lecture | monthly |
| | | theoretical | | | exam and |
| | | perspective, tuture | | | nomework |
| | | and practical | | | |
| | | developments, and | | | |
| | | their impact on the | | | |
| | | student´s | | | |

| | | professional aspect | | | | |
|-------------------|------------|----------------------------|-----------|---------------------------------------|-------------------------|---|
| | | and market | | | | |
| | | requirements | | | | |
| 13 th | 2 | Understanding the | Dat | tabase issues | Attending a | Daily and |
| week | | lecture from a | | | theory lecture | monthly |
| | | theoretical | | | | exam and |
| | | perspective, future | | | | homework |
| | | and practical | | | | |
| | | developments, and | | | | |
| | | their impact on the | | | | |
| | | student's | | | | |
| | | professional aspect | | | | |
| | | and market | | | | |
| | | requirements | | | | |
| 14 th | 2 | Be prepared for the | Г | hird Exam | In-person | |
| week | _ | frequent exams | _ | | examination | |
| 1.5 th | 2 | Understanding the | Data | Dissemination | Attending a | Daily and |
| week | - | lecture from a | 2 | | theory lecture | monthly |
| | | theoretical | | | | exam and |
| | | perspective, future | | | | homework |
| | | and practical | | | | nomework |
| | | developments and | | | | |
| | | their impact on the | | | | |
| | | student's | | | | |
| | | professional aspect | | | | |
| | | and market | | | | |
| | | requirements | | | | |
| 11 Co | urse Eval | uation | | | | |
| • Quarte | rly attend | ance exams (3 exams a | re cond | ucted and the tw | o highest grades | are chosen) |
| • Daily e | vame out | t of 10 and the best ones | s are sel | ected and the tw | o ingliest grades | are enosen) |
| • Take th | ne nractic | al exams more than twi | ce and a | corea choose the highe | est grade among t | hem |
| • An ass | ionment t | that gives a class time to | submi | t | st grade among t | licili |
| 12 Log | arning an | d Teaching Pesources |) suonn | | | |
| Doquiro | d toythoo | ka (ourrigular books, if | any) | Acoka K Talu | kdor (Author) I | Dooma Vayagal |
| Required | I lexidoo. | ks (curricular books, il a | any) | ASOKE K Talu | Computing | Xoopa Tavagai, |
| | | | | Amplications | Computing. | reciniology, |
| | | | | Applications, a | and Service Cre | ation McGraw |
| Mainer | | (a a 11 a a a) | | Charles Har | I (INOVEINDER 16, | 2000). |
| Main ref | erences (| sources) | | Charles Harper | r, Mobile Compu | $\frac{10022}{10000000000000000000000000000000$ |
| Recomm | nended bo | boks and references (sci | entific | Pattnaik, P.I | \mathbf{x} . and Mall | , к., 2015. |
| journals, | , reports | .) | | Fundamentals of Mobile Computing. PHI | | |
| T-1 | · D (| XX7 1 • . | | Learning Pvt. I | _ta. | |
| Electron | 1c Refere | nces, Websites | | www.geeksfor | geeks.org | |

1. Course Name:

Parallel programming Course Description Form

Parallel programming

2. Course Code:

CS9410

3. Semester / Year:

1st Semester/ 4th Grade/ Academic Year 2023 - ۲ • ۲ ٤

4. Description Preparation Date:

21-3-2024

5. Available Attendance Forms:

Attendance: theoretical + practical

6. Number of Credit Hours (Total) / Number of Units (Total)

4 hours per week / 3 units

7. Course administrator's name (mention all, if more than one name)

1- Name: Assistant Professor Dr. Nada Hussein M. Ali

Email: nada.husn@sc.uobaghdad.edu.iq2- Name : Assistant Professor Dr. Ammar Ibrahim

Email: ammar.i@sc.uobaghdad.edu.iq

8. Course Objectives

Course Objectives

1. The course aims to enable the student to prepare programs using

Multiple CPU processors available in personal computers to obtain
higher speeds in program execution.
2. The basic language for teaching students in th s course is Visual C++, where there is a gradual shift from the structured programming method that was used in

writing programs within the courses of the

previous stages to preparing programs consisting of instructions that deal directly with the operating system in the personal computer using an API specific to the WINDOWS system and are implemented in parallel **3. Obtaining high speeds in executing programs.**

4. Teaching and Learning Strategies

Strategy

Training the student to rely on himself in writing programs, where part of the scheduled program i given before the practical laboratory time to be discussed, and the rest of the requirements are completed during laboratory hours.

Advanced computer Networks Course Description Form

| 1 Cou | rse Name: | | | | |
|--------------------------|--------------------------|-----------------|---------------------------------------|----------|---------|
| Advanced c | computer Ne | etworks | | | |
| 2. Cou | rse Code: | | | | |
| | | | | | |
| 3. Sem | ester / Year | :: First Semes | ter | | |
| 1 st Semester | / 4 th Grade/ | Academic Y | ear 2023 - ۲ • ۲ ٤ | | |
| 4. Dese | cription Pre | paration Date | :: March/ 21/ 2024 | | |
| | | | | | |
| 5. Ava | ilable Atten | dance Forms | • | | |
| | l f Curr | 1.4 II (T | (-1) / Neuclassical File $(T-4-1)$ | | |
| 6. Nun | nder of Cred | int Hours (10 | tal) / Number of Units (Total) | | |
| | | | | | |
| 7. Cou | rse adminis | trator's name | (mention all, if more than one name) | | |
| Nam | ne: Asst. Pro | of. Dr. Husan | n Ali | | |
| Ema | uil: <u>husam.a</u> | @sc.uobaghd | ad.edu.iq | | |
| Nam | ne: Suhad F | aisal | - | | |
| Ema | ul: | | | | |
| | 01 | | | | |
| 8. Cou | rse Objectiv | ves | | | |
| Course Ob | jectives | | • | • | |
| | | | • | • | |
| 0 | hing and I | a amain a Stuat | • •••• | • | |
| 9. Tead | | earning Strate | egles | | |
| Strategy | | | | | |
| | | | | | |
| | | | | | |
| 10. Course | e Structure | | | | • |
| Week | Hours | Required | Unit or subject name | Learning | Evaluat |
| | | Learning | | method | ion |
| 1 | 1 | Outcomes | | | method |
| 1 | 1 | | Introduction to Networking | Data | quız |
| | | | Networks Advantages and Disadvantages | snow | |
| | | | Disauvantages Network Types | | |
| | | | Network Types | | |
| | | | | | |
| | | | | | |
| | | | | | |
| 2 | 1 | | The OSI and TCP/IP | Data | quiz |
| | | | Networking Models | show | - |
| | | | TCP/IP Model | | |
| 3 | 1 | | Application Layer (Layer 7) | Data | quiz |
| | | | Presentation Layer (Layer 6) | show | |
| | | | Session Layer (Layer 5) | | |
| | | | Full-Duplex vs. Half-Duplex | | |
| | | | Communications | | |

| | 1 | [| | | |
|----|---|---|--|------|------|
| 4 | 1 | | Transport Layer (Layer 4) | | |
| 4 | 1 | | Network Layer (Layer 3) | Data | quiz |
| | | | Overview of IP Addresses | snow | |
| | | | Data Link Layer (Layer 2) | | |
| | | | What Is a MAC Address? | | |
| ~ | 1 | | Physical Layer (Layer 1) | | · · |
| 3 | 1 | | Data Encapsulation Using the | Data | quiz |
| | | | USI Model | snow | |
| | | | Decapsulation process | | |
| | | | Chent/Server Network | | |
| | | | Application Lower Services and | | |
| | | | Application Layer Services and Protocols | | |
| 6 | 1 | | Domain Name Service (DNS) | Data | auiz |
| 0 | 1 | | Domain Name Service (DNS) | Data | quiz |
| | | | Dynamic Host Comiguration Protocol (DHCP) | SHOW | |
| | | | Simple Network Management | | |
| | | | Protocol (SNMP) | | |
| | | | File Transfer Protocol (FTP) | | |
| 7 | 1 | | Trivial File Transfer Protocol | Data | auiz |
| , | 1 | | (TFTP) | show | quiz |
| | | | Simple Mail Transfer Protocol | SHOW | |
| | | | (SMTP) | | |
| | | | Post Office Protocol (POP) | | |
| | | | Telnet | | |
| | | | Secure Shell (SSH) | | |
| | | | Hypertext Transfer Protocol | | |
| | | | (HTTP) | | |
| | | | Two HTTP Request Methods: | | |
| | | | GET and POST | | |
| 8 | 1 | | | Data | quiz |
| | | | Hypertext Transfer Protocol | show | |
| | | | Secure (HTTPS) | | |
| | | | Transport layer protocols | | |
| | | | (TCP/UDP) | | |
| | | | Port Range Groups | | |
| | | | Commutation message types | | |
| | | | To configure TCP/IP settings | | |
| | | | Physical media | | |
| 9 | 1 | | Types of Interfaces | Data | quiz |
| | | | UTP Cables Connections types | show | |
| | | | Data Communications | | |
| | | | Equipment and Data Terminal | | |
| | | | Equipment | | |
| | | | How to propore a LITD coble | | |
| | | | Discussion W' | | |
| | | | Diagnosing Wire map Faults | | |
| | | | WIRESHARK Packet Sniffer | 5 | |
| 10 | 1 | | Network Devices & Packet Tracer | Data | quiz |
| | | | network interface card (NIC) | show | |
| | | | | | |

| r | ſ | | | | ſ | · · · · · · · · · · · · · · · · · · · |
|---------------------------------------|--------------|------------------|---------------------|--------------------------------|--------------|---------------------------------------|
| | | | Hub | | | |
| | | | Bridge | | | |
| | | | Switch | | | |
| | | | The Wireless | Access Point | | |
| | | | (WAP) | | | |
| | | | Router | | | |
| 11 | 1 | | Layer 3 Swite | ches | Data | quiz |
| | | | Gateways | | show | |
| | | | Modems | | | |
| | | | Traditional (1 | POTS) | | |
| | | | DSL | | | |
| | | | CSU/DSUs | | | |
| 12 | 1 | | Firewalls | 1-4 | Data | |
| 12 | 1 | | Tooly 1 Obcor | uialion we the flow of data | show | quiz |
| | | | from DC0 4 | Define new of data | SHOW | |
| | | | network troff | ic by creating | | |
| | | | Task 2 View | ARP Tables on each | | |
| | | | PC | | | |
| | | | Task 3 Ad | ding routers and | | |
| | | | installing mo | dules | | |
| | | | Task 4 | Basic router | | |
| | | | configuration | l | | |
| | | | Task 5 Crea | ate a copy of the | | |
| | | | existing rou | ter complete with | | |
| | | | WIC modules | s already in place | | |
| | | | Task 6 Con | figuring the WAN | | |
| | | | link Task 7 Car | fianne the neutine | | |
| | | | nrotocol | ingure the routing | | |
| | | | Task 8 Set t | ha dafault gataway | | |
| | | | on the PCs | ne ueraun galeway | | |
| | | | Task 9 Test | the connectivity of | | |
| | | | the network | are connectivity Of | | |
| | | | Task 10 Save | e the Packet Tracer | | |
| | | | file | | | |
| 11. Course | e Evaluation | 1 | | | | |
| 60% (50% c | on the writt | en final exam | , 10% on the fin | nal lab exam), 40% on | the course (| 5% on the |
| attendance, | 15% on the | monthly examined | m, 5% on the qu | uizzes, 15% on the lab | • | |
| 12. Learni | ng and Tea | ching Resourc | ces | | | |
| Required te | xtbooks (cu | rricular books | s, if any) | | | |
| Main refere | nces (sourc | es) | | | NT / | |
| | | | | Advanced Compute | er Networkin | ng: |
| | | | | Concepts and April | cotions Act | 01 2004 |
| | | | | | cauons, Oci | 01, 2000, |
| | | | | Prof. Satish Jain | | |
| | | | | OLU NUMMANI GUILL | | |
| Recommend | ded books | and reference | ces (scientific | | | |
| journals, rer | oorts) | | | Mastering Compute | er Networki | ng: |
| · · · · · · · · · · · · · · · · · · · | . / | | | | | 5 |

| | Essential Techniques Kindle Edition |
|---------------------------------|-------------------------------------|
| Electronic References, Websites | |
Advanced Computer Graphics Course Description Form

| 1 Course Name: | | | | | | |
|---|--|--|--|--|--|--|
| Advanced Computer (| Advanced Computer Graphics | | | | | |
| 2 Course Code: | Advanced computer Graphies | | | | | |
| 2. Course Coue. | 2. Course Code: | | | | | |
| 2 Samaatan / Vaa | | | | | | |
| 2 nd Canadam/ 4 th Card | u: - / A Hansia Maan 2022 - X - X - | | | | | |
| 2 Semester/ 4 Grade | e/ Academic Year 2023 - 1112 | | | | | |
| 4. Description Pro | eparation Date: | | | | | |
| 21-3-2024 | | | | | | |
| 5. Available Atte | ndance Forms: | | | | | |
| Class attendand | ce system | | | | | |
| 6. Number of Cre | edit Hours (Total) / Number of Units (Total) | | | | | |
| 2/1 | | | | | | |
| 7. Course admini | strator's name (mention all, if more than one name) | | | | | |
| Name: Dr. Suh | naila Najim Mohammed | | | | | |
| Email: <u>suhaila</u> | n.mo@sc.uobaghdad.edu.iq | | | | | |
| | | | | | | |
| 8. Course Objecti | ives | | | | | |
| Course Objectives | The main objective of this course is to introduce students the fundamental concepts in computer graphics including a range of computer graphics techniques and algorithms covering 3D graphics, | | | | | |
| | computer animation and virtual reality. It focuses on key algorithmic techniques, mathematical and programmatic foundations of computer graphics, including modeling, rendering, and animating 3D scenes. Topics include three-dimensional shape representations, geometrical transformations (e.g. rotations, scales, translations, reflection, | | | | | |
| | shearing), the projection, the rasterization pipeline, ray tracing, illumination and shading models, texturing, blending and light & visual perception. | | | | | |
| 9. Teaching and I | Learning Strategies | | | | | |
| Strategy | | | | | | |
| 1. Del and the foundat | livering lectures to introduce and explain essential concepts, principles, eories related to computer graphics. This helps students build a strong tion of knowledge. | | | | | |
| 2. Giv concep enhanc | ts and implement 3D graphics. This helps their understanding and es their programming skills. | | | | | |
| 3. Pro and ren | viding code walkthroughs and examples demonstrating the modeling idering 3D scenes. | | | | | |
| 4. Conducting problem-solving sessions, both in class and through assignments to allows students to use graphics primitives and transformations for objects modeling and rendering. | | | | | | |
| 5. Enc | couraging group projects and activities among students. This promotes ork and enhances understanding. | | | | | |
| 6. Reg and pro theoret 7. Rec | gular evaluations and examinations help gauge students' understanding ogress. These can include quizzes, assignments, and exams that assess ical knowledge and practical application of computer graphics. commending textbooks, internet resources, and supplementary | | | | | |

| | re | ferences might help stud | dents study more effectiv | vely. | |
|--------|------------|--|--|--------------------|----------------------|
| 10. Co | ourse Stru | cture | | | |
| Week | Hours | Required Learning Outcomes | Unit or subject name | Learning method | Evaluation method |
| 1 | 4 | Introduction to 3D graphics | Introduction to the C# programming language environment, the OpenGL API, and the tools it provides for dealing with computer graphics | Data show | quiz |
| 2 | 4 | Introducing the rendering process and its main stages | Working with geometric shapes (point, line, and rectangle) in OpenGL | Data show | quiz |
| 3 | 4 | Learn about three- dimensional coordinates systems | Modeling some graphic shapes in OpenGL | Data show | quiz |
| 4 | 4 | Introduction to the Projection process and its types | Programming the different types of Projection and studying their effect and the difference between them | Data show | quiz |
| 5 | 4 | Dealing with conversions between Coordinate Systems in 3D graphics programs | Performing conversions between coordinates systems such as Model View and Viewport transform | Data show | quiz |
| 6 | 4 | Dealing with basic 3D transformations (translate, scale, and shearing) | Performing basic and combined transformations on some geometric shapes | Data show | quiz |
| 7 | 4 | Understanding basic 3D transformations (reflection, rotation, composition, and inverse transformations) | Modeling a 3D shape (such as a cube) | Data show | quiz |
| 8 | 4 | Identify the effects of lighting and its types | Programming the lighting effect and its types | Data show | quiz |
| 9 | 4 | Dealing with the mechanism of shading and its different types | Modeling some three-dimensional shapes and studying the effect of light and shadow on them | Data show | quiz |

| (| | | | | | 1 1 | | |
|------------|-------------|--------------------------|-------------|--|----------------------------------|----------------------------------|--|--|
| 10 | 4 | Understanding | Pe | erforming Texture | Data . | | | |
| | | Texture Mapping | Mapping and | Data | aniz | | | |
| | | and its different | wr | apping 2D images | show | quiz | | |
| | | types | | inside 3D faces | | | | |
| 11 | 4 | Introduction to | Ν | Modeling shapes | | | | |
| | | Reflection and | | with different | Data | | | |
| | | Blending methods | t | ransparency and | show | quiz | | |
| | | | stu | dy the interactions | snow | | | |
| | | | | between them | | | | |
| 12 | 4 | Introduction to | M | odeling integrated | Data | | | |
| | | animation and its | | 3D scenes | show | quiz | | |
| | | various mechanisms | | | 5110 W | | | |
| 13 | 4 | Dealing with some | A | dding animation | | | | |
| | | advance topics in | eff | fects between 3D | Data | | | |
| | | computer graphics | | scenes | show | quiz | | |
| | | (virtual reality and | | | SHOW | | | |
| | | augmented reality) | | | | | | |
| 14 | 4 | Understanding some | 5 | Simulating some | | | | |
| | | advance topics in | e | effects of virtual | Data | auiz | | |
| | | computer graphics | | reality and | show | quiz | | |
| | | (games) | a | ugmented reality | | | | |
| 15 | 4 | Mid-Exam | Mi | d-Exam + display | Data | | | |
| | | | of | projects completed | show | quiz | | |
| | | | | by students | 5110 W | | | |
| 11. Co | ourse Eva | luation | | | | | | |
| Distribu | iting the | score out of 100 accord | ding | to the tasks assigne | ed to the studen | t such as daily | | |
| prepara | tion, daily | oral, monthly, or writte | en ex | ams, reports etc. | | | | |
| 12. Le | earning an | d Teaching Resources | r | | | | | |
| Require | ed textboo | ks (curricular books, if | any) | 1) "Fundamentals of | of Computer Gra | phics", S. | | |
| | | | | Marschner, and P. Shirley, CRC Press (A K | | | | |
| | | | | Peters), 2021. | - | | | |
| | | | | 2) "Computer Graphics: Principles and Practice", | | | | |
| | | | | J. F. Hughes, A. V. Dam, M. McGuire, D. F. | | | | |
| | | | | Sklar I D Foley S K Feiner and K Akeley | | | | |
| | | | | Addison-Wesley (Pearson Education) 2014 | | | | |
| Main re | ferences | (sources) | | 1 Steve Marschner and Pete Shirley | | | | |
| 1,10111111 | | (5041005) | | Fundamentals of Computer Graphics A K Peters | | | | |
| | | | | 2021 | | | | |
| | | | | | <u> </u> | | | |
| | | | | 2. John F. Hughes, Andries van Dam, Morgan | | | | |
| | | | | McGuire, David F. Sklar, James D. Foley, Steven | | | | |
| | | | | K. Feiner, and Kui | rt Akeley. Comp | outer Graphics: | | |
| 5 | | 1 1 1 2 | | Principles and Prac | tice. 2014. | <u> </u> | | |
| Recom | nended | books and referen | ces | 1) "Introduction | to Computer | Graphics". F. | | |
| (scienti | tic journa | ls, reports) | | Klawonn, Springer | r-Verlag Londo | n, 2 nd Edition, | | |
| | | | | 2012 | | | | |
| | | | | 2012. | | | | |
| | | | | 2012. 2) "OpenGL Prog | ramming Guide | ". Addison-Wee | | |
| | | | | 2012.2) "OpenGL Progr(Pearson Education) | ramming Guide on). D. Shreind | ", Addison-Wes er, G. Sellers | | |
| | | | | 2012. 2) "OpenGL Prog | ramming Guide | ", Addison-We | | |

| Electronic References, Websites | 1) <u>https://www.coursera.org/learn/interactive-</u> |
|---------------------------------|---|
| | computer-graphics |
| | 2) |
| | https://www.sciencedirect.com/journal/comput |
| | ers-and-graphics |
| | 3) |
| | https://www.frontiersin.org/journals/computer- |
| | science/sections/computer-graphics-and- |
| | visualization |

English Language Course Description Form

| 1. 0 | Course Name: | | | | | | | |
|--|--|---|------------------------------------|---|--|--|--|--|
| English Language | | | | | | | | |
| 2. (| Course Code: | | | | | | | |
| 3 (| Semester / Vear | | | | | | | |
| $\frac{3.1}{200}$ | 23/2024 | | | | | | | |
| 4 | 4 Description Preparation Date: | | | | | | | |
| 22/ | /3/2024 | | | | | | | |
| 5. 4 | Available Attend | lance Forms: | | | | | | |
| | In person | | | | | | | |
| 6. 1 | Number of Cred | it Hours (Total) / Nu | mbe | r of Units (Total) | | | | |
| | 2 credit hours / 2 | units | | | | | | |
| | | | | | | | | |
| 7. (| Course administ | rator's name (mention | n all | , if more than one na | ame) | | | |
| 1 | Name: Dr Hanee | en Ahmed | | | | | | |
|] | Email: haneen.a | @sc.uobaghdad.edu.i | iq | | | | | |
| 8. (| Course Objective | es | | | | | | |
| Course | Objectives | | Re | eviewing the Englis | h language | skills the student | | |
| | | | lea | arned and adding | new vocab | ulary and skills t | | |
| | | | se | rve the student in h | nis field of a | cademic study and | | |
| | | | de | eveloping his linguis | stic capabili | ties. | | |
| 0 7 | Facehing and La | amin a Ctuata aina | | | | | | |
| 9. | reaching and Le | 9. Teaching and Learning Strategies | | | | | | |
| Strategy - Providing the student with the basics of the topics | | | | | | | | |
| Strateg | y | - Providing th | ne st | udent with the basic | s of the topic | 2S | | |
| Strateg | y | - Providing th - Discussions - Asking intel | ne st and | udent with the basic problem solving du | s of the topic ring the lectures why and h | es ure ow | | |
| Strateg | y | - Providing th - Discussions - Asking intel - Giving assis | ne str and llect | udent with the basic problem solving du ual questions, such a ents | s of the topic ring the lecture as why and h | cs ure ow | | |
| Strateg | y | Providing th Discussions Asking intel Giving assignment | ne st and llect gnme | udent with the basic problem solving du ual questions, such a ents | s of the topic ring the lectu as why and h | es ure ow | | |
| Strateg | y burse Structure | Providing th Discussions Asking intel Giving assignment | ne st and llect gnmo | udent with the basic l problem solving du ual questions, such a ents | s of the topic ring the lect as why and h | cs ure ow | | |
| Strateg | y purse Structure Hours | Providing th Discussions Asking intel Giving assig | ne str and llect gnmo | udent with the basic problem solving du ual questions, such a ents Unit or subject | s of the topic ring the lectu as why and h | es ure ow Evaluation | | |
| Strateg 10. Co Week | y ourse Structure Hours | Providing th Discussions Asking intel Giving assig Required Learnin Outcomes | ne str and llect gnmo | udent with the basic problem solving du ual questions, such a ents Unit or subject name | s of the topic ring the lect as why and h Learnin g | es ure ow Evaluation method | | |
| Strateg 10. Co Week | y ourse Structure Hours | Providing th Discussions Asking intel Giving assig Required Learnin Outcomes | ne str and llect gnme | udent with the basic problem solving du ual questions, such a ents Unit or subject name | s of the topic ring the lectu as why and h Learnin g method | es ure ow Evaluation method | | |
| Strategy 10. Co Week | y ourse Structure Hours 2 theoretical | Providing th Discussions Asking intel Giving assig Required Learnin Outcomes | ne str and llect gnmo | udent with the basic l problem solving du ual questions, such a ents Unit or subject name | s of the topic ring the lectu as why and h Learnin g method lectures | Exaluation method Midterm exam | | |
| Strategy 10. Co Week | y ourse Structure Hours 2 theoretical | Providing th Discussions Asking intel Giving assig Required Learnin Outcomes | ne sti and llect gnme | udent with the basic problem solving du ual questions, such a ents Unit or subject name | s of the topic ring the lectu as why and h Learnin g method lectures | Evaluation method Midterm exam Daily evaluations | | |
| Strategy 10. Co Week | y burse Structure Hours 2 theoretical | Providing th Discussions Asking intel Giving assig Required Learnin Outcomes Unit 1 | ne str and llect gnmo | udent with the basic problem solving du ual questions, such a ents Unit or subject name | s of the topic ring the lectu as why and h Learnin g method lectures | Evaluation method Midterm exam Daily evaluations | | |
| Strategy 10. Co Week | y ourse Structure Hours 2 theoretical | Providing th Discussions Asking intel Giving assig Required Learnin Outcomes Unit 1 | ne str and llect gnmo | udent with the basic problem solving du ual questions, such a ents Unit or subject name | s of the topic ring the lectu as why and h Learnin g method lectures | es ure ow Evaluation method Midterm exam Daily evaluations | | |
| Strategy 10. Co Week 1 2 | y urse Structure Hours 2 theoretical 2 theoretical | Providing th Discussions Asking intel Giving assig Required Learnin Outcomes Unit 1 | ne sti and llect gnmo | udent with the basic problem solving du ual questions, such a ents Unit or subject name | s of the topic ring the lectu as why and h Learnin g method lectures | es ure ow Evaluation method Midterm exam Daily evaluations Midterm exam | | |
| Strategy 10. Co Week 1 2 | y urse Structure Hours 2 theoretical 2 theoretical | Providing th Discussions Asking intel Giving assig Required Learnin Outcomes Unit 1 | ne sti and lllect ggnmo | udent with the basic problem solving du ual questions, such a ents Unit or subject name | s of the topic ring the lectu as why and h Learnin g method lectures | Exaluation method Midterm exam Daily evaluations Midterm exam | | |
| Strategy 10. Co Week 1 2 3 | y urse Structure Hours 2 theoretical 2 theoretical 2 theoretical | Providing th Discussions Asking intel Giving assig Required Learnin Outcomes Unit 1 Unit 2 | ne st and llect gnmo | udent with the basic problem solving du ual questions, such a ents Unit or subject name | s of the topic ring the lectu as why and h Learnin g method lectures lectures | Evaluation method Midterm exam Daily evaluations Midterm exam Daily evaluations Midterm exam | | |
| Strategy 10. Co Week 1 2 3 | y burse Structure Hours 2 theoretical 2 theoretical 2 theoretical | Providing th Discussions Asking intel Giving assig Required Learnin Outcomes Unit 1 Unit 2 Unit3 | ne sti and lllect gnmo | udent with the basic problem solving du ual questions, such a ents Unit or subject name | s of the topic ring the lectu as why and h Learnin g method lectures lectures | Evaluation method Midterm exam Daily evaluations Midterm exam Daily evaluations Midterm exam Daily evaluations | | |
| Strategy 10. Co Week 1 2 3 4 | y urse Structure Hours 2 theoretical 2 theoretical 2 theoretical 2 theoretical | Providing th Discussions Asking intel Giving assig Required Learnin Outcomes Unit 1 Unit 2 Unit 3 Unit 4 | ne sti and llect gnmo | udent with the basic problem solving du ual questions, such a ents Unit or subject name | s of the topic ring the lectu as why and h Learnin g method lectures lectures lectures | Evaluation method Midterm exam Daily evaluations Midterm exam Daily evaluations Midterm exam Daily evaluations Midterm exam | | |
| Strategy 10. Co Week 1 2 3 4 | y urse Structure Hours 2 theoretical 2 theoretical 2 theoretical 2 theoretical | Providing th Discussions Asking intel Giving assig Required Learnin Outcomes Unit 1 Unit 2 Unit 3 Unit 4 | ne sti and llect ng ng | udent with the basic problem solving du ual questions, such a ents Unit or subject name | s of the topic ring the lectu as why and h Learnin g method lectures lectures lectures | Evaluation method Midterm exam Daily evaluations Midterm exam Daily evaluations Midterm exam Daily evaluations Midterm exam Daily evaluations | | |
| Strategy 10. Co Week 1 2 3 4 5 | y urse Structure Hours 2 theoretical 2 theoretical 2 theoretical 2 theoretical 2 theoretical 2 theoretical | Providing th Discussions Asking intel Giving assig Required Learnin Outcomes Unit 1 Unit 2 Unit 3 Unit 4 | ne sti and llect gnmo | udent with the basic problem solving du ual questions, such a ents Unit or subject name | s of the topic ring the lectu as why and h Learnin g method lectures lectures lectures lectures lectures | Evaluation method Midterm exam Daily evaluations Midterm exam Daily evaluations Midterm exam Daily evaluations Midterm exam Daily evaluations | | |
| Strategy 10. Co Week 1 2 3 4 5 | y urse Structure Hours 2 theoretical 2 theoretical 2 theoretical 2 theoretical 2 theoretical | Providing th Discussions Asking intel Giving assig Required Learnin Outcomes Unit 1 Unit 2 Unit 3 Unit 4 Unit 5 | ne sti and llect gnma | udent with the basic problem solving du ual questions, such a ents Unit or subject name | s of the topic ring the lectu as why and h Learnin g method lectures lectures lectures | Evaluation method Midterm exam Daily evaluations Midterm exam Daily evaluations Midterm exam Daily evaluations Midterm exam Daily evaluations Midterm exam Daily evaluations | | |
| Strategy 10. Co Week 1 2 3 4 5 6 | y urse Structure Hours 2 theoretical 2 theoretical 2 theoretical 2 theoretical 2 theoretical 2 theoretical 2 theoretical 2 theoretical | Providing th Discussions Asking intel Giving assig Required Learnin Outcomes Unit 1 Unit 2 Unit 3 Unit 4 Unit 5 Unit 6 | ne sti and llect gnmo | udent with the basic problem solving du ual questions, such a ents Unit or subject name | s of the topic ring the lectu as why and h Learnin g method lectures lectures lectures lectures lectures lectures lectures | Evaluation method Midterm exam Daily evaluations Midterm exam Daily evaluations Midterm exam Daily evaluations Midterm exam Daily evaluations Midterm exam Daily evaluations Midterm exam Daily evaluations | | |

| | 1 | 1 . | | | | 1 |
|---------------------------------|------------------|------------------------------|------------------------------|---------------------|---------------|-------------------|
| 7 | | 1 st written exam | | | lectures | Midterm exam |
| | | | | | | Daily evaluations |
| 8 | 2 theoretical | Unit 7 | | | lectures | Midterm exam |
| | | Unit / | | | | Daily evaluations |
| 9 | 2 theoretical | Unit 9 | | | lectures | Midterm exam |
| | | Unit 8 | | | | Daily evaluations |
| 10 | 2 theoretical | Unit 0 | | | lectures | Midterm exam |
| | | Unit 9 | | | | Daily evaluations |
| 11 | | 2 nd written exam | | | lectures | Midterm exam |
| | | | | | | Daily evaluations |
| 12 | 2 theoretical | Unit 10 | | | lectures | Midterm exam |
| | | Unit 10 | | | | Daily evaluations |
| 13 | 2 theoretical | Unit 11 | | | lectures | Midterm exam |
| | | Unit 11 | | | | Daily evaluations |
| 14 | 2 theoretical | Unit 12 | | | lectures | Midterm exam |
| | | Unit 12 | | | | Daily evaluations |
| 15 | 2 theoretical | Deview | | | lectures | Midterm exam |
| | | Review | | | | Daily evaluations |
| 11. Co | urse Evaluation | ÷ | | | | |
| - Month | ly exams | | | | | |
| - daily e | valuation | | | | | |
| - homew | vork | | | | | |
| 12. Le | arning and Teac | hing Resources | | | | |
| Require | d textbooks (cur | ricular books, if an | | New Headway | Plus Upper I | ntermediate, John |
| 1 | , , | |] | Liz Soars, Oxfo | rd University | Press, 2014 |
| Main ret | ferences (source | s) | | | | |
| Recomn | nended books | and references | | | | |
| (scientific journals, reports) | | | | | | |
| Electronic References. Websites | | | Online dictionaries such as: | | | |
| , | | | Meriam-Webster: | | | |
| | | | https | ://www.merriam-w | vebster.com/ | |
| | | | Cam | bridge: | | |
| | | | http | s://dictionary.camb | ridge.org | |

Computer security Course Description Form

| 1. Cou | 1. Course Name: | | | | | | | |
|-------------------------|-------------------|-------|------------------------|--------------|--------------------------|---------------------|--|--|
| Computer s | Computer security | | | | | | | |
| 2. Course Code: | | | | | | | | |
| CS9420 | CS9420 | | | | | | | |
| 3. Sem | ester / Y | Year | • | | | | | |
| Semester | Semester | | | | | | | |
| 4. Des | cription | Pre | paration Date: | | | | | |
| 2 nd Semeste | $r/4^{th}$ G1 | ade | Academic Year 202 | 23 - 7 • 7 ٤ | | | | |
| 5. Ava | ilable A | tten | dance Forms: | | | | | |
| 21-3 | 3-2024 | | | | | | | |
| 6. Nun | nber of | Crec | lit Hours (Total) / Nu | umber of U | Units (Total) | | | |
| 2 ho | ours –we | ek / | 2 units | | | | | |
| 7. Cou | rse adm | inis | trator's name (mentio | on all, if m | ore than one name) | | | |
| Nan | ne: Assi | stan | t Professor Dr. Nada | Hussein N | M. Ali | | | |
| Ema | ail: <u>nada</u> | .hus | sn@sc.uobaghdad.ed | <u>u.iq</u> | | | | |
| | | | | | | | | |
| Nan | ne: Assi | stan | t Professor Mays M. | Hoobi | | | | |
| Ema | ail: <u>May</u> | s.m | @sc.uobaghdad.edu. | iq | | | | |
| | | | | | | | | |
| 8. Cou | rse Obje | ectiv | /es | | | • | | |
| Course Ob | jectives | | a. Identify | the basic | concepts of computer s | ecurity | | |
| | | | b. Learn h | ow to take | e advantage of these con | ncepts to protect | | |
| | | | compute | ers from ex | sternal threat sources | | | |
| | | | c. A detail | ed underst | anding of the nature of | the work of | | |
| | | | protectio | on softwar | e | | | |
| | | | Ĩ | | | | | |
| 9. Tea | ching ar | ld L | earning Strategies | | | | | |
| Strategy | | Tra | ining students on sci | entific res | earch through seminars | s and brainstorming | | |
| | | dur | ing and after the lec | ture | | | | |
| | | | | | | | | |
| 10. Course | e Struct | ure | | | | | | |
| Week | Hours | 5 | Required | Unit or | Learning method | Evaluation | | |
| | | | Learning | subject | | method | | |
| 1 | | | Outcomes | name | | | | |
| 1 | 2 | | Introduction to | | Data | quiz | | |
| | | 2 | computer security. | | show | | | |
| 2 | | 2 | Access Control -1 | | Data | quiz + seminars | | |
| | | • | | | show | | | |
| 3 | | 2 | Access Control -2 | | Data | quiz + seminars | | |
| | | • | | | show | | | |
| 4 | | 2 | Identification and | | Data | quiz + seminars | | |
| | | | Authentication | | show | | | |
| | | ~ | | | | · · · | | |
| 5 | | 2 | Malicious | | Data | quiz + seminars | | |
| | | | software | | SHOW | | | |

| | | | | | 1 | |
|--------------|--------------|-------------------------|------------|--|-------------------------------|--|
| | | (Malware)-1 | | | | |
| | 2 | Maliaiaaa | | Dete | | |
| 0 | 2 | Malicious | | Data | quiz + seminars | |
| | | software | | snow | | |
| 7 | 2 | (malware)-2 | | Data | | |
| / | 2 | Nild Term | | Data | quiz + seminars | |
| 0 | 2 | | | | | |
| 0 | Z | virus | | Data | quiz + seminars | |
| 0 | 2 | Introduction to | | SIIOW | avia L cominens | |
| 9 | Z | Eirowells 1 | | Data | quiz + seminars | |
| | | rifewalls -1 | | snow | | |
| 10 | 2 | Introduction to | | Data | quiz + seminars | |
| | | Firewalls -2 | | show | | |
| | | | | | | |
| 11 | 2 | Intrusion detection | | Data | quiz + seminars | |
| | | system | | show | | |
| 12 | 2 | Intrusion prevention | | Data | quiz + seminars | |
| | | system | | show | | |
| 13 | 2 | security protocols1 | | Data | quiz + seminars | |
| | | | | show | | |
| 14 | 2 | security | | Data | quiz + seminars | |
| | | protocols1 | | show | | |
| 15 | 2 | Final Exam | | Data | quiz + seminars | |
| | | | | show | | |
| 11. Course | e Evaluation | n | | | | |
| Conducting | daily and r | nonthly exams and d | aily e | valuation, in addition | on to giving seminars during | |
| the lecture. | The pursuit | t grade is 40% and the | e final | exam grade is 60% | | |
| 12. Learni | ing and Tea | ching Resources | | | | |
| Required te | xtbooks (cu | ırricular books, if any | <i>י</i>) | Security in Computing, Fourth Edition, | | |
| | | | | By Charles P. Pfleeger - Pfleeger | | |
| | | | | Consulting Group, Shari Lawrence Pfleeger, | | |
| | , | | | 2010 | | |
| Main refere | nces (sourc | es) | | Stallings W., 201 | ,"Network Security | |
| | | | | Essentials, Applications and | | |
| | | | | Standards ", Fourth edition, Pearson | | |
| Deserver | dad 1 1- | and nofener (- ' | | Education, Inc., | iontific measurely on the T | |
| iournals rea | norts | and references (scier | iunt | v arious sc | tenunc research on the intern | |
| Electronic I | ports) | Wabaitaa | | Various | soorch wohsitas in interest | |
| | vererences, | VV CUSILES | | v arrous re | scarch websites in internet | |

C

| 1. Course Name: Software Development Tools | | | | | |
|---|--|--|--|--|--|
| Software Development Tools | | | | | |
| | | | | | |
| 2. Course Code: | | | | | |
| CSC24023 | | | | | |
| 3. Semester / Year: | | | | | |
| 2 nd Semester/ 4 th Grade/ Academic Year 2023 - ۲ • ۲ ٤ | | | | | |
| 4. Description Preparation Date: | | | | | |
| 21-3-2024 | | | | | |
| 5. Available Attendance Forms: | | | | | |
| Attendance: theoretical + practical | | | | | |
| 6. Number of Credit Hours (Total) / Number of Units (Total) | | | | | |
| 3 hours per week / 2 units | | | | | |
| 7. Course administrator's name (mention all, if more than one name) | | | | | |
| 3- Name: Assistant Professor Dr. Ammar I.Shihab | | | | | |
| | | | | | |
| Email: <u>ammar.1@sc.uobaghdad.edu.1q</u> | | | | | |
| | | | | | |
| 4- Name : Lecturer Bilal S.Albayati | | | | | |
| Email: <u>bilal.s@sc.uobaghdad.edu.iq</u> | | | | | |
| 8 Course Objectives | | | | | |
| 6. Course Objectives | | | | | |
| of the different categories of software development tools and their roles within the Software Development Lifecycle (SDLC). Tool Proficiency: Develop practical skills in using various software development tools, including IDEs, version control systems, debuggers, testing frameworks, and project management tools. Workflow Integration: Learn how to integrate different development tools into a cohesive workflow, streamlining development processes and maximizing efficiency. Effective Tool Selection: Develop the ability to select the most appropriate tool for a specific task based on project requirements, programming languages, and team preferences. Best Practices: Master best practices for using software development tools effectively, including configuration management, automation techniques, and collaboration strategies. Troubleshooting and Problem-Solving: Gain the ability to identify and resolve issues that may arise while using development tools, including debugging errors and optimizing tool performance. Staying Updated: Develop strategies for staying current with advancements in the software development tool landscape. This includes learning about new tools, updates to existing tools, and emerging trends in development methodologies. | | | | | |
| 5. Teaching and Learning Strategies | | | | | |
| Strategy Course Strategy for Software Development Tools | | | | | |

Target Audience:

• Define your target audience clearly. Are they beginners, experienced developers, or individuals transitioning to a new toolset? Knowing your audience helps tailor the course content and delivery methods.

Learning Objectives:

• Establish clear and measurable learning objectives based on the target audience and chosen tools. Refer to the course objectives section we discussed earlier for a foundation, and customize them further for your specific course.

Content Selection and Structure:

- **Content Scope:** Choose the software development tools you'll cover based on your audience and course goals. Consider including a mix of essential and advanced tools for well-rounded learning.
- **Structure and Flow:** Organize the course content logically, progressing from foundational concepts to more advanced topics.
 - Start with an introduction to various software development tool categories and their functionalities within the SDLC.
 - Gradually delve deeper into each chosen tool, focusing on core functionalities, practical applications, and best practices.

Instructional Methods:

- Variety is Key: Employ a diverse range of instructional methods to cater to different learning styles and keep students engaged.
 - Include instructor-led lectures for core concepts, interactive workshops for hands-on practice, video tutorials for visual learners, and group discussions to encourage knowledge sharing.
- Balance Theory and Practice:
 - Provide a strong foundation in theoretical knowledge, but ensure a significant portion of the course involves practical exercises and hands-on activities.
 - Students learn best by doing, so allow them to experiment with the tools and apply their newfound knowledge to real-world scenarios.

Assessment and Evaluation:

- Integrate formative and summative assessments throughout the course.
 - Formative assessments like quizzes, short assignments, and code reviews provide feedback opportunities and help students gauge their understanding.
 - Summative assessments like final exams or projects demonstrate mastery of the learning objectives.

Additional Considerations:

| • | Real-World Case Studies: Showcase how professional developers leverage the covered tools in real-world projects. This provides context and demonstrates the practical applications of the learned skills. Industry Trends: Incorporate discussions on emerging trends in software development methodologies and how these trends influence the use of development tools. Continuous Learning: Encourage students to develop strategies for staying updated with the ever-evolving landscape of software development tools. Recommend resources like online tutorials, industry publications, and developer communities. |
|------|--|
| Cour | se Delivery Options: |
| • | Traditional Classroom: Offer in-person lectures, workshops, and handson labs to create a collaborative learning environment. Online Learning: Develop an online course with video lectures, interactive modules, and online assessments for flexible learning. Blended Learning: Combine elements of in-person and online learning, offering a hybrid approach that caters to various learning preferences and schedules. |

| 6. Cours | Course Structure | | | | | | | |
|----------|----------------------|---|--|--|---|--|--|--|
| Week | Hours | Required Learning | Unit or subject | Learning | Evaluation | | | |
| | | Outcomes | name | method | method | | | |
| 1 | 3 hours/ In weeks | Overview of different UML diagrams and their purposes. | Introduction Software Developm Tools | Theoretical and practical lectures | Theoretical exams + practical assessment + practica exams | | | |
| 2 | 3 hours/ In weeks | Modeling objects and types of UML Representing class relationships (inheritance, association, aggregation, composition) using UML notation. | Understanding Fundamentals of UM | Theoretical and practical lectures | Theoretical exams + practical assessment + practical exams | | | |
| 3 | 3 hours/ In weeks | use case view structural view Behavioral view Implementation view Environment view How do use scenario Understanding use cases and their role in capturing user interactions with a system. | Use Case Diagrams | Theoretical and practica lectures | Theoretical exams + practical assessment + practical exams | | | |

| | | Creating use case diagrams to represent actors, use cases, and relationships. Specifying use case details with preconditions, postconditions, and | | | |
|----|----------------------|---|---------------------------|---|---|
| 4 | 3 hours/ In weeks | flow of events. Flow of events Example of use case | Use case part-1 | Theoretical and practica | Theoretical exams + |
| | | part1 Important use case | | lectures | practical assessment practical exams |
| 5 | 3 hours/ In weeks | Understanding < <include relationship<br="">Understanding <<exter relationship System boundary diagram</exter </include> | Use case Part 2 | Theoretical and practica lectures | Theoretical exams + practical assessment practical exams |
| 6 | 3 hours/ In weeks | -UML activity diagram -Example: processing order -Parallel activities | Activity diagrams par | Theoretical and practica lectures | Theoretical exams + practical assessmen practical exams |
| 7 | 3 hours/ In weeks | -Example: enrollment university - swimlane Guideline - advantage and disadvantage of activi diagram | Activity diagram part | Theoretical and practica lectures | Theoretical exams + practical assessment practical exams |
| 8 | 3 hours/ In weeks | -Understanding class diagram -Static relationships -Aggregation and Composition class diagram -attributes and operations - multiplicity diagram | Class Diagram | Theoretical and practica lectures | Theoretical exams + practical assessment practical exams |
| 9 | 3 hours/ In weeks | Exam#1(Chapters 1, 2 3) | Exam mid_1 | Theoretical and practica lectures | Theoretical exams + practical assessmen practical exams |
| 10 | 3 hours/ In weeks | Relationships of class diagram | Class diagram examples | Theoretical and practica lectures | Theoretical exams + practical assessmen practical exams |

| 11 | 3 hours/ | UML example 2: flig | Class diagram | Theoretical | Theoretical | | |
|---------------|--------------|-------------------------|------------------------|---|-----------------------|--|--|
| | In weeks | booking using class | additional examples | and practica | exams + | | |
| | | diagram | | lectures | practical assessmen | | |
| | | | | | practical exams | | |
| 12 | 3 hours/ | -Uses state diagram | State diagram | Theoretical | Theoretical | | |
| | In weeks | -Basic components | | and practica | exams + | | |
| | | - fork and Join | | lectures | practical assessmen | | |
| | | | | | practical exams | | |
| 13 | 4 hours/ | -Self-transition | State diagram | Theoretical | Theoretical | | |
| | In weeks | -steps for developme | C | and practica | exams + | | |
| | | state diagram | | lectures | practical assessment | | |
| | | -examples | | | practical exams | | |
| 1.4 | 4.1 (| | | T | | | |
| 14 | 4 hours/ | | Exam Mid_2 | I heoretical | Ineoretical | | |
| | In weeks | Exam2 | | lectures | practical assessment | | |
| | | | | lectures | practical exams | | |
| 15 | 4 hours/ | Final Exam | Final Exam | Theoretical | Theoretical | | |
| _ | In weeks | | | and practica | exams + | | |
| | | | | lectures | practical assessment | | |
| | | | | | practical exams | | |
| 7. Cours | se Evaluatio | on | | | | | |
| Conducting | g daily, m | onthly exams and dai | ly evaluation in add | ition to the | practical part in the | | |
| laboratory. | The pursu | it grade is 40% and the | final exam grade is 60 |)%. | | | |
| 8. Learn | and re | aching Resources | | | | | |
| Required to | extbooks (C | unicular books, if ally | 1."The Unified Mo | odeling Lang | uage Reference | | |
| | | | Manual" by Grad | y Booch, Jan | nes Rumbaugh, and | | |
| | | | Ivar Jacobson | | | | |
| | | | | | | | |
| | | | 2. "Using UML: P | ractical Obje | ect-Oriented Design | | |
| | | | with UML'' by Ro | bert B. Fran | ce and David Harel | | |
| Main auf | | | 1 Object Output | 1 Cruston - A | alvaia and | | |
| iviain refere | ences (sour | ces) | 1-Object-Oriented | 1 Systems An | | | |
| | | | Design Using UN | Design Using UML 4 edition By Simon | | | |
| | | | Bennett, Ray Farr | Bennett, Ray Farmer, Steve McRobb, 2010 | | | |
| | | | 2- Learning UML 2 | 2- Learning UML 2.0 by Russ Miles Kim Hamilton | | | |
| | | | 2006 | 2006 | | | |
| | | | 3- The Elements of | f UML 2.0 St | tyle by Scott W. Amb | | |
| | | | 2005. | | | | |
| Recommen | ided boo | bks and references | Various rese | earch works in | n internet | | |
| Flectronic | References | Websites | | | www.uml.org | | |
| | | , , , , 005105 | | | <u>w w w.unn.org</u> | | |
| | | | | | | | |

Data Compression Course Description Form

| | <u> </u> | T | | | | |
|----------------------|--------------------------------|--------------------------|---|--------------------|---------------|--|
| l. | Course N | Name: | | | | |
| Data Co | ompressi | on | | | | |
| 2. | Course (| Code: | | | | |
| 452 CE | DCOM | | | | | |
| 3. | Semester | r / Year: | | | | |
| 2 nd Serr | nester/ 4 ^{tr} | ¹ Grade/ Acad | lemic Year 2023 - ۲۰۲٤ | | | |
| 4. | Descript | ion Preparatio | on Date: | | | |
| 20/3/20 | 24 | | | | | |
| 5. | Availabl | e Attendance | Forms: | | | |
| | 20/3/202 | .4 | | | | |
| 6. | Number | of Credit Ho | urs (Total) / Number of Units (Total) | | | |
| | | | (BY 2 [×] ^٤) ³ / ₄ | | | |
| | | | | | | |
| | | | | | | |
| 7. | Course a | dministrator's | s name (mention all, if more than one nam | ne) | | |
| | Name: P | ro. Dr. Ghada | ah K. Al-Khafaji | | | |
| | Email: g | <u>hada.toma@s</u> | sc.uobaghdad.edu.iq | | | |
| | | | | | | |
| | Name: D | r. Huda M. R | Radha | | | |
| | Email: <mark>h</mark> | uda.rada@sc. | uobaghdad.edu.iq | | | |
| | | | | | | |
| 8. | Course (| Objectives | | | | |
| Course | Obiecti | ves 1- U | Inderstand how to reduce data by exploiting | ng redundancy(s | 5). | |
| | - J | 2- U | Using with different compression methods | and techniques. | , | |
| | | 3- U | Inderstanding the compression mechanism | n for different ty | rpes of data. | |
| | | 4- T | he student's knowledge encountered the | lata compression | n process | |
| | | 5-1 | Inderstanding and be familiar with standar | rd compression | techniques | |
| | | 5-0 | Learn about standard data compressi | on applications | s for Biome | |
| | | annl | ications | on applications | s for biolite | |
| 0 | Teaching | appi appi | a Stratagias | | | |
| J. Strator | Teaching | g and Learnin | g Strategies | | | |
| Strateg | <u></u> у | | | | | |
| | | | | | | |
| | | | | | | |
| 10 0 | | | | | | |
| 10. C | ourse Str | ucture | | T. | | |
| Week | Hours | Required | Unit or subject name | Learning | Evaluation | |
| | | Learning | | method | method | |
| | | Outcomes | | | | |
| | | | 1- Introduction to data compression of | | | |
| | | | lossless and lossy base, the need, how | | | |
| | | | to solved the problem in image audio, | | | |
| | video and text, Application of | | | | | |
| | | | compression and models of data | | | |
| | | | compression. | | | |
| | | | 2- Redundancy Types of all data. | | | |
| | | | Human Visual System and Fidelity | | | |
| | | | Criteria. | | | |
| | | | 3- Image Compression Structure with | | | |
| | | | Transform Coding & Spatial coding | | | |
| 1 | | | Transform County & Spatial County | | | |

| | | Mapper/de-mapper. |
|----------|----------------------|---|
| | | 4- Image Compression Structure with |
| | | Scalar (uniform/non-uniform) |
| | | &Vector Ouantizer. |
| | | 5- Image Compression Structure with |
| | | Statistical Lossless coding Techniques |
| | | of Entrony Decede Huffman Coding |
| | | or Encopy Based. Huminian Couning |
| | | and Dictionary Lossiess coding |
| | | Techniques LZW (LZW//, LZW/8) |
| | | along Information Theory |
| | | 6- First Exam |
| | | 7- Modeling and coding |
| | | (Autoregressive model Standard and |
| | | non-standard techniques/lossy & |
| | | Lossless methods for natural images |
| | | Compression Applications: Block |
| | | truncation coding bit plane slicing |
| | | and IDEC) |
| | | allu JPEU) 9 Color image |
| | | 8- Color image compression: |
| | | Introduction to color images, |
| | | redundancy and color system |
| | | structure. |
| | | 9- Video compression Techniques: |
| | | Introduction, types and compression |
| | | structure. |
| | | 10-Motion Estimation Techniques |
| | | (frame replenishment) GOP structure |
| | | (name representation) GOT structure, |
| | | 11 Second Exem |
| | | |
| | | 12- Text Compression |
| | | 13- Audio Compression |
| | | 14- Real world applications for |
| | | medical & bioinformatics Wavelet |
| | | based Compression & JPEG2000 |
| | | 15- Mobile multimedia computing |
| 11. Co | ourse Evaluation | |
| Dailv a | and monthly exame | s and Quizzes, class participation and attendance. in addition to preparing |
| practics | al reports and proje | ects, so that the endeavor is 50% and the final exam is 50%. |
| 12 Le | earning and Teach | ing Resources |
| Require | ed textbooks (ourr | icular bod 1- Gerardus B 2020 Data Compression A Complete Guide |
| if any | su lexibooks (cuili | 2020 Edition 5STAD Coolse |
| 11 any) | | 2020 Edition. 551 ARCooks |
| | | 2- Gonzalez, R. C. and Woods, R. E. 2017. Digital Image |
| | | Processing Using MATLAB. 3rd edn. Gatesmark |
| | | 3- Sayood, K. 2018. Introduction to Data Compression. 3rd5th |
| | | edn. Elsevier Publication |
| | | 4- Gonzalez, R. C. and Woods, R. E. 2017. Digital Image |
| | | Processing 4th edn. Pearson |
| | | 5 Shih E V 2010 Image Processing and Pottern Descention |
| | | J-Shift, F. I. 2010. Intage Processing and Pattern Recognition |
| | | Fundamental and Techniques |
| | | Fundamental and Techniques 6-Chapman N and Chapman I 2009 Digital Multimedia 3rd |
| | | Fundamental and Techniques 6-Chapman, N. and Chapman, J. 2009. Digital Multimedia, 3rd |

| | 7- David Salomon, "Data Compression – The Complete |
|----------------------------------|---|
| | Reference," 4th Edi. Springer, 2006 |
| | |
| Main references (sources) | |
| Recommended books and | • Pearlman, William A., and Amir Said," Digital Signal |
| references (scientific journals, | Compression: Principles and Practice", Cambridge University |
| reports) | Press, 2011. |
| | • Salomon, David, and Giovanni Motta," Handbook of |
| | data compression" Springer Science and Business Media, |
| | Fifth Edition, 2010. |
| | • Hoffman, Roy, "Data compression in digital systems", |
| | Springer Science and Business Media, 2012 |
| Electronic References, Websites | |

Course Description Form

| 1. | Course | Name: | data | mining |
|----|--------|-------|------|--------|
|----|--------|-------|------|--------|

2. Course Code:

3. Semester / Year: 4th year 2nd semester 2nd Semester/ 4th Grade/ Academic Year 2023 - ۲ • ۲ ٤

4. Description Preparation Date:

5. Available Attendance Forms:

6. Number of Credit Hours (Total) / Number of Units (Total) 60

Course administrator's name (mention all, if more than one name)
 Name: Tareef kamil mustafa
 Email: tareef.mustafa@sc.baghdad.edu.iq

8. Course Objectives Course Objectives

•

•••••

•••••

••••

9. Teaching and Learning Strategies
Strategy

| Strategy | | | | | |
|------------|------------|---------------------------|-----------------|----------|------------|
| 10. Course | e Structur | e | | | |
| Week | Hours | Required Learning | Unit or subject | Learning | Evaluation |
| | | Outcomes | name | method | method |
| 1 | | 1-Introduction to the cou | | | |

| | 0 | | |
|----|--------------------------------|------|--|
| 1 | 1-Introduction to the cour | | |
| 2 | 2-Data analysis and | | |
| 3 | normalization | | |
| 4 | 3-Data Warehouse | | |
| 5 | 4-Data mining concepts 1 | | |
| 6 | 5-Data mining concepts 2 | | |
| 7 | 6-Association rule | | |
| 8 | 7-Apriori algorithm | | |
| 9 | 8-Naïve Bayesian 1 | | |
| 10 | 9-Naïve Bayesian 2 | | |
| 11 | 10-Linear regression | | |
| 12 | 11-Text mining | | |
| | 12-Text mining algorithm | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

| 11. Course Evaluation | |
|---|---|
| Distributing the score out of 100 according to th | e tasks assigned to the student such as daily |
| preparation, daily oral, monthly, or written exams, r | eports etc |
| 12. Learning and Teaching Resources | |
| Required textbooks (curricular books, if any) | Data mining text book |
| Main references (sources) | lectures |
| Recommended books and references (scientific | Jiawei Han & Micheline Kaml |
| journals, reports) | (2013),3rd edition Data Mining: Conce |
| | and Techniques", |
| Electronic References, Websites | |
| | |
| | |
| | |
| | |

| | Robotics Control Course Description Form | | | | | | |
|--|---|--|--|--|--|--|--|
| 1. Course Name: | | | | | | | |
| Robotics Control | | | | | | | |
| 2. Course Code: | | | | | | | |
| | | | | | | | |
| 3. Semester / Year: | | | | | | | |
| 2 nd Semester/ 4 nd Grade/ | Academic Year 2023 - ۲۰۲۶ | | | | | | |
| 4. Description Prep | aration Date: | | | | | | |
| 01-09-2024 | an op Forman | | | | | | |
| 5. Available Attend | ance Forms: | | | | | | |
| 6 Number of Credi | t Hours (Total) / Number of Units (Total) | | | | | | |
| <u>۲/2</u> | | | | | | | |
| , <u> </u> | | | | | | | |
| 7. Course administr | ator's name (mention all, if more than one name) | | | | | | |
| Name: Assistant | Prof. Dr. Rawaa Dawoud Al-Dabbagh | | | | | | |
| Email: rawaa.has | san@sc.uobaghdad.edu.iq | | | | | | |
| 8. Course Objective | 2S | | | | | | |
| Course Objectives | • To develop skills in robot design, construction, and prototyping. | | | | | | |
| | • Understand robot planning and path optimization algorithms for | | | | | | |
| | autonomous navigation. | | | | | | |
| | • To understand the fundamental principles of robotics, including | | | | | | |
| | robot components, sensors, actuators, and control systems. | | | | | | |
| | • To develop problem-solving and critical thinking skills through | | | | | | |
| | hands-on robot projects and challenges. | | | | | | |
| | • To gain an awareness of current trends and advancements in | | | | | | |
| robotics such as machine learning swarm robotics and | | | | | | | |
| | humanoids | | | | | | |
| 9 Teaching and Le | arning Strategies | | | | | | |
| Strategy | • Lectures: Traditional lectures can be used to deliver theoretical | | | | | | |
| ~ | concepts principles and frameworks related to robotics. Lectures | | | | | | |
| | can be supplemented with visual aids demonstrations and | | | | | | |
| | examples to enhance understanding | | | | | | |
| | Hands on Lab Work: Practical lab sessions allow students to | | | | | | |
| | • Hands-on Lab work. Hactical lab sessions allow students to | | | | | | |
| | appry medical knowledge by working with robots and | | | | | | |
| | programming languages. These hands-on activities provide | | | | | | |
| | development | | | | | | |
| | development. | | | | | | |
| | • Group Projects: Assigning group projects encourages | | | | | | |
| | collaboration, problem-solving, and teamwork. Students can | | | | | | |
| | work together to design, build, and program robots to accomplish | | | | | | |
| | specific tasks or challenges. This fosters practical application, | | | | | | |
| | critical thinking, and project management skills. | | | | | | |
| | | | | | | | |

| 10. Course Structure | | | | | | |
|----------------------|-------|----------------------------------|---|--------------------|----------------------|--|
| Week | Hours | Required Learning Outcomes | Unit or subject name | Learning method | Evaluation method | |
| ١ | ۲ | | Introduction - What are Robots?, What are Robotic Paradigms? | | | |
| ۲ | ۲ | | Planning in Robotics – Definition of Path Planning and Path planning algorithms, node relaxation | | | |
| ٣ | ۲ | | Dijkstra's algorithm, Dijkstra's algorithm and the multiple start points | | | |
| ٤ | ۲ | | The A* algorithm in path planning | | | |
| 0 | ۲ | | Variants of A* algorithm (Beam search, Iterative Deepening A*, Dynamic weighted A*) | | | |
| ٦ | ۲ | | Analysis of heuristic functions (admissible, consistent, and dominance) | | | |
| ٧ | ۲ | | Incremental heuristic search - D* Lite algorithm | | | |
| ٨ | ۲ | | Mid-term Exam | | | |
| ٩ | ٢ | | Planning:Problemdecomposition,Anexampledomain:The blocks world | | | |
| ١. | ۲ | | The component of planning system and applying the rules, Planning methods (Planning with state-space search, Goal stack planning) | | | |
|)) | ۲ | | Planning and machine learning, Types of machine learning | | | |
| 17 | ٢ | | Robot Learning and Adaptation - Reinforcement learning (Q learning) for robot behavior | | | |
| 17 | Y | | Emerging Trends and Future of Robotics - Cutting-edge research topics in robotics, Emerging technologies in robotics (e.g., soft robotics, bio-inspired robotics), Implications of robotics in healthcare, transportation, and other industries | | | |

| | | | | | r | , |
|--|-----------------------|-----------------|---|--|-----------------|---------------|
| ١٤ | ۲ | | Robot Design and | l Construction - | | |
| | | | How does a re | obot sense its | | |
| | | | environment? Ty | pes of sensors, | | |
| | | | Build a simple | ocircuit for | | |
| | | | object detection | sensor using | | |
| | | | Arduino | | | |
| 10 | ۲ | | Robot Design and | l Construction - | | |
| | | | How does a ro | bot act in its | | |
| | | | environment? Ty | pes of motors, | | |
| | | | Build a simple c | ircuit for servo | | |
| | | | motor control usin | ng Arduino | | |
| ١٦ | ۲ | | Preparatory we | ek before the | | |
| | | | final Exam | | | |
| 11 C | | - 4: | | | | |
| 11. Co | 11. Course Evaluation | | | | | 1 1 1 |
| Distribu | ting the sc | ore out of 2 | according to the | tasks assigned t | to the student | such as daily |
| preparat | ion, daily o | oral, monthly, | or written exams, r | eports etc | | |
| 12. Lea | arning and | Teaching Res | ources | | | |
| Require | d textbooks | s (curricular b | ooks, if any) | | | |
| Main ref | ferences (so | ources) | | Russell, Stuart and Norvig, Peter. Artific | | |
| | | | Intelligence: A Modern Approach. 3: Prent | | | |
| | | | Hall, 2010. | | | |
| Recommended books and references (scientific | | | Spong, Mark | W., Hutchi | nson, Seth, a | |
| journals, reports) | | | Vidyasagar, M. Robot Modeling and Cont | | | |
| | | | | 2nd Edition: W | iley, 2020. | |
| Electron | ic Reference | ces, Websites | | https://www.ed | x.org/learn/rob | ootics |