Arid Institute of Sciences – Mandi Bahauddin

(Affiliated)

Pir Mehr Ali Shah

Arid Agriculture University, Rawalpindi

Self-Assessment Report

Bachelor of Computer Science

2023- 2024

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Preface

The Arid Institute of Sciences (AIS) located in Mandi Bahauddin, Punjab, is established with the premise of providing affordable quality education to the youth. As an affiliated institute of Pir Mehr Ali Shah Arid Agriculture University Rawalpindi (PMAS-AAUR) ranked at 10th among all Pakistani Universities and 800-1000 among the world universities, AIS aspires to excel in the field of Computer Sciences, Management Sciences and Life Sciences. To realize our mission, AIS is committed to providing quality education in computer science through highly qualified and motivated faculty, excellent infrastructure, and state-of-the-art facilities. As a young, innovative, and forward-thinking institution, AIS aspires to compete with the leading computer science institutes in the country and internationally. The institute is dedicated to a unique approach (at least in the region) that integrates cutting-edge research with comprehensive practical training. Unlike conventional academic institutes, AIS continuously evolves its curriculum in response to emerging trends in computing, artificial intelligence and software development. Rooted in the values of integrity, honesty, professional excellence, and a broader vision of technology's role in society, AIS aims to provide an educational experience that transforms students into world-class software engineers and technology entrepreneurs.

AIS Vision and Mission

Vision

To be a beacon of knowledge and excellence, empowering the next generation of leaders with a transformative education experience. We aspire to nurture creativity, critical thinking, and innovation, preparing students to tackle global challenges and make a positive impact on society..

Mission

Our mission is to empower and transform lives through quality education, fostering academic excellence, critical thinking, and innovative problem-solving skills. We are committed to providing a supportive and inclusive learning environment that nurtures the intellectual, social, and personal development of our students. Through rigorous academic programs and experiential learning opportunities, we aim to prepare our graduates to become responsible

global citizens, equipped to meet the challenges of the future and contribute positively to society.

Organizational Structure

The Department of Computer Science is a part of the Department of Computer and Software engineering whereas AIS is one of the affiliated institutes of Arid Agricultural University Rawalpindi. The overall organizational structure is shown in Figure 1.

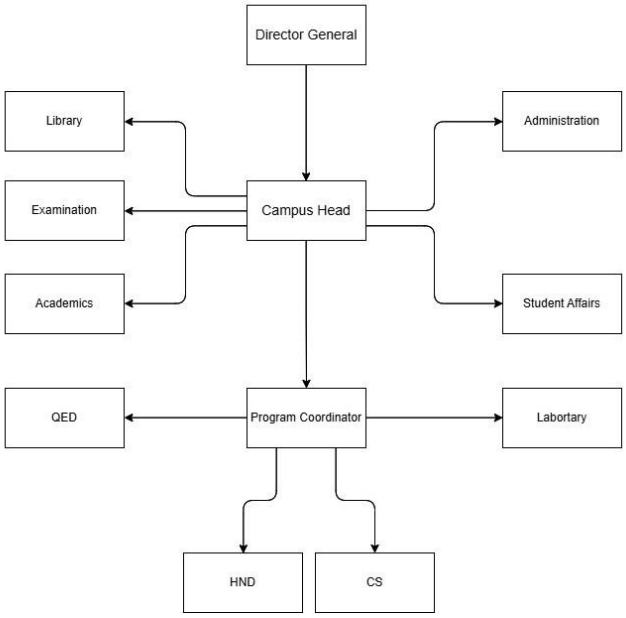

Figure 1: Organization Overall Flow

Program Delivery Mode and Location

The Department of Computer Science offers the BSCS program courses during the week days between the hours of 08:30 am and 04:30 pm at the campus, Mandi Bahauddin. Courses are generally offered in the fall and spring semesters. Selected courses are offered during the summer semester. Most of the courses are delivered in the lecture format and there is a computing component to some core courses. In addition to the lectures, project work is also part of many courses, allowing students to solve complex and open-ended computing problems. A dedicated six credit hour final year project will be carried out by students during the seventh and eighth semesters.

Quality Enhancement Department (QED)

AIS, as an affiliated institute, believes in high quality of education and has a stringent system of quality management in place. Several layers of quality enhancement are part of this overall system. The authorities and responsibilities of all layers of the quality enhancement department are covered in AIS statutes and policies. A Quality Assurance (QA) directorate is functioning at the AAUR level and is responsible for overlooking and ensuring the quality of all programs offered at AIS. AIS established the internal Quality Enhancement Department (QED) in 2021 to carry out periodic audits of degree programs to ensure that they meet the highest standards of quality. The Institute Curriculum Review Committee (ICRC) also function at the institute level and send their reports to AAUR respective Department Board of Studies (DBS) who are responsible for discussing and finalizing matters regarding a program's quality, necessary support and data is provided by Academics Branch of the department as well as by Examination Cell.

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CRITERION 1 PROGRAM MISSION, OBJECTIVES AND OUTCOMES

Criterion 1 Program Mission, Objectives and Outcomes

1.1 Program's Vision and Mission

BSCS Program's Vision

We strive for excellence in teaching and research in the essential and applied aspects of computer science to address a wide range of challenging scientific and societal problems.

BSCS Program's Mission

To foster a culture that invites, develops, and sustains the best existing scientific and technological thinkers by providing them with a world-class education that takes advantage of available resources to inculcate advanced technical knowledge. The department also strives to improve students' verbal and written communication abilities to prepare them for successful careers in industry and academia.

Standard 1-1: The program must have documented measurable objectives that support faculty and institution vision mission statements.

1.2 BSCS Program Educational Objectives (PEOs)

The department's main focus of is to develop potential workers to cope with any challenging environment, to develop field values and skillset in our students, which is the core demand of the computing market and to take innovative initiatives that lead towards growth of the market as well. Mastering in any discipline requires the ability to think critically, analyze data, make recommendations, and communicate effectively. It demands not only knowledge but also the ability to apply it and idea generation to grow differently with an upward table trend.

The Computer Science program aims at developing the student's intellectual ability, analytical thinking and managerial skills through an appropriate blend of theory and practice. The program assists the students in understanding and developing unique leadership qualities required for a changing and dynamic business environment. The four program educational objectives (PEOs), as given below, form the basis of the BSCS program at AIS. Within a few years of graduation, the students with a bachelor's in computer science are expected to attain the following.

1. Developing critical thinking, problem-solving abilities and competence in computer science result in a successful career.
    - To demonstrate an understanding of the core areas of algorithms, theory of computation, operating systems, linguistics of programming languages, and architecture.
    - To demonstrate proficiency in software development, including computational analysis, software designing and the use of tools to apply programming language routines.
    - To apply practical basis theories and practices to a variety of problem-centered solutions, both standard and some unconventional.
2. To develop written and oral communication skills participating in efforts to address societal and technical / business challenges.
3. To develop global awareness and appreciation for cultural diversity and decision-making skills.
4. To enhance their professional development and technical knowledge through continuing education.

Strategic Plan to Achieve Program Objectives

- Develop and deliver much broader and up-to-date teaching material that is interactive, understandable and reasonable for the award of the degree.
- Formulation and consistent revision of curriculum involving core subjects, elective subjects, specialized areas, technical labs and study tours.
- The conductance of general and specialized lab-work for achieving competence with industrial experience.
- Faculty development programs to affect the learning process of students as well as faculty itself and quality of education.
- Industry and academia collaborate to introduce our students to the practical implementation of various technologies.

1.3 Consistency of Program Educational Objectives with Vision and Mission of AIS, Vision and Mission of BSCS Program

The Program Educational Objectives (PEOs) of the BS computer science are consistent with the vision and mission of AIS and the mission of the BS Program.

Table 1: Consistency of PEOs with Vision and Mission of AIS, Mission of BSCS

PEO	AIS Vision	AIS Mission	Program Vision	Program Mission
1 (Computer Science knowledge and competence)	✓	✓	✓	✓
2 (Interpersonal and technical competence)	✓	✓	✓	✓
3 (Environment, society, individual and teamwork)	✓	✓	✓	✓
4 (Research and continuous learning)	✓	✓	✓	✓

1.4 Assessment of Program Educational Objectives (PEO)

A minimum attainment level for each PEO has been defined along with its method of measurement. The measurement of PEO will be carried out using indirect assessment tools. A single PEO has multiple performance indicators. The details of performance indicators and their measurement methods are listed in Annexure A and B. In case, multiple survey questions are attributed to the calculation of a single KPI, equal weightage is given to each question. All KPIs related to a PEO must be attained to achieve the relevant PEO.

Table 2: Assessment of Program Educational Objectives

Program Educational Objective		How Measured	When to Measured	Key Performance Indicators (KPI)	Improvement Needed
PEO 1	Develop critical thinking, problem-solving abilities and competence in computer science result in a successful career.	Alumni Survey (Q1) Employers Survey (Q1)	End of every academic session After 2 years of student graduation		
PEO 2	Develop written and oral communication skills participating in efforts to address societal and technical / business challenges.	Alumni Survey (Q1, Q2, Q8) Employers Survey (Q1)	End of every academic session After 1 year of student graduation		
PEO 3	Develop global awareness and appreciation for cultural diversity and decision-making skills.	Alumni Survey (Q3, Q6) Employers Survey (Q3)	End of every academic session After 1 year of student graduation		

PEO 4	Enhancing their professional development and technical knowledge through continuing education.	Alumni Survey (Q2, Q3, Q4) Employers Survey (Q3, Q4)	End of every academic session After 1 year of student graduation		

Standard 1-2: The program must have documented outcomes for graduating students. It must be Demonstrated that the outcomes support the program objectives and that graduating students are Capable of performing these outcomes.

1.5 Review Process of PEOs Identifying Strengths and weakness

Measurement of the defined PEOs will be carried out by indirect assessment methods after 1-3 years of graduation. Surveys from employers/industries and alumni will be conducted periodically. Graduating student surveys and faculty feedback will be collected. The alumni and employers survey will be conducted after 1-3 years of graduation from a computer science class. Since the first class of students will pass out in the year 2026, this data will be compiled in the year 2028. Once this process starts, it will be carried out every year as a class of students is graduating every year.

The surveys will be carried out and their results will be compiled by the QED and the program's coordinator. An analysis report will be presented by the Director and Director of Academics to the review committee comprising the Head of Department, Faculty, QED member and program coordinators. The review committee will recommend improvements/modifications/enhancements (if required), and implementation will be carried out by the department. Figure 2 depicts this process in the form of a flow chart.

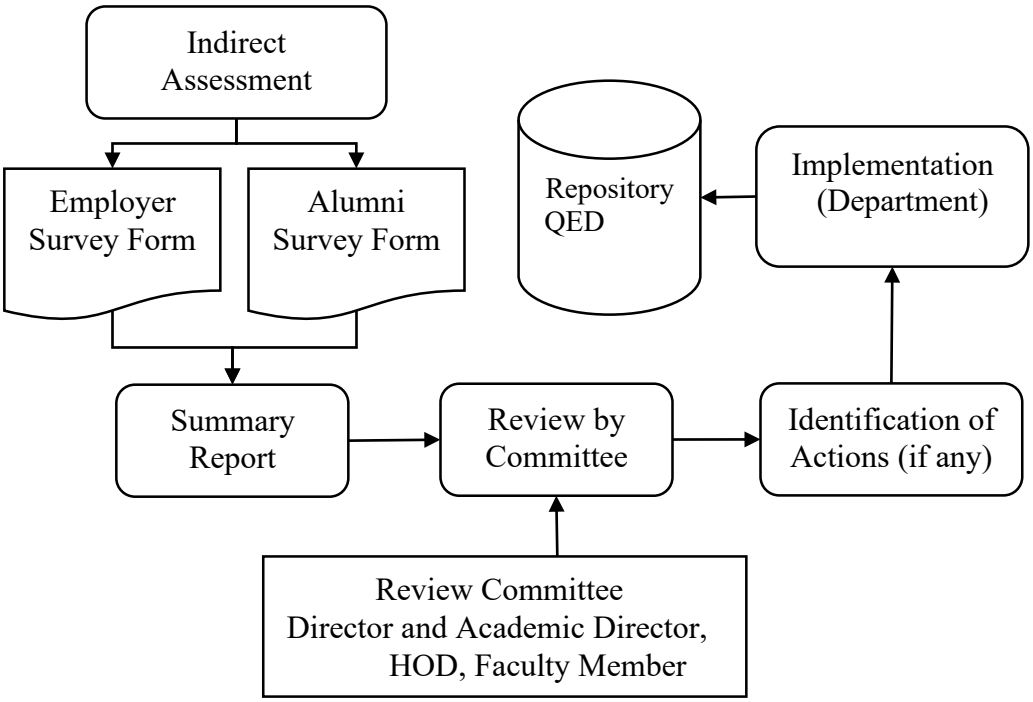

Figure 2: Flowchart of Processes Involved in Establishing and Reviewing PEOs

Table 3: Relationship of Program Outcomes and Objectives

Based on internal assessment (as surveys will be conducted in 2026)

Program Objectives	**Program Outcomes**					
	1	**2**	**3**	**4**	**5**	**6**
1	+++	+++	+++	+++	++	+++
2	++	++	++	+	++	+
3	++	++	++	+++	+++	++
4	+++	++	++	+++	+++	+++

Rating Scale

+ = Moderately Satisfactory

++= Satisfactory

+++= Highly Satisfactory

1.5.1 Graduating Survey

The survey will be conducted in 2026 when the first BSCS batch graduates.

1.5.2 Alumni Survey

The survey will be conducted in 2027 after the first BSCS batch graduates.

1.5.3 Employer Survey

The survey will be conducted in 2027 -2028 after the first BSCS batch graduates.

Standard 1-3: The results of program's assessment and the extent to which they are used to improve the program must be documented

1.5.4 Strength of the Program

Computer science is such a big and diversified industry, there are numerous career paths and responsibilities to choose from, and the institution supports students in recognizing talents that can help them thrive in areas that match with their interests and objectives. We've established state-of-the-Art Facilities, well-equipped labs, computer clusters, and infrastructure. Active Student Organizations: are also working to run students' affairs clubs. Hackathons, and coding competitions can create a vibrant community and provide opportunities for students to apply their skills in real-world contexts

1.5.5 Weakness of the Program

Computer science program could include limitations or problems. One of the most prevalent issues with our computer science program is an out-of-date curriculum. Resources for computer science program may be scarce in smaller or less wealthy institutions. Networking and contacts are crucial in the technology sector. Institutions that forbid students from attending conferences, networking with business leaders, or taking part in internships may harm their graduates.

1.5.6 Future Development of the Program

Current trends in education and technology, as well as the institution's particular objectives and resources, will all be taken into consideration while developing a Computer Science Program for our institute. Industry Collaborations, a Global Perspective, and Lifelong Learning will be featured.

1.6 Define and Publish Program Learning Outcomes (PLOs)

Six PLOs have been defined for the bachelor's in Computer Science program by keeping in mind the PEOs of the program.

1.6.1 Program Learning Outcomes

At the successful completion of a BSCS degree, the students will be equipped with the following.

1. **Be competent in theoretical and mathematical foundations of computer science and be able to**

    a) Apply fundamental concepts of discrete mathematics such as logic, proofs, set theory, relations, functions, and combinatory to model computational problems.
    b) Demonstrate the application of abstract structures such as graphs, finite state machines, and recurrence relations to the solution of computer science problems.
    c) Analyze and evaluate the comparative performance of algorithms and data structures appropriate to solving computer science problems.
    d) Apply concepts related to data structures such as lists, stacks, queues, arrays, graphs, trees, heaps, and hashing to design and create algorithms.

2. **Be proficient in one programming language and have a basic knowledge of several others and be able to**

    a) Write efficient solutions to specific problems using an object-oriented programming language.
    b) Write programs in assembly language.
    c) Write programs in a procedural programming language.

3. **Understand the hardware and software architecture of computer systems and be able to**

    a) Explain the function and interaction of computer processing units, memories, and input/output devices.
    b) Define and explain elements of operating systems such as memory management, process scheduling, synchronization and interaction, and input/output devices.

c) Distinguish computer network elements and understand issues related to computer security.

4. **Demonstrate the ability to participate in professional practices related to software engineering and be able to**

    a) Negotiate, clarify, and document customer requirements.
    b) Apply knowledge of fundamental algorithms, programming language concepts, and design patterns to determine an overall design for a software system implement a fully specified system.
    c) Test a fully specified system.
    d) Plan and monitor the progress of software projects to ensure on time delivery of a high-quality system.

5. **Be able to communicate effectively about computer science-related topics and be able to**

    a) Deliver an audience-sensitive oral technical presentation.
    b) Write an audience-sensitive technical document.
    c) Contribute effectively to software-based system development teams.

6. **Demonstrate the ability to be responsible practitioners of computer science and understand the social and ethical implications of computing and be able to**

    a) Demonstrate ways in which computers pose new ethical questions or pose new versions of standards, moral problems and dilemmas.
    b) Recognize and, when appropriate, resolve ethical problems or dilemmas related to the computing profession.

1.7 Mapping of PLOs to PEOs

The twelve PLOs, defined for the Computer Science Program, are mapped to the four PEOs. Mapping of the PLOs to PEOs is given in Table 4.

Table 4: Mapping of Program Learning Objectives and Program Educational Objectives

PLO No	Program Learning Outcome	PEO 1	PEO 2	PEO 3	PEO 4
1	Be competent in theoretical and mathematical foundations of computer science	✓			
2	Be proficient in one programming language and have a basic knowledge of several others		✓		
3	Understand the hardware and software architecture of computer systems		✓		
4	Demonstrate the ability to participate in professional practices related to software engineering		✓		✓
5	Be able to communicate effectively about computer science-related topics	✓			
6	Demonstrate the ability to be responsible practitioners of computer science and understand the social and ethical implications of computing			✓	

1.8 Process of Data Gathering and Results of Assessment of PLOs

PLOs of the computer science program are evaluated for two purposes.

1. Each student has to pass all six PLOs during the four-year degree program. This requirement is in addition to the GPA requirements of the program. This assessment is referred to as the Student PLO assessment.
2. Each PLO is also assessed to ensure the quality of the computer science program. This assessment is referred to as Program PLO assessment.

1.8.1 Direct Assessment

Direct assessment of PLOs is carried out from the assessment of Course Learning Objectives (CLOs) pertaining to a particular PLO.

1.8.2 Indirect Assessment

Indirect assessment will be carried out using graduating student survey, in year 2026. which is collected at the time of graduation. KPIs for student and program PLO assessment are given in Table 6.

Table 5: Key Performance Indicators for Program Learning Objective Assessment

Program Learning Outcomes 1 to 6	Measurement Tool	Key Performance Indicator	Measurement time
Program PLO assessment	Graduating student survey form *(Indirect)*	Will be Obtained from the graduating students in year 2026	At the time of graduation
	Attainment via course assessments (CLOs,) *(Direct)*	60% of every cohort attains at least 50% in each PLO	At the end of each academic year and semester
Student PLO assessment	Attainment via course assessments, projects, assignments, etc. *(Direct)*	At least obtain 50% in each PLO upon graduation	At the end of each Semester

1.9 Application of Assessment Results to Develop and Improve the Program Learning Objectives (PLO)

1.9.1 Results of PLO Attainment Obtained Through Direct Assessment

1.9.1.1 PLO 1: Be Competent in Theoretical and Mathematical Foundations of Information Technology

PLO 1: Be Competent in Theoretical and Mathematical Foundations of Computer Science	
Assessment Method	**Minimum Level of Achievement**
Attainment via direct assessments	60% of the students attain at least 50% of marks
Graduating student survey	

Table 6: Courses in Which Student Performance on PLO 1 is Assessed

S No	Semester No.	Course Code	Course Title
1	1	MTH-101	Calculus & Analytical Geometry
2	3	MTH-103	Linear Algebra
3	2	STT-101	Probability & Statistics
4	2	MTH-102	Multivariable Calculus

Table 7: Summary of Assessment Results for PLO1.

S No	Cohort	Fall 2024 (%age attainment)	Spring 2024 (%age attainment)	Fall 2023 (%age attainment)	Spring 2023(%age attainment)	Overall Average (%age attainment)
1	MTH-101	98		76.92		87
2	MTH-102		98.5		98	98.25
3	MTH-103		100		85.71	92.5

1.9.1.2 PLO 2: Be Proficient in One Programming Language and Have a Basic Knowledge of Several Others.

PLO 2: Be Proficient in One Programming Language and Have a Basic Knowledge of Several Others	
Assessment Method	**Minimum Level of Achievement**
Attainment via direct assessments	60% of the students attain at least 50% of marks
Graduating student survey	

Table 8: Courses in Which Student Performance on PLO 2 is Assessed.

S No	Semester No.	Course Code	Course Title
1	1	CSC-101	Programming Fundamentals
2	2	CSC-101	Object Oriented Programming
3	5	CS-432	Modern Programming Languages
4	4	CSC-251	Web Technologies
5	5	CS-692	Visual Programming
6	6	CSC-351	Web Engineering

Table 9: Summary of Assessment Results for PLO 2

S No	Cohort	Fall 2024 (%age attainment)	Spring 2024 (%age attainment)	Fall 2023(%age attainment)	Spring 2023 (%age attainment)	Overall Average (%age attainment)
1	CSC-101	84.21		63.64		73.92
2	CSC-251		94.44		64.1	79.27
3	CS-692		100		66.67	83

1.9.1.3 PLO 3: Understand the Hardware and Software Architecture of Computer Systems.

PLO 3: Understand the Hardware and Software Architecture of Computer Systems	
Assessment Method	**Minimum Level of Achievement**
Attainment via direct assessments	60% of the students attain at least 50% of marks
Graduating student survey	

Table 10: Courses in Which Student Performance on PLO 3 is Assessed

S No	Semester No.	Course Code	Course Title
1	2	CSC-111	Digital Logic Design
2	3	CSC-211	Computer Organization & Assembly Language
3	4	CSC-302	Theory of Automata

Table 11: Summary of Assessment Results for PLO 2

S No	Cohort	Fall 2024 (%age attainment)	Spring 2024 (%age attainment)	Fall 2023(%age attainment)	Spring 2023(%age attainment)	Overall Average (%age attainment)
1	CSC-111		90		94.11	92.05
2	CSC-211		76.47		87	81.73
3	CSC-302		97		100	98.5

1.9.1.4 PLO 4: Demonstrate the Ability to Participate in Professional Practices Related to Software Engineering

PLO 4: Demonstrate the Ability to Participate in Professional Practices Related to Software Engineering	
Assessment Method	**Minimum Level of Achievement**
Attainment via direct assessments	60% of the students attain at least 50% of marks
Graduating student survey	

Table 12: Courses in Which Student Performance on PLO 4 is Assessed

S No	Semester No.	Course Code	Course Title
1	5	CSC-205	Software Engineering

Table 13: Summary of Assessment Results for PLO 4.

S No	Cohort	Fall 2024 (%age attainment)	Spring 2024 (%age attainment)	Fall 2023 (%age attainment)	Spring 2023(%age attainment)	Overall Average (%age attainment)
1	CSC-205	100		94		97

1.9.1.5 PLO 5: Be Able to Communicate Effectively About Computer Science-related Topics

PLO 5: Be Able to Communicate Effectively About Computer Science-related Topics.	
Assessment Method	**Minimum Level of Achievement**
Attainment via direct assessments	60% of the students attain at least 50% of marks
Graduating student survey	

Table 14: Courses in Which Student Performance on PLO 5 is Assessed

S No	Semester No.	Course Code	Course Title
1	4	CSC-301	Operating System
2	2	CSC-103	Database Systems
3	5	CSC-202	Computer Networks
4	7	CSC-202	Information Security
5	7	CSC-203	Artificial Intelligence

Table 15: Summary of Assessment Results for PLO 5.

S No	Cohort	Fall 2024 (%age attainment)	Spring 2023 (%age attainment)	Fall 2023 (%age attainment)	Spring 2023(%age attainment)	Overall Average (%age attainment)
1	CSC-301	97		93		95
2	CSC-103	95		98		96.5
3	CSC-203	98		97		97.5

1.9.1.6 PLO 6: Demonstrate the Ability to be Responsible Practitioners of Computer Science and Understand the Social and Ethical Implications of Computing.

PLO 6: Demonstrate the Ability to be Responsible Practitioners of Computer Science and Understand the Social and Ethical Implications of Computing.	
Assessment Method	**Minimum Level of Achievement**
Attainment via direct assessments	60% of the students attain at least 50% of marks
Graduating student survey	Obtained at least 60% of the average score in the PO assessment survey based on a score of 3 and greater on the scale of 1 to 5

Table 16: Courses in Which Student Performance on PLO 6 is Assessed

S No	Semester No.	Course Code	Course Title
1	2	ENG-325	Communication & Presentation Skills
2	3	SSH-402	Professional Practices
3	3	MGT-322	Financial Accounting
4	6	MGT-351	Introduction to Marketing
5	5	MGT-411	Introduction to Management
6	7	MGT-515	Introduction to Human Resource Management

Table 17: Summary of Assessment Results for PLO 6

S No	Cohort	Fall 2024 (%age attainment)	Spring 2024 (%age attainment)	Fall 2023(%age attainment)	Spring 2023 (%age attainment)	Overall Average (%age attainment)
1	SSH-402		100			100
2	MGT-322	95				95
3	MGT-351	100				100

Standard 1-4: The department must access its overall performance periodically using quantifiable measures.

1.10 Admission Response and Percentage Admitted

Student's response towards Computer science at AIS has been encouraging as can be seen from the final merit list is given in Table 18.

Table 18: Student Admissions and Enrolments

Sr. No.	Intake Batch	Total Admissions offered	Total Students Admitted	Present Strength	No. of Section(s)
1	Fall 2024	100	27	22	1
2	Spring 2024	--	0	0	0
3	Fall 2023	100	20	12	0
4	Spring 2023	--	--	--	---

1.10.1 Intake

The student intake for the Computer Science program is shown in Table 20.

Table 19: Student Intake for Computer Science Program

Batch	Sections	No. of Students
Fall 2024	Section A	27
Spring 2024	Section A	--
Fall 2023	Section A	20
Spring 2023	Section A	--
Total		

Table 20: Number of Students Enrolled in BSCS in Last 3 Years

Year	2022-2023	2023-2024	2024-2025
Students	20	20	27

1.11 Alumni Survey

A survey will conducted from the employees after graduation in year 2027-2028.

1.12 Teacher and Course Assessment

1.12.1 Teacher Evaluation

At the end of every semester teacher evaluation is conducted from the students to assess the teacher/ instructor performance and instructor attitude towards the student and classroom learning from students' perspective. Some of the teacher evaluation results are presented here. The results of teacher evaluation are shared with teacher and get feedback from teachers. In some case where QED and Department found unusual result and significant comment that shows the teacher and student had serious conflict regarding the fair assessment, classroom learning and teacher attitude towards students. QED had meeting with concerned teacher to address the issues.

1.12.2 Course Evaluation

At the end of every semester course evaluation is conducted from the students to assess the learning outcomes of course. Some of the course evaluation results are presented here. The results of course evaluation is shared with teacher and get feedback from teachers. The results of course evaluations help to identify how much the course learning objectives were achieved.

Session: Fall_2024
Instructor Name: Mr/Ms Asifa Batool
Course: CSC-110 Discrete Structures
Class: BSCS (1st)(1)

The student shows the positive response towards instructor which showcase the student's satisfaction towards teacher. The 79% students were strongly agreed instructor was prepared for class. The 83% and 12% were strongly agreed and agreed respectively that instructor was available during the specified office hours and for after class consultations

Description	S.A	A	UC	D	S.D
The Instructor is prepared for each class.	79%	21%	0%	0%	0%
The Instructor demonstrates knowledge of the subject.	92%	8%	0%	0%	0%
The Instructor has completed the whole course.	92%	8%	0%	0%	0%
The Instructor provides additional material apart from the textbook.	71%	21%	4%	0%	4%
The Instructor gives citations regarding current situations with reference to Pakistani context.	79%	17%	0%	0%	4%
The Instructor communicates the subject matter effectively.	88%	13%	0%	0%	0%
The Instructor shows respect towards students and encourages class participation	83%	17%	0%	0%	0%
The Instructor maintains an environment that is conducive to learning.	79%	21%	0%	0%	0%
The Instructor arrives on time.	88%	13%	0%	0%	0%
The Instructor leaves on time.	92%	8%	0%	0%	0%
The instructor has completed all classes regularly.	92%	8%	0%	0%	0%
The instructor posts the assignments/quizzes on time and give reasonable time to complete the assigned assignments/quizzes.	92%	4%	4%	0%	0%
The Subject matter presented in the course has increased your knowledge of the subject.	88%	8%	0%	0%	4%
The Instructor was available during the specified hours on office and after class for consultations.	83%	13%	4%	0%	0%
The course integrates theoretical course concepts with real-world applications.	83%	13%	0%	0%	4%

The assignments and exams covered the materials presented in the course.	92%	8%	0%	0%	0%
The course material is modern and updated	88%	8%	0%	0%	4%
The teacher is fair in exams.	96%	4%	0%	0%	0%

S.A:(Strongly Agree) A:(Agree) UC:(Uncertain) D:(Disagree) S.D:(Strongly Disagree)

Session: Fall_2024
Instructor Name: Mr/Ms Syed Zeeshan Hassan
Course: CSC-251 Web Engineering
Class: BS CS 5th(5)

The student shows the positive response towards instructor which showcase the student's satisfaction towards teacher. The 75% students were strongly agreed instructor was prepared for class. The 75% and 25% were strongly agreed and agreed respectively that instructor was available during the specified office hours and for after class consultations

Description	**S.A**	**A**	**UC**	**D**	**S.D**
The Instructor is prepared for each class.	75%	25%	0%	0%	0%
The Instructor demonstrates knowledge of the subject.	75%	25%	0%	0%	0%
The Instructor has completed the whole course.	75%	25%	0%	0%	0%
The Instructor provides additional material apart from the textbook.	75%	25%	0%	0%	0%
The Instructor gives citations regarding current situations with reference to Pakistani context.	75%	25%	0%	0%	0%
The Instructor communicates the subject matter effectively.	75%	25%	0%	0%	0%
The Instructor shows respect towards students and encourages class participation	75%	25%	0%	0%	0%
The Instructor maintains an environment that is conducive to learning.	75%	25%	0%	0%	0%
The Instructor arrives on time.	75%	25%	0%	0%	0%
The Instructor leaves on time.	75%	25%	0%	0%	0%
The instructor has completed all classes regularly.	75%	25%	0%	0%	0%
The instructor posts the assignments/quizzes on time and give reasonable time to complete the assigned assignments/quizzes.	75%	25%	0%	0%	0%

The Subject matter presented in the course has increased your knowledge of the subject.	75%	25%	0%	0%	0%
The Instructor was available during the specified hours on office and after class for consultations.	75%	25%	0%	0%	0%
The course integrates theoretical course concepts with real-world applications.	75%	25%	0%	0%	0%
The assignments and exams covered the materials presented in the course.	75%	25%	0%	0%	0%
The course material is modern and updated	75%	25%	0%	0%	0%
The teacher is fair in exams.	75%	25%	0%	0%	0%

S.A:(Strongly Agree) A:(Agree) UC:(Uncertain) D:(Disagree) S.D:(Strongly Disagree)

Session: Fall_2024
Instructor Name: Mr/Ms Asma Batool
Course: MTH-101 Calculus and Analytical Geometry
Class: BS CS 3rd(3)

The student shows the positive response towards instructor which showcase the student's satisfaction towards teacher. The 75% students were strongly agreed instructor was prepared for class. The 100% were strongly agreed that instructor was available during the specified office hours and for after class consultations

Description	S.A	A	UC	D	S.D
The Instructor is prepared for each class.	75%	25%	0%	0%	0%
The Instructor demonstrates knowledge of the subject.	50%	25%	25%	0%	0%
The Instructor has completed the whole course.	50%	25%	25%	0%	0%
The Instructor provides additional material apart from the textbook.	75%	25%	0%	0%	0%
The Instructor gives citations regarding current situations with reference to Pakistani context.	100%	0%	0%	0%	0%
The Instructor communicates the subject matter effectively.	75%	25%	0%	0%	0%
The Instructor shows respect towards students and encourages class participation	75%	0%	25%	0%	0%
The Instructor maintains an environment that is conducive to learning.	50%	25%	25%	0%	0%
The Instructor arrives on time.		0%	0%	0%	0%

The Instructor leaves on time.	100%	0%	0%	0%	0%
The instructor has completed all classes regularly.	100% 100%	0%	0%	0%	0%
The instructor posts the assignments/quizzes on time and give reasonable time to complete the assigned assignments/quizzes.	100%	0%	0%	0%	0%
The Subject matter presented in the course has increased your knowledge of the subject.	100%	0%	0%	0%	0%
The Instructor was available during the specified hours on office and after class for consultations.	100%	0%	0%	0%	0%
The course integrates theoretical course concepts with real-world applications.	100%	0%	0%	0%	0%
The assignments and exams covered the materials presented in the course.	100%	0%	0%	0%	0%
The course material is modern and updated	100%	0%	0%	0%	0%
The teacher is fair in exams.	100%	0%	0%	0%	0%

S.A:(Strongly Agree) A:(Agree) UC:(Uncertain) D:(Disagree) S.D:(Strongly Disagree)

Session: Fall_2024

Instructer Name: Mr/Ms Nimrah Ashraf

Course: CSC-303 Advance Database Managements Systems

Class: BS CS 5th(5)

The student shows the positive response towards instructor which showcase the student's satisfaction towards teacher. The 75% students were strongly agreed instructor was prepared for class. The 75% and 25% were strongly agreed and agreed respectively that instructor was available during the specified office hours and for after class consultations

Description	S.A	A	UC	D	S.D
The Instructor is prepared for each class.	75%	25%	0%	0%	0%
The Instructor demonstrates knowledge of the subject.	75%	25%	0%	0%	0%
The Instructor has completed the whole course.	75%	25%	0%	0%	0%
The Instructor provides additional material apart from the textbook.	75%	25%	0%	0%	0%
The Instructor gives citations regarding current situations with reference to Pakistani context.	75%	25%	0%	0%	0%
The Instructor communicates the subject matter effectively.	75%	25%	0%	0%	0%

The Instructor shows respect towards students and encourages class participation	75%	25%	0%	0%	0%
The Instructor maintains an environment that is conducive to learning.	75%	25%	0%	0%	0%
The Instructor arrives on time.	75%	25%	0%	0%	0%
The Instructor leaves on time.	75%	25%	0%	0%	0%
The instructor has completed all classes regularly.	75%	25%	0%	0%	0%
The instructor posts the assignments/quizzes on time and give reasonable time to complete the assigned assignments/quizzes.	75%	25%	0%	0%	0%
The Subject matter presented in the course has increased your knowledge of the subject.	75%	25%	0%	0%	0%
The Instructor was available during the specified hours on office and after class for consultations.	75%	25%	0%	0%	0%
The course integrates theoretical course concepts with real-world applications.	75%	25%	0%	0%	0%
The assignments and exams covered the materials presented in the course.	75%	25%	0%	0%	0%
The course material is modern and updated	75%	25%	0%	0%	0%
The teacher is fair in exams.	75%	25%	0%	0%	0%

S.A:(Strongly Agree) A:(Agree) UC:(Uncertain) D:(Disagree) S.D:(Strongly Disagree)

Session: Spring_2024

Instructor Name: Mr/Ms Shoaib Nazir

Course: CSC-211 Computer Organization & Assembly Language

Class: BS CS 4th(4)

The student shows the positive response towards instructor which showcase the student's satisfaction towards teacher. The 67% students were strongly agreed instructor was prepared for class. The 67% and 33% were strongly agreed and agreed respectively that instructor was available during the specified office hours and for after class consultations

Description	S.A	A	UC	D	S.D
The Instructor is prepared for each class.	67%	33%	0%	0%	0%
The Instructor demonstrates knowledge of the subject.	67%	33%	0%	0%	0%
The Instructor has completed the whole course.	56%	44%	0%	0%	0%
The Instructor provides additional material apart from the textbook.	67%	33%	0%	0%	0%

The Instructor gives citations regarding current situations with reference to Pakistani context.	67%	33%	0%	0%	0%
The Instructor communicates the subject matter effectively.	67%	33%	0%	0%	0%
The Instructor shows respect towards students and encourages class participation	67%	33%	0%	0%	0%
The Instructor maintains an environment that is conducive to learning.	67%	33%	0%	0%	0%
The Instructor arrives on time.	44%	56%	0%	0%	0%
The Instructor leaves on time.	56%	44%	0%	0%	0%
The instructor has completed all classes regularly.	56%	44%	0%	0%	0%
The instructor posts the assignments/quizzes on time and give reasonable time to complete the assigned assignments/quizzes.	44%	56%	0%	0%	0%
The Subject matter presented in the course has increased your knowledge of the subject.	67%	33%	0%	0%	0%
The Instructor was available during the specified hours on office and after class for consultations.	67%	33%	0%	0%	0%
The course integrates theoretical course concepts with real-world applications.	67%	33%	0%	0%	0%
The assignments and exams covered the materials presented in the course.	56%	44%	0%	0%	0%
The course material is modern and updated	67%	33%	0%	0%	0%
The teacher is fair in exams.	67%	33%	0%	0%	0%

S.A:(Strongly Agree) A:(Agree) UC:(Uncertain) D:(Disagree) S.D:(Strongly Disagree)

Session: Spring_2024

Instructer Name: Mr/Ms Ume I Hubbeeba Ijaz Ahmed

Course: CSC-252 Advanced Programming

Class: BS CS 4th(4)

The student shows the positive response towards instructor which showcase the student's satisfaction towards teacher. The 56% students were strongly agreed instructor was prepared for class. The 67% and 33% were strongly agreed and agreed respectively that instructor was available during the specified office hours and for after class consultations

Description	S.A	A	UC	D	S.D
The Instructor is prepared for each class.	56%	44%	0%	0%	0%

The Instructor demonstrates knowledge of the subject.	44%	56%	0%	0%	0%
The Instructor has completed the whole course.	44%	56%	0%	0%	0%
The Instructor provides additional material apart from the textbook.	56%	33%	0%	11%	0%
The Instructor gives citations regarding current situations with reference to Pakistani context.	44%	44%	0%	11%	0%
The Instructor communicates the subject matter effectively.	56%	44%	0%	0%	0%
The Instructor shows respect towards students and encourages class participation	44%	56%	0%	0%	0%
The Instructor maintains an environment that is conducive to learning.	56%	44%	0%	0%	0%
The Instructor arrives on time.	67%	33%	0%	0%	0%
The Instructor leaves on time.	67%	33%	0%	0%	0%
The instructor has completed all classes regularly.	56%	33%	0%	11%	0%
The instructor posts the assignments/quizzes on time and give reasonable time to complete the assigned assignments/quizzes.	44%	56%	0%	0%	0%
The Subject matter presented in the course has increased your knowledge of the subject.	56%	44%	0%	0%	0%
The Instructor was available during the specified hours on office and after class for consultations.	67%	33%	0%	0%	0%
The course integrates theoretical course concepts with real-world applications.	67%	33%	0%	0%	0%
The assignments and exams covered the materials presented in the course.	67%	33%	0%	0%	0%
The course material is modern and updated	67%	33%	0%	0%	0%
The teacher is fair in exams.	67%	33%	0%	0%	0%

S.A:(Strongly Agree) A:(Agree) UC:(Uncertain) D:(Disagree) S.D:(Strongly Disagree)

Session: Spring_2024

Instructor Name: Mr/Ms Nimrah Ashraf

Course: CSC-103 Database systems

Class: BS CS(2nd)

The student shows the positive response towards instructor which showcase the student's satisfaction towards teacher. The 75% students were strongly agreed instructor was prepared

for class. The 75% and 25% were strongly agreed and agreed respectively that instructor was available during the specified office hours and for after class consultations

Description	S.A	A	UC	D	S.D
The Instructor is prepared for each class.	75%	35%	0%	0%	0%
The Instructor demonstrates knowledge of the subject.	56%	44%	0%	0%	0%
The Instructor has completed the whole course.	44%	56%	0%	0%	0%
The Instructor provides additional material apart from the textbook.	56%	33%	0%	11%	0%
The Instructor gives citations regarding current situations with reference to Pakistani context.	44%	44%	0%	11%	0%
The Instructor communicates the subject matter effectively.	56%	44%	0%	0%	0%
The Instructor shows respect towards students and encourages class participation	70%	30%	0%	0%	0%
The Instructor maintains an environment that is conducive to learning.	56%	44%	0%	0%	0%
The Instructor arrives on time.	67%	33%	0%	0%	0%
The Instructor leaves on time.	67%	33%	0%	0%	0%
The instructor has completed all classes regularly.	56%	33%	0%	11%	0%
The instructor posts the assignments/quizzes on time and give reasonable time to complete the assigned assignments/quizzes.	44%	56%	0%	0%	0%
The Subject matter presented in the course has increased your knowledge of the subject.	56%	44%	0%	0%	0%
The Instructor was available during the specified hours on office and after class for consultations.	67%	33%	0%	0%	0%
The course integrates theoretical course concepts with real-world applications.	67%	33%	0%	0%	0%
The assignments and exams covered the materials presented in the course.	33%	67%	0%	0%	0%
The course material is modern and updated	67%	33%	0%	0%	0%
The teacher is fair in exams.	67%	33%	0%	0%	0%

S.A:(Strongly Agree) A:(Agree) UC:(Uncertain) D:(Disagree) S.D:(Strongly Disagree)

Session: Spring_2024

Instructor Name: Mr/Ms Ume I Hubbeeba Ijaz Ahmed
Course: CSC-252 Advanced Programming
Class: BS CS 4th(4)

The student shows the positive response towards instructor which showcase the student's satisfaction towards teacher. The 56% students were strongly agreed instructor was prepared for class. The 67% and 33% were strongly agreed and agreed respectively that instructor was available during the specified office hours and for after class consultations

Description	S.A	A	UC	D	S.D
The Instructor is prepared for each class.	56%	44%	0%	0%	0%
The Instructor demonstrates knowledge of the subject.	44%	56%	0%	0%	0%
The Instructor has completed the whole course.	44%	56%	0%	0%	0%
The Instructor provides additional material apart from the textbook.	56%	33%	0%	11%	0%
The Instructor gives citations regarding current situations with reference to Pakistani context.	44%	44%	0%	11%	0%
The Instructor communicates the subject matter effectively.	56%	44%	0%	0%	0%
The Instructor shows respect towards students and encourages class participation	44%	56%	0%	0%	0%
The Instructor maintains an environment that is conducive to learning.	56%	44%	0%	0%	0%
The Instructor arrives on time.	67%	33%	0%	0%	0%
The Instructor leaves on time.	67%	33%	0%	0%	0%
The instructor has completed all classes regularly.	56%	33%	0%	11%	0%
The instructor posts the assignments/quizzes on time and give reasonable time to complete the assigned assignments/quizzes.	44%	56%	0%	0%	0%
The Subject matter presented in the course has increased your knowledge of the subject.	56%	44%	0%	0%	0%
The Instructor was available during the specified hours on office and after class for consultations.	67%	33%	0%	0%	0%
The course integrates theoretical course concepts with real-world applications.	67%	33%	0%	0%	0%

The assignments and exams covered the materials presented in the course.	67%	33%	0%	0%	0%
The course material is modern and updated	67%	33%	0%	0%	0%
The teacher is fair in exams.	67%	33%	0%	0%	0%

S.A:(Strongly Agree) A:(Agree) UC:(Uncertain) D:(Disagree) S.D:(Strongly Disagree)

Session: Fall_2023

Instructor Name: Mr/Ms Ifrah Afzal

Course: ENG-102 Functional English

Class: BSCS (1st)(1)

The student shows the positive response towards instructor which showcase the student's satisfaction towards teacher. The 100% students were strongly agreed instructor was prepared for class. The 78% and 11% were strongly agreed and agreed respectively that instructor was available during the specified office hours and for after class consultations

Description	S.A	A	UC	D	S.D
The Instructor is prepared for each class.	100%	0%	0%	0%	0%
The Instructor demonstrates knowledge of the subject.	100%	0%	0%	0%	0%
The Instructor has completed the whole course.	100%	0%	0%	0%	0%
The Instructor provides additional material apart from the textbook.	89%	0%	11%	0%	0%
The Instructor gives citations regarding current situations with reference to Pakistani context.	89%	0%	11%	0%	0%
The Instructor communicates the subject matter effectively.	100%	0%	0%	0%	0%
The Instructor shows respect towards students and encourages class participation	100%	0%	0%	0%	0%
The Instructor maintains an environment that is conducive to learning.	89%	11%	0%	0%	0%
The Instructor arrives on time.	100%	0%	0%	0%	0%
The Instructor leaves on time.	100%	0%	0%	0%	0%
The instructor has completed all classes regularly.	100%	0%	0%	0%	0%
The instructor posts the assignments/quizzes on time and give reasonable time to complete the assigned assignments/quizzes.	100%	0%	0%	0%	0%
The Subject matter presented in the course has increased your knowledge of the subject.	100%	0%	0%	0%	0%

The Instructor was available during the specified hours on office and after class for consultations.	78%	11%	11%	0%	0%
The course integrates theoretical course concepts with real-world applications.	89%	0%	11%	0%	0%
The assignments and exams covered the materials presented in the course.	100%	0%	0%	0%	0%
The course material is modern and updated	100%	0%	0%	0%	0%
The teacher is fair in exams.	100%	0%	0%	0%	0%

S.A:(Strongly Agree) A:(Agree) UC:(Uncertain) D:(Disagree) S.D:(Strongly Disagree)

Session: Fall_2023

Instructer Name: Mr/Ms Nimrah Ashraf

Course: CSC-202 Information Security

Class: BS CS 3rd(3)

The student shows the positive response towards the instructor which shows the student's satisfaction towards teacher. 100% of students strongly agreed instructor was prepared for class. 100% strongly agreed that instructor was available during the specified office hours and for after class consultations

Description	S.A	A	UC	D	S.D
The Instructor is prepared for each class.	100%	0%	0%	0%	0%
The Instructor demonstrates knowledge of the subject.	67%	33%	0%	0%	0%
The Instructor has completed the whole course.	100%	0%	0%	0%	0%
The Instructor provides additional material apart from the textbook.	100%	0%	0%	0%	0%
The Instructor gives citations regarding current situations with reference to Pakistani context.	67%	33%	0%	0%	0%
The Instructor communicates the subject matter effectively.	100%	0%	0%	0%	0%
The Instructor shows respect towards students and encourages class participation	100%	0%	0%	0%	0%
The Instructor maintains an environment that is conducive to learning.	67%	33%	0%	0%	0%
The Instructor arrives on time.	100%	0%	0%	0%	0%
The Instructor leaves on time.	67%	33%	0%	0%	0%
The instructor has completed all classes regularly.	100%	0%	0%	0%	0%

The instructor posts the assignments/quizzes on time and give reasonable time to complete the assigned assignments/quizzes.	100%	0%	0%	0%	0%
The Subject matter presented in the course has increased your knowledge of the subject.	67%	33%	0%	0%	0%
The Instructor was available during the specified hours on office and after class for consultations.	100%	0%	0%	0%	0%
The course integrates theoretical course concepts with real-world applications.	100%	0%	0%	0%	0%
The assignments and exams covered the materials presented in the course.	100%	0%	0%	0%	0%
The course material is modern and updated	100%	0%	0%	0%	0%
The teacher is fair in exams.	67%	33%	0%	0%	0%

S.A:(Strongly Agree) A:(Agree) UC:(Uncertain) D:(Disagree) S.D:(Strongly Disagree)

Session: Fall_2023

Instructor Name: Mr/Ms Shoaib Nazir

Course: CSC-101 Programming Fundamentals

Class: BSCS (1st)(1)

The student shows the positive response towards instructor which showcase the student's satisfaction towards teacher. 100% students were strongly agreed instructor was prepared for class. The 50% and 50% were strongly agreed and agreed respectively that instructor was available during the specified office hours and for after class consultations

Description	S.A	A	UC	D	S.D
The Instructor is prepared for each class.	100%	0%	0%	0%	0%
The Instructor demonstrates knowledge of the subject.	70%	30%	0%	0%	0%
The Instructor has completed the whole course.	80%	20%	0%	0%	0%
The Instructor provides additional material apart from the textbook.	50%	40%	0%	10%	0%
The Instructor gives citations regarding current situations with reference to Pakistani context.	60%	20%	0%	20%	0%
The Instructor communicates the subject matter effectively.	80%	20%	0%	0%	0%
The Instructor shows respect towards students and encourages class participation	80%	10%	10%	0%	0%

The Instructor maintains an environment that is conducive to learning.	80%	20%	0%	0%	0%
The Instructor arrives on time.	30%	50%	20%	0%	0%
The Instructor leaves on time.	90%	10%	0%	0%	0%
The instructor has completed all classes regularly.	50%	40%	0%	10%	0%
The instructor posts the assignments/quizzes on time and give reasonable time to complete the assigned assignments/quizzes.	50%	20%	30%	0%	0%
The Subject matter presented in the course has increased your knowledge of the subject.	60%	40%	0%	0%	0%
The Instructor was available during the specified hours on office and after class for consultations.	50%	50%	0%	0%	0%
The course integrates theoretical course concepts with real-world applications.	50%	50%	0%	0%	0%
The assignments and exams covered the materials presented in the course.	80%	10%	10%	0%	0%
The course material is modern and updated	50%	20%	30%	0%	0%
The teacher is fair in exams.	60%	30%	10%	0%	0%

S.A:(Strongly Agree) A:(Agree) UC:(Uncertain) D:(Disagree) S.D:(Strongly Disagree)

Session: Fall_2023

Instructor Name: Mr/Ms Zara Rafaqat

Course: MTH-103 Linear Algebra

Class: BS CS 3rd(3)

The student shows the positive response towards instructor which showcase the student's satisfaction towards teacher. The 100% students were strongly agreed instructor was prepared for class. 100% were strongly agreed that instructor was available during the specified office hours and for after class consultations

Description	S.A	A	UC	D	S.D
The Instructor is prepared for each class.	100%	0%	0%	0%	0%
The Instructor demonstrates knowledge of the subject.	100%	0%	0%	0%	0%
The Instructor has completed the whole course.	100%	0%	0%	0%	0%
The Instructor provides additional material apart from the textbook.	100%	0%	0%	0%	0%

The Instructor gives citations regarding current situations with reference to Pakistani context.	100%	0%	0%	0%	0%
The Instructor communicates the subject matter effectively.	100%	0%	0%	0%	0%
The Instructor shows respect towards students and encourages class participation	100%	0%	0%	0%	0%
The Instructor maintains an environment that is conducive to learning.	100%	0%	0%	0%	0%
The Instructor arrives on time.	100%	0%	0%	0%	0%
The Instructor leaves on time.	100%	0%	0%	0%	0%
The instructor has completed all classes regularly.	100%	0%	0%	0%	0%
The instructor posts the assignments/quizzes on time and give reasonable time to complete the assigned assignments/quizzes.	100%	0%	0%	0%	0%
The Subject matter presented in the course has increased your knowledge of the subject.	100%	0%	0%	0%	0%
The Instructor was available during the specified hours on office and after class for consultations.	100%	0%	0%	0%	0%
The course integrates theoretical course concepts with real-world applications.	100%	0%	0%	0%	0%
The assignments and exams covered the materials presented in the course.	100%	0%	0%	0%	0%
The course material is modern and updated	100%	0%	0%	0%	0%
The teacher is fair in exams.	100%	0%	0%	0%	0%

S.A:(Strongly Agree) A:(Agree) UC:(Uncertain) D:(Disagree) S.D:(Strongly Disagree)

Session: Spring_2023

Instructor Name: Mr/Ms Shoaib Nazir

Course: CSC-111 Digital logic Design

Class: BS CS(2nd)

The student shows the positive response towards instructor which showcase the student's satisfaction towards teacher. The 100% students were strongly agreed instructor was prepared for class. 100% were strongly agreed that instructor was available during the specified office hours and for after class consultations

Description	S.A	A	UC	D	S.D
The Instructor is prepared for each class.	100%	0%	0%	0%	0%

The Instructor demonstrates knowledge of the subject.	100%	0%	0%	0%	0%
The Instructor has completed the whole course.	100%	0%	0%	0%	0%
The Instructor provides additional material apart from the textbook.	100%	0%	0%	0%	0%
The Instructor gives citations regarding current situations with reference to Pakistani context.	100%	0%	0%	0%	0%
The Instructor communicates the subject matter effectively.	100%	0%	0%	0%	0%
The Instructor shows respect towards students and encourages class participation	100%	0%	0%	0%	0%
The Instructor maintains an environment that is conducive to learning.	100%	0%	0%	0%	0%
The Instructor arrives on time.	100%	0%	0%	0%	0%
The Instructor leaves on time.	100%	0%	0%	0%	0%
The instructor has completed all classes regularly.	100%	0%	0%	0%	0%
The instructor posts the assignments/quizzes on time and give reasonable time to complete the assigned assignments/quizzes.	100%	0%	0%	0%	0%
The Subject matter presented in the course has increased your knowledge of the subject.	100%	0%	0%	0%	0%
The Instructor was available during the specified hours on office and after class for consultations.	100%	0%	0%	0%	0%
The course integrates theoretical course concepts with real-world applications.	100%	0%	0%	0%	0%
The assignments and exams covered the materials presented in the course.	100%	0%	0%	0%	0%
The course material is modern and updated	100%	0%	0%	0%	0%
The teacher is fair in exams.	100%	0%	0%	0%	0%

S.A:(Strongly Agree) A:(Agree) UC:(Uncertain) D:(Disagree) S.D:(Strongly Disagree)

Session: Spring_2023

Instructor Name: Mr/Ms Syed Aon Ali Naqvi

Course: CSC-102 Object Oriented Programming

Class: BS CS(2nd)

The student shows the positive response towards instructor which showcase the student's satisfaction towards teacher. The 100% students were strongly agreed instructor was prepared

for class. 100% were strongly agreed that instructor was available during the specified office hours and for after class consultations

Description	S.A	A	UC	D	S.D
The Instructor is prepared for each class.	100%	0%	0%	0%	0%
The Instructor demonstrates knowledge of the subject.	100%	0%	0%	0%	0%
The Instructor has completed the whole course.	100%	0%	0%	0%	0%
The Instructor provides additional material apart from the textbook.	100%	0%	0%	0%	0%
The Instructor gives citations regarding current situations with reference to Pakistani context.	100%	0%	0%	0%	0%
The Instructor communicates the subject matter effectively.	100%	0%	0%	0%	0%
The Instructor shows respect towards students and encourages class participation	100%	0%	0%	0%	0%
The Instructor maintains an environment that is conducive to learning.	100%	0%	0%	0%	0%
The Instructor arrives on time.	100%	0%	0%	0%	0%
The Instructor leaves on time.	100%	0%	0%	0%	0%
The instructor has completed all classes regularly.	100%	0%	0%	0%	0%
The instructor posts the assignments/quizzes on time and give reasonable time to complete the assigned assignments/quizzes.	100%	0%	0%	0%	0%
The Subject matter presented in the course has increased your knowledge of the subject.	100%	0%	0%	0%	0%
The Instructor was available during the specified hours on office and after class for consultations.	100%	0%	0%	0%	0%
The course integrates theoretical course concepts with real-world applications.	100%	0%	0%	0%	0%
The assignments and exams covered the materials presented in the course.	100%	0%	0%	0%	0%
The course material is modern and updated	100%	0%	0%	0%	0%
The teacher is fair in exams.	100%	0%	0%	0%	0%

S.A:(Strongly Agree) A:(Agree) UC:(Uncertain) D:(Disagree) S.D:(Strongly Disagree)

Session: Spring_2023
Instructor Name: Mr/Ms Zara Rafaqat
Course: MTH-102 Multivariable Calculus
Class: BS CS(2nd)

The student shows the positive response towards instructor which showcase the student's satisfaction towards teacher. The 100% students were strongly agreed instructor was prepared for class. 100% were strongly agreed that instructor was available during the specified office hours and for after class consultations

Description	S.A	A	UC	D	S.D
The Instructor is prepared for each class.	100%	0%	0%	0%	0%
The Instructor demonstrates knowledge of the subject.	100%	0%	0%	0%	0%
The Instructor has completed the whole course.	100%	0%	0%	0%	0%
The Instructor provides additional material apart from the textbook.	100%	0%	0%	0%	0%
The Instructor gives citations regarding current situations with reference to Pakistani context.	100%	0%	0%	0%	0%
The Instructor communicates the subject matter effectively.	100%	0%	0%	0%	0%
The Instructor shows respect towards students and encourages class participation	100%	0%	0%	0%	0%
The Instructor maintains an environment that is conducive to learning.	100%	0%	0%	0%	0%
The Instructor arrives on time.	100%	0%	0%	0%	0%
The Instructor leaves on time.	100%	0%	0%	0%	0%
The instructor has completed all classes regularly.	100%	0%	0%	0%	0%
The instructor posts the assignments/quizzes on time and give reasonable time to complete the assigned assignments/quizzes.	100%	0%	0%	0%	0%
The Subject matter presented in the course has increased your knowledge of the subject.	100%	0%	0%	0%	0%
The Instructor was available during the specified hours on office and after class for consultations.	100%	0%	0%	0%	0%
The course integrates theoretical course concepts with real-world applications.	100%	0%	0%	0%	0%

The assignments and exams covered the materials presented in the course.	100%	0%	0%	0%	0%
The course material is modern and updated	100%	0%	0%	0%	0%
The teacher is fair in exams.	100%	0%	0%	0%	0%

S.A:(Strongly Agree) A:(Agree) UC:(Uncertain) D:(Disagree) S.D:(Strongly Disagree)

CRITERION 2 CARRICULUM DESIGN AND ORGANIZATION

Criterion 2 Curriculum Design and Organization

2.1 Consistency of Program Structure and Course Content

The computer sciences program curriculum is designed to fulfill the program learning outcomes and course learning outcomes. Each semester is of approximately 18 weeks duration. The computer science program's duration is four years and is offered on a full-time basis in the morning session. The minimum duration for completing the course of the degree is 8 semesters (4 years) and a maximum of 12 semesters (6 years). The course requires 130 credit hours. A full-time student is required to take courses not less than 13 credit hours if he/she qualifies the prerequisite of the course offered.

2.2 Curriculum Design

The curriculum of the BS Computer Science program was devised based on the needs of all stakeholders. The curriculum is broadly divided into computer science and social science courses. Computer science domain includes programming fundamentals, computer architecture, modern programming languages, digital design and logics, analysis of algorithms. A comprehensive final year project is also part of the curriculum. The contents of breadth and depth courses are selected to provide students with knowledge of overall as well as specialized areas of computer science. A few courses include artificial intelligence, web engineering that allows the students to apply their knowledge and critical thinking and gain an in-depth understanding of theory. The social science domain contains courses related to humanities, natural sciences, and management sciences. These courses develop skills of project management, teamwork, communication, entrepreneurship, ethical and moral responsibilities, and sustainable development. The mixture of computer science and social science courses is in accordance with the national guidelines provided by the HEC.

A summary of the curriculum of computer science is given in Table 33. The comparison shows that the engineering fundamentals and computing credit hours are in line with the benchmarked universities, whereas the credit hours of breadth and depth engineering courses are on the higher side.

Table 21: Curriculum Design

Domain	Knowledge Area	HEC Guidelines		BS Computer Sciecne Program	
		Total Credits	Overall %	Total Credits	Overall %
Non-Computing	General Education	19	33.1%	43	31.4
	University Electives	12			
	Math & Science Foundation	12			
	Sub Total	43			
Information Technology	Computing-core	39	66.9%	39	68.6
	Domain Core	24		24	
	Domain Elective	15		21	
	Domain Supporting	9		9	
	Sub Total	87		93	
Total		**130**	**100**	**136**	**100**

Standard 2-1:The curriculum must be consistent and support the program's documented objectives.

2.3 Mapping of Courses to Program Learning Objectives (PLO)

Program. Semester-wise mapping of courses to PLOs is given in Table 21. The course to PLO mapping is only shown for the courses that are used for assessing a particular PLO.

Table 22: Mapping of Semester-wise Courses to Program Learning Objectives

Semester No	Course Code	Course Title	Theoretical and mathematical foundations	Be proficient in a programming language	The hardware and software architecture	Professional practices of software engineering	Communicate effectively Computing Subject, matter	Social and ethical implications of computing
			1	2	3	4	5	6
1	CSC-100	Introduction to Information & Communication Technologies					✓	
	CSC-101	Programming Fundamentals		✓				
	CSC-110	Discrete Structures	✓					

	MTH-101	Calculus & Analytical Geometry	✓					
	ENG-102	Functional English					✓	
2	CSC-102	Object Oriented Programming		✓				
	CSC-103	Database Systems		✓				
	CSC-111	Digital Logic Design			✓			
	STT-101	Probability & Statistics						✓
	MTH-102	Multivariable Calculus	✓					
3	CSC-201	Data Structures & Algorithms		✓				
	CSC-202	Information Security					✓	
	CSC-203	Artificial Intelligence				✓		
	CSC-204	Computer Networks					✓	
	CSC-205	Software Engineering			✓			
	MTH-103	Linear Algebra	✓					
4	CSC-212	Computer Org. & Assembly Lang.			✓			
		Domain Elective			✓			
		Domain Elective			✓			
	PHY-201	Applied Physics			✓			
	ENG-201	Expository Writing						✓
	IS-201	Islamic studies					✓	
5	CSC-301	Operating Systems			✓			
	CSC-302	Theory of Automata			✓			
	CSC-302	Advance Database Management System		✓				
		Domain Elective		✓				
		Domain Elective		✓				
	SSH-301	Introduction to management				✓		
	CSC-398	Internship				✓		
6	CS-311	Computer Architecture			✓			
	CSC-312	Compiler Construction		✓				

	CSC-313	HCI & Computer Graphics					✓	
	CSC-314	Parallel & Distributed Computing				✓		
		Domain Elective		✓				
		Domain Elective			✓			✓
7	CSC-498	Final Year Project-1		✓				
	CSC-401	Analysis of Algorithm		✓				
	MGT-351	Intro to Marketing					✓	
	ENG-401	Technical & Business Writing				✓		
	SSH-401	Entrepreneurship					✓	
		DE7					✓	
8	SSH-402	Arts & Humanities (Professional practices)						✓
	CSC-499	Final Year Project-II		✓				
	SSH-403	Civics and Community Engagement						✓
	SSH-404	Ideology and Constitution of Pakistan						✓

Standard 2-2: Theoretical backgrounds, problem analysis and solution design must be stressed within the program's core material.

Table 23: Computing Core Course

Computing Core Courses (49/136)				
S#	**Code**	**Pre-req**	**Course Title**	**Cr. Hrs**
1	CSC-101		Programming Fundamentals	4 (3-2)
2	CSC-102	CSC-101	Object Oriented Programming	4 (3-2)
3	CSC-111		Digital Logic Design	3(2-3)
4	CSC-201	CSC-101	Data Structures and Algorithms	4 (3-3)
5	CSC-401	CSC-201	Analysis of Algorithms	3 (3-0)
6	CSC-301		Operating System	3(2-3)
7	CSC-103		Database Systems	4(3-3)
8	CSC-205		Software Engineering	3 (3-0)
9	CSC-204		Computer Networks	3(2-3)
10	CSC-202		Information Security	3(2-3)
11	CSC-211	CSC-111	Computer Organization & Assembly Language	3(2-3)

12	CSC-203		Artificial Intelligence	3(2-3)
13	CSC-498		Final Year Project-I	2(0-06)
14	CSC-499	CSC-498	Final Year Project-II	4(0-012)
15	CSC-398		Internship	3(0-3)
			Total	**49**

Standard 2-3: The curriculum must satisfy the major requirements for the program as specified by the accreditation body.

Program	Math and Science	Engineering Topics	General Education	Others
BSCS	12	82	30	06

Standard 2-4: The curriculum must satisfy the core requirements for the program as specified by the HEC.

Table 24: Domain Core Course

Domain Courses for BS-CS				
Computer Science -CORE (Compulsory) Courses (24/136)				
S#	**Code**	**Pre-req**	**Course Title**	**Cr. Hrs**
16	CSC-311		Computer Architecture	3(2-3)
17	CSC-302		Advance Database Management System	3(2-3)
18	CSC-302	CSC-110	Theory of Automata & Formal Languages	3 (3-0)
19	CSC-313		Human Computer Interaction & Computer Graphics	3(2-3)
20	CSC-312	CSC-302	Compiler Construction	3(2-3)
21	CSC-314		Parallel & Distributed Computing	3(2-3)
			Total	18

Standard 2-5: The curriculum must satisfy general education, arts, professional and other discipline requirements of program.

View table 27

Standard 2-6: The information technology component of the curriculum must be integrated throughout the degree program.

Table 25: Domain Elective Course

Computer Science Elective Courses (21/136)				
S#	**Code**	**Pre-req**	**Course Title**	**Cr. Hrs**
22	CSC-352		Numerical Analysis	3(2-3)
23	CSE-325		Object Oriented Analysis & Design	3(2-3)
24	CSC-251		Web Technologies	3(2-3)
25	CSC-356		Computer Graphics	3(2-3)
26	CSC-354	CSC-202	Cyber Security	3(2-3)
27	CSC-351	CSC-251	Web Engineering	3(2-3)
28	CS-685		Human Computer Interaction	3(2-3)
29	CSC-252	CSC-102	Advance Programming	3(2-3))
30	CSE-422		Software testing and quality assurance	3(2-3)
31	CSC-353		Mobile Application Development 1	3(2-3)
32	CSC-451		Mobile Application Development 2	3(2-3)
			Total	**33**

Standard 2-7: Oral and written communication skills of the student must be developed and applied in a program.

Table 26: General Education Course

General Education Courses (36/136)				
S#	**Code**	**Pre-req**	**Course Title**	**Cr. Hrs**
33	CSC-100		Introduction to Information & Communication Technologies	3(2-3)
34	ENG-102		Functional English	3 (3-0)
35	ENG-201	ENG-102	Expository Writing	3 (3-0)
36	CSC-110		Discrete Structures	3(3-0)
37	SSH-402		Professional Practices	3 (3-0)

38	MTH-101		Calculus and Analytical geometry	3(3-0)
39	IS-201		Islamic Studies/ Ethics	2(2-0)
40	Phy-201		Applied Physics	3(2-3)
41	FMPE-580		Precision Agriculture	3(2-1)
42	LWCE - 601		GIS & Remote Sensing	2(1-1)
43	SSH-301		Introduction to management	2(2-0)
44	SSH-401		Entrepreneurship	2(2-0)
45	SSH-403		Civics and Community Engagement	2(2-0)
46	SSH-404		Ideology and Constitution of Pakistan	2(2-0)
			Total	**36**

Table 27: Mathematics and Supporting Courses

Mathematics and Supporting Courses (12/136)				
S#	**Code**	**Pre-req**	**Course Title**	**Cr. Hrs**
47	MTH-102		Multivariable calculus	3 (3-0)
48	MTH-103		Linear Algebra	3 (3-0)
49	STT-101		Probability & Statistics	3(3-0)
50	ENG-401		Technical and business writing	3(3-0)
			Total	**12**

Table 28: Elective Supporting Course

Computer Science -SUPPORTING Courses (6/136)				
S#	**Code**	**Pre-req**	**Course Title**	**Cr. Hrs**
51	MGT-351		Introduction to marketing	3 (3-0)
52	MGT-322		Financial Accounting	3 (3-0)
			Total	**6**

2.4 Course Offerings

The courses offered belong to various domains of knowledge. The details of the courses offered are provided in Table 30.

Table 29: Course Offering

Sem No.	Sr. No.	Course Code	Course Title	Credit Hours	Knowledge Area	Pre-requisite Courses
1	1	CSC-101	Programming Fundamentals	4(3-3)	Computing Core	Nil (if any)
	2	CSC-100	Application of Information & Com. Tech.	3(2-3)	General Education	Nil
	3	CSC-110	Discrete Structures	3(3-0)	GER	
	4	MTH-101	Calculus and Analytical Geometry	3(3-0)	Mathematics and Science Foundation	Nil
	5	ENG-102	Functional English	3(3-0)	General Education	Nil
			Total Credit Hours	**15(13-6)**		
2	1	CSC-102	Object Oriented Programming	4(3-3)	Computing Core	CSC-101
	2	CSC-103	Database System	4(3-3)	Computer Science Core	Nil
	3	CSC-111	Digital Logic Design	3(2-3)	Computing Core	Nil
	4	STT-101	Probability & Statistics	3(3-0)	Mathematics and Science Foundation	Nil
	5	MTH-102	Multivariable Calculus	3(3-0)	Computing Science Supporting	MTH-101
			Total Credit Hours	**17(14-9)**		
3	1	CSC-201	Data Structures	4(3-2)	Computing Core	CSC-101
	2	CSC-202	Information Security	3(2-3)	Core	
	3	CSC-203	Artificial Intelligence	3(2-3)	Core	
	4	CSC-204	Computer Networks	3(2-3)	Core	
	5	CSC-205	Software Engineering	3(3-0)	Core	
	6	MTH-103	Linear Algebra	3(3-0)	Math	MTH-(3-0)
			Total Credit Hours	**19(15-12)**		

4	1	CSC-212	Computer Org. & Assembly Lang.	3(2-3)	Core	CSC-111
	2		Domain Elective	3(2-3)	DE	
	3		Domain Elective	3(2-3)	DE	
	4	PHY-201	Applied Physics	3(2-3)	GER	
	5	ENG-201	Expository Writing	3(3-0)	GER	ENG-102
	6	IS-201	Islamic studies	2(2-0)	GER	
			Total Credit Hours	**17(13-12)**		
	1	CSC-301	Operating Systems	3(2-3)	Computer Science Core	
5	2	CSC-302	Theory of Automata	3(3-0)	DC	
	3	CSC-302	Advance Database Management System	3(2-3)	DC	
	4		Domain Elective	3(2-3)	DE	
	5		Domain Elective	3(2-3)	DE	
	6	SSH-301	Introduction to management	2(2-0)	SS	
	7	CSC-398	Internship	3(0-3)	Core	
			Total Credit Hours	**17(13-12)**		
6	1	CS-311	Computer Architecture	3(3-0)	Domain Core	CSC-211
	2	CSC-312	Compiler Construction	3(2-3)	Computer Science Core	CSC-302
	3	CSC-313	HCI & Computer Graphics	3(2-3)	Domain Core	
	4	CSC-314	Parallel & Distributed Computing	3(2-3)	Domain Core	
	5		Domain Elective	3(2-3)		
	6		Domain Elective	3(2-3)		Nil
			Total Credit Hours	**18 (12-18)**		

7	1	CSC-498	Final Year Project-1	2(0-6)	Computer Science Core	Nil
	2	CSC-401	Analysis of Algorithm	3(3-0)	Core	CSC-201
	3	MGT-351	Intro to Marketing	3(3-0)	SS	
	4	ENG-401	Technical & Business Writing	3(3-0)	ENG	ENG-201
	5	SSH-401	Entrepreneurship	2(2-0)	GRE	
	6		DE7	3(2-3)	DE	
			Total Credit Hours	**16(13-9)**		
8	1	SSH-402	Arts & Humanities (Professional practices)	2(2-0)	GER	
	2	CSC-499	Final Year Project-II	4(0-12)	Computer Science Core	CSC-498
	3	SSH-403	Civics and Community Engagement	2(2-0)	GER	
	4	SSH-404	Ideology and Constitution of Pakistan	2(2-0)	GER	
			Total Credit Hours	**10(6-12)**		

2.5 Course Contents

Course contents are defined in teaching/lesson plans. Lesson plans contain detailed course contents, CLOs, teaching and assessment methods and other necessary details. Lesson plans of CSC-201 Data Structure and algorithm, CS-692 Visual Programming , CSC-302 Theory of Automata & Formal Language and CS-53- Computer organization and Assembly Language are provided as samples in Annexure D

2.6 Consistency of Program Delivery and Assessment Methods and their Support in PLO Attainment

The academic calendar is prepared by the Academics Branch AAUR at the start of the semester and is forwarded to all concerned. Concerned faculty prepares the teaching/lesson plans, which are forwarded

to the Academics Branch and are uploaded on the Learning Management System (LMS) before the start of the semester. A course folder is maintained during the semester for each course. Updating the course folder is the responsibility of the concerned faculty member.

2.6.1 Teaching Methods

Teaching methods are made an integral part of the teaching/lesson plan. Faculty members select an appropriate teaching method according to the learning level and desired outcomes. The teaching methods include presentations, lectures, videos, assignments, term projects. Sample lesson plans are attached as Annexure 'D'. To access the effectiveness of the teaching method we QED conduct the number of surveys to access the quality of education. The sample survey is attached in Annexure E.

2.6.2 Assessment Methods

In theory paper, students' evaluation is done by mid-term examination, assignments/ quizzes and final examination. Both the mid-term and final examinations are compulsory. A student who misses the mid-term examination is not allowed a make-up examination and is awarded zero marks in that examination. In case a student does not appear in the final examination of a course, he/she will be deemed to have failed in that course. In theory, weightage to each component of the examination is as prescribed hereunder:

Table 30: Examination Weight

Credit Hours	Quiz-Assignment	Mid-Examination	Final Examination	Practical
3(3-0)	20%	30%	50%	N/A
3(2-2)	13.33%	20%	33.33%	33.33%
4(3-2)	15%	22.5%	37.50%	25.0%

The student must pass the practical final examination separately. A student is eligible to sit for the examination provided that he/she has attended not less than 75% of the classes in theory and practical, separately. The minimum pass marks for each course are 40% for undergraduates.

2.6.3 Final Year Project

The final year project will be assigned to provide computing solutions for social issues/ business issues based on the knowledge and skills achieved while studying the computer science program. A comprehensive policy has been prepared to assign, track, evaluate and assess the final. The purpose of the policy is to provide a uniform system of guidelines to students and supervising faculty to realize their Bachelor of Science (BS) Final Year Projects (FYP). The FYP aims to allow each student to experience the software engineering design process in the context of a topic related to any social issue and independently experience engineering software from initial idea to requirement process and software development to software testing. The projects can be undertaken individually or in small teams of three members. In the latter case, the student must still fulfill the requirements laid out by the departmental policy. The Academic Supervisor is a faculty member of the Department of Computer Science and Information Technology.

CLOs for the final year project are defined as part of the FYP policy. The progress of FYP is monitored in various steps throughout the project duration by Project Management Office (PMO). The FYP is offered in the seventh semester and continues in the eighth semesters. PMO is responsible for schedule and monitors all FYP activities. Each group is required to prepare a project proposal report and deliver a presentation to the department evaluation team for approval towards the mid/end of the seventh semester. In the eight-semester department conduct the midterm evaluation, each group is also required to make a presentation of their project and submit it to the project management office for evaluation. At the end of the eight-semester the final project evaluation will be conducted and the evaluation committee accepts either the project or rejects it. The students are required to submit four hardbound copies of the FYP report. A standardized template has been prepared for the FYP report and shared with respective students and supervisors. A project CD is also required which must contain the following items:

- FYP report
- Software developed (if any, along with the code)
- Final defense Presentation
- All other material consulted/utilized
- Project submission certification (Annex F)

The assessment criteria is given in Table 29.

Table 31: Assessment Criteria for Final Year Project

Criteria	Weightage	Assessment Method
Project proposal	Total Credit 2 40 Marks	Rubric
Semester – VII Presentation		
Semester – VIII Mid Evaluation Report		Rubric
Semester – II Final Presentation/Defense	Total Credit 4 60 Marks	
Semester – II Final Report		Rubric
Semester – II Outcome Evaluation		Rubric

Rubrics required for FYP assessment were developed and are included in the FYP policy are given in Annexure F.

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CRITERION 3 LABORATORIES AND COMPUTING FACILITIES

Criterion 3 Laboratories and Facilities

Standard 3-1: Laboratory manuals/documentation/instructions for experiments must be available and daily accessible to faculty and students

Computing Lab

The details of the computing lab including staff, related course work, type of workstations, are provided in Table 36.

- Number of total core/elective/Supporting computing Courses= 32
- Number of Lab courses = 23
- Number of Lab = 1

Standard 3-2: There must be support personal for instruction and monitoring the laboratories

.

Name	Designation	Highest Degree	Date of Joining	Type of Job
Usman Ali Raza	Lab assistant	Diploma in Computer Science	August 2022	Permanent

Standard 3-3: The university computing infrastructure and facilities must be adequate to support the program's objectives.

Table 32: Computing Labs Detail

Sr. No.	Name of Laboratory (Staff Names--Qualifications)	Lab(s) of Course(s) Conducted in the Lab.	Type(s) of Workstations (No. of each type)	Nature of Experiments	No. of Students per Workstation
2	Lab A (Usman Ali Raza – Lab assistant)	CSC-101 Programming Fundamental, CSC-204 Computer Networks CSC-211 Computer Org. & Assembly Lang. CSC-102 Object Oriented Programming, CSC-203 Artificial Intelligence, CSC-301 Operating Systems CSC-314 Parallel & Distributed Computing, CS566 Web Technologies, CS-692 Visual Programming CS-363 Compiler Construction, CSC-103 Database System, CSC-351 Web Engineering, CS-685 Human-Computer Interaction, CSC-201 Data Structures & Algorithm	Number of PCs-50 Multimedia-1 White Board-1 Internet Access	Hands-on / Demonstration	1:1

CRITERION 4 STUDENTS SUPPORT AND ADVISING

Criterion 4 Students Support and Advising

University administration has formulated centralized support and advising statues. These statues provide information regarding admission, scholarships, financial matters etc. AIS arranges orientation to the newly admitted student in its capacity that is in addition to the central orientation session held for all students of the university. AIS arranges curricular and extracurricular activities/events such as sports week, technical workshops and annual dinner.

Standard 4-1: Courses must be offered with sufficient frequency and number for students to complete the program in a timely manner.

Courses are taught as per HEC criteria.

- At the undergraduate level subjects/courses are offered as per the scheme of study provided by the HEC and approved by the Academic Council.
- Elective courses are offered as per the policy of HEC and the University.
- No course is offered consecutively in any two semesters.

Standard 4-2: Courses in the major area of study must be structured to ensure effective interaction between students, faculty teaching assistants.

Contents of all major courses at BS (CS) contain an application development part. This part is assigned in the early weeks of the course. Students keep close interaction throughout the course with course instructor to accomplish the development of the said application. Assignments also increase interaction between student and teacher. The teaching methodology followed for BS (CS) is both instructional and constructive, where students are taught and concepts and also guided to explore additional concepts of the course domain. This exploration binds students with the teacher for assistance and progression. Meetings of the Institutional Board of Studies design and improves the BS (CS) courses. Course instructors of any major course normally invites other sibling faculty members for evaluation of student's presentation or software applications at the end of the course. This provides interaction of students to other faculty members as well. Institute always encourages the interaction between each section of BS (CS) classes through software competitions held during student’s week.

Standard 4-3: Guidance on how to complete the program must be available to all students and access to qualified advising must be available to make course decisions and career choices.

Several steps have been taken to guide students by different ways such as:

- Students are informed about the program requirement through the director's office.
- Through the personal communication of the teachers with the students.
- Meetings are organized by the director of the Institute for counseling of the students. Besides, students can also contact with the relevant teachers whenever they face any problem.
- Students can meet the director of the institute whenever they feel the need to meet on any serious issue.
- Realizing the need for exploring job opportunities for university graduates, the Directorate of Placement Bureau has been established.

4.1 The Mechanism for Providing Guidance to Students on Academic, Career and Aspects Pertaining to Wellness

4.1.1 Academic Counselling

Several steps have been taken to guide students in different ways such as:

- Students are informed about the program requirement through the director's office.
- Through the personal communication of the teachers with the students.
- Meetings are organized by the director of the Institute for counseling of the students. In addition, students can also contact the relevant teachers whenever they face any problem.
- Students can meet the director of the institute whenever they feel the need to meet on any serious issue.
- Realizing the need for exploring job opportunities for university graduates, the Directorate of Placement Bureau has been established.

Table 33: Student Teacher Ratio

2022-2023	2023-2024

1:12	1:11

4.2 Students Workload, Class Sizes for Theory as well as Laboratory Sessions and Completion of Courses

4.2.1 Class Size

There are 20-25 students on average per section in each batch of 20-25 students. During lab work each, students have a separate system to perform tasks effectively.

4.2.2 Semester Academic Load

Academic load in a semester is in the range of 17-19 credit hours except for the final semester where 12 credit hours are taught. This has been done intentionally to provide students with maximum free time, as they have to move in the market for completion of their final year projects. Students also have to appear for the interviews conducted by the employers.

4.2.3 Completion of Course and Student Feedback

Course files are prepared for each course and are available with the academic department. Instructors are required to submit a course teaching/lesson plan. HOD ensures completion and conduct of the course as per schedule. Student feedback is taken twice every semester on the learning management system (LMS). Sample teacher and Course evaluation are provided in Annexure G. Faculty is consulted and corrective actions are taken where required see Annexure H.

4.3 Student Activities and Involvement in Activities Providing Experience in Management and Governance, Representation in Education and Social Activities

4.3.1 Participation in Competitions

Students are encouraged to participate in extracurricular activities. Such activities are held within AIS as well as outside AIS. Students are facilitated by providing them transportation. Competitions held/participated in the recent past are given in the following sections.

4.3.2 Competitions/Events Held

Details of recent completions held in SMME are given in Table 35.

Table 34: Recent Events Held in AIS

List of Events- Fall 2024		
Sr. No	**Event**	**Date**
1	Orientation	10-Nov-2024
2	Mehfil-e- Milaad	29-0ct-2024
3	Two-days training course of Community Basic Life Support & Fire Safety Orientation	6-Nov-2024
4	Iqbal day special lecture	5-Nov-2024
5	Essay writing	12-Dec-2024

List of Events- Spring 2024		
Sr. No	**Event**	**Date**
1	Two-days training course of community basic life support & fire safety orientation	11 & 12-march-24
2	Naat-o-qirat declamation	20-april-24
3	Seminar on emotional intelligence	6-april-24
4	Bonfire	14-may-2024

List of Events- Fall 2023		
Sr. No	**Event**	**Date**
1	Sports Gala 2023	25 & 26 nov 2023
2	Writing Quran Session	30-nov-23
3	Nutritional Awareness camp and food art exhibition	19-dec-23
4	Essay Writing Competition	20-Jan-23

4.3.3 Internships

Internships are an integral part of the computer science curriculum and are mandatory for all students. AIS provides opportunities for a few internships to learn in industrial environments and expose students to the pressure of professional life.

4.3.4 Awards

Student encouragement through awards is also a big part of the Computer Science department's philosophy. Several types of awards are offered for competitions. The department also awards medals during the convocation ceremony. Department also has need-based scholarships which are offered to several students each year. The student who scored top position in respective batch consecutive four semesters will be awarded a laptop.

CRITERION 5 PROCESS CONTROL

Criterion 5 Process Control

Standard 5-1: The process by which students are admitted to the program must be based on quantitative and qualitative criteria and clearly documented. This process must be periodically evaluated to ensure that it is meeting its objectives.

5.1 Requirements and Processes for Admission of Students to the Program, Response and Annual Intake

5.1.1 Admission Criteria

i A person holding an Higher Secondary Certificate, A-level, or an equivalent certificate from any recognized institute with at least second division or overall 50% marks, or any other marks specified shall be eligible to apply for admission.

ii Admission will be on open merit basis.

The admission criteria are laid out by the Arid Agriculture University and are part of AIS statues. Admissions are handled by the Admission Office of AIS for all programs of the AIS.

5.1.2 Academic Standing

i Grade Point average

a) Maximum grade point average 4.00

b) Minimum grade point average for obtaining the Degree 2.50

ii To remain on the roll of the university, a student shall be required to maintain the following minimum CGPA in each semester:

Semester	CGPA
1st Semester	0.75
2nd Semester	1.00
3rd Semester	1.25
4th Semester	1.50
5th Semester	1.75
6th Semester	2.00
7th Semester	2.25

8th Semester	2.50

- A student who does not meet the above requirement for promotion shall cease to be on the university roll. However, he/she may repeat the whole semester only once.
- The course grades that a student earns in the repeated semester shall replace the previously earned course grades.
- In the 8th semester, if a student fails to achieve the 2.5 CGPA, he/she shall have to repeat the course/courses with the lowest grades, to make CGPA of 2.5 within the maximum time period allowed for the degree.
- Migration from other universities and institutes to universities will be entertained as per University migration rules.

Standard 5-2: The process by which students are registered in the program and monitoring of students' progress to ensure timely completion of the program must be documented. This process must be periodically evaluated to ensure that it is meeting its objectives.

5.2 Examination and Weightage

Theory

In theory paper, students' evaluation is done by mid-term examination, assignments/ quizzes and final examination. Both the mid-term and final examinations are compulsory. A student who misses the mid-term examination is not allowed a make-up examination and is awarded zero marks in that examination. In case a student does not appear in the final examination of a course, he/she will be deemed to have failed in that course. In theory, weightage to each component of the examination is as prescribed hereunder:

Table 35: Examination Weights

Credit Hours	Quiz-Assignment	Mid-Examination	Final Examination	Practical
3(3-0)	20%	30%	50%	N/A
3(2-2)	13.33%	20%	33.33%	33.33%
4(3-2)	15%	22.5%	37.50%	25.0%

Practical

The student must pass the practical final examination separately.

5.2.1 Eligibility for Examination

A student is eligible to sit for the examination provided that he/she has attended not less than 75% of the classes in theory and practical, separately. The minimum pass marks for each course are 40% for undergraduates.

Standard 5-3: The process of recruiting and retaining highly qualified faculty must be in place and clearly documented. Also processes and procedure for faculty evaluation, promotion must be consistent with institution mission statement.

5.3 Faculty Development, Training and Retention

5.3.1 Faculty Training and Mentoring

The following opportunities and facilities are available for faculty training and mentoring.

- The new faculty attends orientation training and methods of instruction workshop.
- AIS sometimes conducts faculty training to enhance educational experience.

5.3.2 Faculty Retention and Career Planning

Faculty is one of the most important parts of the institute and hiring and retention of best-in-class faculty is the topmost priority of the institute. For this purpose, the following are being offered.

- AIS offers a competitive pay package.
- Full funding for attending National/ International conferences/ seminars/ Workshops.
- Financial support for carrying out Masters & Doctoral studies.
- Funding through government and non-profit national and international organizations is facilitated.
- Promotions are based on experience and research work.
- The teaching load is based on the guidelines provided by the HEC so faculty can spend most of their time on research.

Standard 5-4: The process and procedures used to ensure that teaching and delivery of course material to the students emphasizes active learning and that course learning outcomes are met. The process must be periodically evaluated to ensure it is meeting objective.

5.4 Strength and Competencies of Academics Staff Covering all Areas of the Program

AIS has a mix of qualified and experienced faculty members for teaching and research. Most of the faculty members have qualifications from leading universities in the world. The pyramid of the academic architecture of AIS is shown in the figure below.

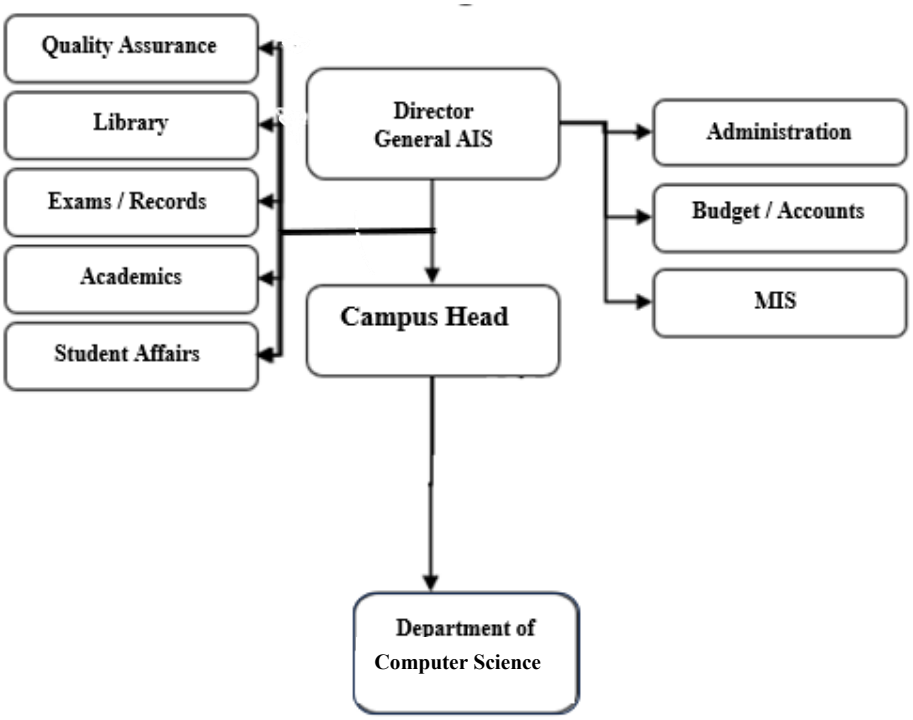

Figure 3: Academic Pyramid

CRITERION 6 FACULTY

Criterion 6 Faculty

6.1.1 Faculty

Details of faculty at AIS is given below.

Present Scenario

Full-Time Faculty Size	Number of faculty members with PhD MS	Full Professors	Associate Professors	Assistant Professors	Lecturers	Teaching Assistants/Fellows
03	09				09	

Standard 6-1: There must be enough full-time faculty who are committed to the program to provide adequate coverage of the program. The interests and qualifications of all faculty members must be sufficient to teach all courses, plan, modify and update courses and curricula. All faculty members must have a level of competence that would normally be obtained through graduate work in the discipline. The majority of the faculty must hold a Ph.D. in the discipline.

6.2 Faculty Distribution by Program Area

Table 36: Faculty Distribution by Program Areas

Program Area of Specialization	Course in Area	Average Number of Section per Year	Number of Faculty Members in Each Area
Networks	2	6	2
Artificial Intelligence	1	4	1
Web/Mobile Development	2	5	4

6.2.1 Full Time Dedicated Faculty

The details of faculty members are stated in Table 38, and sample faculty resume is attached in Annexure K.

Table 37: Full Time Dedicated Faculty

Name	Designation	Highest Degree	Subject Discipline	Faculty Type	Data of Joining	Experience	Status
Mr. Shoaib Nazir	Lecturer	MS	Computer Science	Full Time	2023	12	Continue
Ms. Nimrah Ashraf	Lecturer	MS	Computer Science	Full Time	26.09.2023	2.5	Continue
Ms.Ume Habiba	Lecturer	MS	Computer Science	Full Time	1.11.2024	4	Quit
Mr. Muhammad Sami Ullah	Lecturer	MS	IT	Full Time	22.09.2021	1	Quit
Mr. Aon Naqvi	Lecturer	MS	Computer Science	Full Time	22.09.2022	2	Quit
Ms. Maryam Riaz	Lecturer		Computer Science	Full Time	1.11.2024	0.5	Continue
Mr. Syed Zeeshan Hassan	Lecturer	MS	Computer Science	Part Time	10.09.2023	10	Continue
Ms. Rabia Arif	Lecturer	MS	Computer Science	Part Time	10.09.2023	3	Continue

6.2.2 Time Lab Engineers

Table 38: Full Time Lab Engineers

Name	Designation	Highest Degree	Date of Joining	Type of Job
Mr. Usman Ali Raza	Lab assistant		August 2022	Permanent

6.2.3 Faculty Members at AIS and their Distribution

Table 39: Part Time Faculty Members at AIS

Part-Time Faculty Size	Number of Full Time Faculty Members with		Total Number of Courses Offered by the Institute	Number of Part-Time Faculty Members with		Average Teaching Load Full Time Faculty
	PhD	MS		PhD	MS	
(Fall-2024)		3			5	09-12 Credit hour
(Spring-2024)		**3**			5	09-12 Credit hour
(Fall-2023		3			5	09-12 Credit hour
(Spring-2023		3			5	09-12 Credit hour

Standard 6-2: All faculty members must remain current in the discipline and sufficient time must be provided for scholarly activities and professional development. Also, effective programs for faculty development must be in place.

6.3 Overall Staff Workload

6.3.1 Faculty Workload

Teaching load based on 2023-2024	
Lecturer	09-12 Cr. Hr

6.3.2 Student Teacher Ratio

Table 40: Student Teacher Ratio

2022-2023	**2023-2024**
1:11	1:12

6.4 Faculty Development, Training and Retention

6.4.1 Faculty Training and Mentoring

Following opportunities and facilities are available for faculty training and mentoring.

- The new faculty attends orientation training and methods of instruction workshop.
- AIS sometimes conducts faculty training to enhance the educational experience.

6.4.2 Faculty Retention and Career Planning

Faculty is one of the most important parts of the Institute and hiring and retention of best-in-class faculty is the topmost priority of the institute. For this purpose, the following are being offered.

- AIS offers a competitive pay package.
- Full funding for attending National/ International conferences/ seminars/ Workshops.
- Financial support for carrying out Masters & Doctoral studies.
- Funding through government and non-profit national and international organizations is facilitated.
- Promotions are based on experience and research work.
- The teaching load is based on the guidelines provided by the HEC so faculty can spend most of their time in research.

6.5 Sufficiency and Competency of Technical and Administrative Staff in Providing Adequate Support to the Educational Program

6.5.1 Sufficiency and Competency of Technical Staff

The lab technicians and lab engineers are well qualified and meet the qualification requirements of their respective jobs. Lab engineers have B.Sc / M. Sc. Degrees in computer science while the lab technicians are technical diploma holders.

6.5.2 Sufficiency and Competency of Administrative Staff

AIS has an adequate number of administrative staff for office and administration jobs. The administrative staff of the department is headed by Admin Manager. The staff is responsible for the general upkeep of the AIS building and offices. In case of a medical emergency, several staff members are trained to provide first aid. They are also responsible in case of a fire emergency and have been designated as fire marshals. The administrative staff is also responsible for office work.

Standard 6-3: All faculty members should be motivated and have job satisfaction to excel in their profession.

6.6 Faculty Survey

To measure the faculty satisfaction and identifying their experience at AIS, QED conducted a faculty Survey at end of each semester. Faculty surveys help to identify faculty member level satisfaction and their experience with administrative staff and faculty members. Faculty member suggestions and feedback help to improve the department working. The faculty survey results are available in Annexure H.

6.7 Annual Faculty Review

The yearly survey is a necessary part of any institute to self-evaluate its execution and to assess the performance/contribution of its employees. The academic year 2023-2024 has been ended, QED and Departments have decided to take an initiative to do yearly evaluation this year and continue to do so. Some sample examples of annual faculty reviews are available in Annexure I.

Standard 6-4: There must be an adequate number of high-quality graduate students, research assistants and Ph.D. students.

The BS Graduate student's information is provided in criteria 2 . AIS is not offering any Masters and PhD Degree. Teaching Assistants positions are not available for AIS.

CRITERION 7 INSTITUTIONAL FACILITIES

Criterion 7 Institutional Facilities

Standard 7-1: The institution must have the infrastructure to support new trends in learning such as e-learning.

7.1 Adequacy of Teaching and Learning Facilities

The adequacy of teaching and learning facilities that include classrooms, learning-support facilities, study areas, information resources, library, computing and information technology, etc. is described in the following sections.

Standard 7-2: The library must possess an up-to-date technical collection relevant to the program and must be adequately staffed with professional personnel.

7.1.1 Library

The AIS Library has the following facilities.

- Institute has its library which has 148 title of computer science-related books. 2 Technical Magazines and 4 Journals. New books are regularly bought, but currently, library contains low-cost editions. Expensive books are unavailable.
- Library also has a collection of 210 E-Books of Computer Sciences.
- Reproduction facility is also available in the form of the printers in AIS where computing and other subject books like mathematics are being printed after necessary permission.

Standard 7-3: Classrooms must be adequately equipped, and offices must be adequate to enable faculty to carry out their responsibilities.

7.1.2 Lecture Facilities

The AIS building is situated within the premises of university town Mandi Bahauddin. The building has the following facilities:

- Classrooms: 08
- Seating capacity of each classroom: 50
- 4 LCDs Audio-Video facilities

7.1.3 Computer Laboratories

Following dedicated computer laboratory available.

- Computational Lab A

The computing facilities have the latest computing software including visual studio, Dreamweaver Matlab, etc.

7.1.4 Sports

At AIS the implementation of a wholesome policy helps shape student's personalities and careers in a more efficient manner. Students are, therefore, encouraged to participate in various sports competitions held as a regular feature of campus life. The following facilities are available in the campus.

- Badminton Court
- Cricket Ground

7.1.5 Transport

AIS maintains an organized transportation network within the campus for the students and staff. Vans provide transport from 8:30 to 3:30 pm. AIS provides transportation within Mandi Bahauddin city and outside Mandi Bahauddin. Transportation facilities provided to students of Malakwal and Phalia .

7.1.6 Other On-Campus Facilities

The campus has the following facilities available for students.

- Cafeteria
- Printing Shop
- Stationery Shop

CRITERION 8 INSTITUTIONAL SUPPORT

Criterion 8 Institutional Support

8.1 Institutional Financial Commitment and Support

Standard 8-1: There must be sufficient support and financial resources to attract and retain high quality faculty and provide the means for them to maintain competence as teachers and scholars.

8.1.1 Income and Expenditure Details

Table 41: Income and Expenditure Details

S No	Source of Income	Financial Year 2023-24 (July 2023 to August 2024)			Financial Year 2022-23 (July 2022 to August 2023)		
		Budget	Income	Expenditure	Budget	Income	Expenditure
1		16500000	15944538	15844538	16000000	15797607	15697607

Standard 8-2: There must be an adequate number of high-quality graduate students, research assistants and Ph.D. Students.

8.1.2 Student Teacher Ratio

2023-2024	2022-2023
1:11	1:12

Standard 8-3: Financial resources must be provided to acquire and maintain library holdings, laboratories and computing facilities.

Yearly budget for the past two years	2022-2023	2023-2024
	16000000	16500000
Institution's yearly budget for research and faculty development for the past five years	300000	-
Institution's yearly budget for library	300000	350000

Institution's yearly budget for computing facilities	**500000**	**550000**
Yearly budget of the department/ school/ college that offers the program	**2022-2023**	**2023-2024**
	-	**-**
Department/school/ college's yearly budget for research and faculty development for the past two years	**-**	**-**
Fee Structure	Subsidized Fee: Rs.28000	Subsidized Fee: Rs.28000
	Regular Fee: Rs.40000	Regular Fee: Rs.42000
What are sources of income	Semester/Tuition Fee	Semester/Tuition Fee
Other information (if any)		

Summary

The computer science program at AAUR and affiliated institutes was developed in line with the Higher Education Commission (HEC) requirements. Extensive collaboration among stakeholders ensured the creation of a unified curriculum. The curriculum is continually reviewed, considering HEC revisions and feedback from stakeholders. Students can choose from elective courses to enhance their knowledge.

Faculty members are responsible for creating lesson plans based on approved course content, with the flexibility to make minor adjustments. Feedback from faculty and students is regularly collected through the Learning Management System (LMS), and the QED, Academic Directors, and HODs monitor the process.

The curriculum's assessment methods include quizzes, assignments, presentations, and exams, with each course learning outcome linked to specific questions. Feedback from various sources is addressed during faculty meetings, fostering continuous improvement. The program's focus on learning outcomes ensures students acquire relevant skills and knowledge.

Annexure A: Alumni Survey

Performa: 7 Alumni Survey

Department of Computer Science

BSCS (The survey will be conducted in 2026 when the first BSCS batch graduates.)

Alumni Survey Questions Summery

S. No	General Comments Please make any additional comments or suggestions, which you think would help strengthen our programs. (New courses that you would recommend and courses that you did not gain much from)	Career Opportunities	Name of organization (In which you are currently working)	Position in organization
1				
2				
3				

Annexure B: Employer Survey

The survey will be conducted in 2027 when the first BSCS batch graduates.

Annexure C: Graduating Survey

Performa: 3 Survey of Graduating Students

Department of Computer Science & IT

BSCS(The survey will be conducted in 2026 when the first BSCS batch graduates.**)**

S.no	Statements	VS	SA	UC	DS	VD
1	The work in the program is educative	0%	0%	0%	0%	0%
2	The program is effective in enhancing team-working abilities.	0%	0%	0%	0%	0%
3	The program administration is effective in supporting learning.	0%	0%	0%	0%	0%
4	The program is effective in developing analytical and problem solving skills.	0%	0%	0%	0%	0%
5	The program is effective in developing independent thinking.	0%	0%	0%	0%	0%
6	The program is effective in developing written communication skills.	0%	0%	0%	0%	0%
7	The program is effective in developing planning abilities	0%	0%	0%	0%	0%
8	The objectives of the program have been fully achieved	0%	0%	0%	0%	0%
9	Whether the contents of curriculum are advanced and meet program objectives	0%	0%	0%	0%	0%
10	Faculty was able to meet the program objectives	0%	0%	0%	0%	0%
11	Environment was conducive for learning	0%	0%	0%	0%	0%
12	Whether the Infrastructure of the department was good	0%	0%	0%	0%	0%
13	Whether the program was comprised of Co-curricular and extra-curricular activities	0%	0%	0%	0%	0%
14	Whether scholarships/ grants were available to students in case of hardship	0%	0%	0%	0%	0%

VS: Very Satisfied SA: Satisfied UC: Uncertain DS: Dissatisfied VD: Very Dissatisfied

Annexure D: Lesson Plan

COURSE READINESS			
Subject Title:	Data Structure and Algorithms	**Course code**	
Semester	BSCS 3rd	**Department**	Computer Science

Course Introduction	Any software design problem ultimately boils down to a question ofvappropriate organization of the Associated data, so that it can be accessed and manipulated easily, thus making data structure a fundamentalfactor in the overall correctness and efficiency of an application. It is imperative that the data for any Application be organized in such a way that it can be retrieved, modified and grow efficiently. (Data Structures and Algorithms) teaches necessary skills to achieve the said target.					
Learning Objective	This course aims at teaching the students to write programs that not only are correct but also computation and space efficient and optimized for the intended use through appropriate structuring/organization of the related data. Students will learn the standard data structures such as linked lists, stacks, queues, trees, graphs and hash tables and the algorithms that manipulate them. Students will also be introduced to the concept of Algorithm complexity analysis in order to make them realize the cost of the operations they perform on their data structures. Various algorithm design Techniques such as greedy, divide and conquer; back tracking etc. Will also be discussed.					
Recommended Textbook	Introduction to Algorithms, Thomas H. Cormen et al, Prentice-Hall.					
Grading System (Weighted Percentages)	**Assignments**	10	**Practical**	25	**Midterm Exam**	30
	Quizzes	5	**Presentations**		**Final Term Exam**	30
Other Rules	•					
	Class Time		**Consulting Hours**			

Logistics	Venue		Contact Information	

Lesson Plan

WEEK-1				
Lecture	**TOPICS**	**Content delivered**	**Reference source**	**Assignments/Quiz/Class Activity)**
1	Intro to datastructures	Need of DS in Computers, Why and how to improve data storage	Lecture note and slides	
2	**Algorithms and structures**	**Algorithms and programs**	**Book: chap 1**	

WEEK – 2

Lecture	TOPICS	Content delivered	Reference source	Comments
3	OOP Concepts	Abstraction, Concrete and Abstract Data Types, Class invariants and pre-and post conditions, Structures	C++ How to program 10th edition deitel and deitel Chapter 3	
4	**Arrays**	**Arrays (basic and Object types)**	C++ How to program 10th edition deitel and deitel Chapter 7 section 7.3, 7.4	**Assignment**

WEEK – 3

Lecture	TOPICS	Content delivered	Reference source	Comments
5	Arrays	Algorithms on arrays. Multi-dimensional Arrays – applications and algorithms	C++ How to program 10th edition deitel and deitel Chapter 7 section 7.8	
6		**Multidimensional array storage, row-major order, column-major order**	C++ How to program 10th edition Chapter 7 section 7.8	

WEEK – 4

Lecture	TOPICS	Content delivered	Reference source	Comments
7	Complexity	Complexity Analysis, Algorithm time and space complexity trade offs	chap 3 section 3.1	Quiz
8		**Asymptotic Analysis**	chap 3 section 3.2	

WEEK – 5

Lecture	TOPICS	Content delivered	Reference source	Comments
9	Link list	Deletion, Insertion, Searching, Sorting	C++ How to program 10th edition Chapter 8 section 8.1-8.4 Lecture note and slides	Assignment
10	**Doubly link list**	**Deletion, Insertion,** **Searching, Sorting**	C++ How to program 10th edition Chapter 8 section 8.1-8.4 Lecture note and slides	

WEEK – 6

Lecture	TOPICS	Content delivered	Reference source	Comments
11	Stacks	Static Stacks	Lecture note and slides	
12		**Dynamic Stacks**	Lecture note and slides	

WEEK – 7

Lecture	TOPICS	Content delivered	Reference source	Comments
13	Queues	Static Queue	Lecture note and slides	

14		**Dynamic Queue**	Lecture note and slides	

WEEK – 8

Lecture	**TOPICS**	**Content delivered**	**Reference source**	**Comments**
15	Recursion	Applications of Recursion – Fibonacci	**Chap 4 section 4.1**	Quiz
16		**Complexity of recursive algorithms**		

WEEK – 9

Lecture	**TOPICS**	**Content delivered**	**Reference source**	**Comments**
17	Sorting	Merge Sort	**Chap 7**	
18		**Analysis of Merge Sort**	**chap7**	

WEEK – 10

Lecture	**TOPICS**	**Content delivered**	**Reference source**	**Comments**
19	Sorting	Quick Sort	**Chap 7**	
20		**Analysis of Quick Sort**	**chap7**	

WEEK – 11

Lecture	TOPICS	Content delivered	Reference source	Comments
21	Linear Sorting	Counting Sort	**chap 8 section 8.1, 8.2**	Assignment
22	Linear Sorting	Radix Sort, bucket Sort	**chap 8 section 8.3, 8.4**	

WEEK – 12

Lecture	TOPICS	Content delivered	Reference source	Comments
23	Heaps	Heap types	**Chap 6 sec 6.1**	
24		**Heap building**	**Chap 6 sec 6.2, 6.3**	

WEEK – 13

Lecture	TOPICS	Content delivered	Reference source	Comments
25	Trees	Introduction and terminology,	**chap 12 section 12.1**	
26		**Binary trees**	**Chap 12 section 12.2**	**Quiz**

WEEK – 14

Lecture	TOPICS	Content delivered	Reference source	Comments
27		Add, delete node from tree	**Chap 12 section 12.3**	
28		**Tree traversal**	**Chap 12 section 12.4**	

WEEK – 14

Lecture	TOPICS	Content delivered	Reference source	Comments
29	Graph	Graph terminology	**Chap 22 section 22.1**	
30		**Usage and implementation**	**Chap 22 section 22.1**	

WEEK – 15

Lecture	TOPICS	Content delivered	Reference source	Comments
31	Graph traversal	Breadth First Search	Chap 22 section 22.2	
332		**Depth First Search**	**Chap 22 section 22.3**	

<table>
<tr><th colspan="7">COURSE READINESS</th></tr>
<tr><td>Subject Title:</td><td colspan="3">Object Oriented Programming</td><td>Course code</td><td colspan="2"></td></tr>
<tr><td>Semester</td><td colspan="3">BSCS (2nd)</td><td>Department</td><td colspan="2">Computer Science</td></tr>
<tr><td>Course Introduction</td><td colspan="6">This unit introduces C++ as an object-oriented programming language, building on existing knowledge of C and Java. The unit covers the C++ language with a focus on its object-oriented features, and how these can be implemented as part of program designs and implementation. You will also study and gain practical experience with the implementation issues related to object-oriented techniques, be able to build good quality software using object-oriented techniques and understand the role of patterns in object-oriented design.</td></tr>
<tr><td>Learning Objective</td><td colspan="6">At the completion of this unit students will be able to:
• Understand object-oriented programming features in C++
• Apply these features to program design and implementation
• Understand object-oriented concepts and how they are supported by C++
• Gain some practical experience of C++
• Understand implementation issues related to object-oriented techniques
• Build good quality software using object-oriented techniques Understand the role of patterns in object-oriented design.</td></tr>
<tr><td>Recommended Textbook</td><td colspan="6">▪ C++ How to Program, Harvey M. Deitel, Paul J. Deitel, Prentice Hall; 7th Edition, 1997, ISBN: 013528910-6.
▪ IT Series Object Oriented Programming with C++</td></tr>
<tr><td rowspan="2">Grading System (Weighted Percentages)</td><td>Assignments</td><td>5%</td><td>Projects</td><td>05%</td><td>Midterm Exam</td><td>22.5%</td></tr>
<tr><td>Quizzes</td><td>5%</td><td>Presentations</td><td>Nil</td><td>Final Term Exam</td><td>Theory: 37.5%
Practical: 25%</td></tr>
<tr><td>Other Rules</td><td colspan="6"></td></tr>
</table>

Logistics	Class Time		Consulting Hours	
	Venue		Contact Information	

Lesson Plan

WEEK-1

Lecture	**TOPICS**	**Content delivered**	**Reference source**	**Assignments/Quiz/Class Activity)**
1	**Structures** • Defining Structures • Declaring Structure Variables	**Structures** Defining Structures Declaring Structure Variables	**Recommended Book/other:** C++ How to Program, Harvey M. Deitel, Paul J. Deitel, Prentice Hall **book edition: 2nd chapter no: 02 page no:**	
2	• Initializing and Accessing Members of Structures Using Nested Structures • Initializing Nested Structures • Passing structure as Function Parameter	• Initializing and Accessing Members of Structures Using Nested Structures • Initializing Nested Structures • Passing structure as Function Parameter	**Recommended Book/other:** C++ How to Program, Harvey M. Deitel, Paul J. Deitel, Prentice Hall **book edition: 2nd chapter no: 02 page no:**	**Assignment 01:** Structures **Due Date:** March 12, 2020

LAB	*Writing programs that input data into members of structure and then print data from the members of structure.* *Writing programs that copy one structure variable to another variable.* *Writing programs that swap two structure type variables, Print the results before and after swapping.*	*Writing programs that input data into members of structure and then print data from the members of structure.* *Writing programs that copy one structure variable to another variable.* *Writing programs that swap two structure type variables, Print the results before and after swapping.*		

WEEK – 2

Lecture	TOPICS	Content delivered	Reference source	Comments

3	**Functions** • Introduction to Functions • Declaration, Calling and Definition of Functions • Passing Arguments(constants & variables) to Functions • Returning Values from Functions	**Functions** • Introduction to Functions • Declaration, Calling and Definition of Functions • Passing Arguments(constants & variables) to Functions • Returning Values from Functions	**Recommended Book /other:** C++ How to Program, Harvey M. Deitel, Paul J. Deitel, Prentice Hall **book edition: 7th chapter no: 06 page no:**	
4	• Passing Structure as Argument to Functions • Returning structure from functions • Passing Pointers as Arguments to Function	• Passing Structure as Argument to Functions • Returning structure from functions • Passing Pointers as Arguments to Function	**Recommended Book /other:** C++ How to Program, Harvey M. Deitel, Paul J. Deitel, Prentice Hall **book edition: 7th chapter no: 06**	**Assignment 02:** Functions
			page no:	**Due Date:** March 25th, 2020

LAB	*Writing programs that input data into an array and then print data using pointer notation.* *Writing programs that find out the maximum/minimum value in an array through pointer notation* *Writing program that return structure from a function.* *Writing program to swap two values by passing pointers to function.* *Writing program to copy one string to another string using pointers.*	*Writing programs that input data into an array and then print data using pointer notation.* *Writing programs that find out the maximum/minimum value in an array through pointer notation* *Writing program that return structure from a function.* *Writing program to swap two values by passing pointers to function. Writing program to copy one string to another string using pointers.*		

WEEK – 3

Lecture	TOPICS	Content delivered	Reference source	Comments
5	**Object Oriented Programming Concepts** • Object Oriented Approach • Objects and Classes	**Object Oriented Programming Concepts** • Object Oriented Approach • Objects and Classes	**Recommended Book /other:** C++ How to Program, Harvey M. Deitel, Paul J. Deitel, **book edition:** **7th**	

			chapter no: 03 page no:	
6	Characteristics of OO Languages (Inheritance, Polymorphism, Reusability, Overloading), Advantages of OOP.	Characteristics of OO Languages (Inheritance, Polymorphism, Reusability, Overloading), Advantages of OOP.	**Recommended Book /other:** C++ How to Program, Harvey M. Deitel, Paul J. Deitel, **book edition: 7th chapter no: 03 page no:**	
LAB	Programming Exercise	Programming Exercise		

WEEK – 4

Lecture	TOPICS	Content delivered	Reference source	Comments
7	**Classes and Objects** • Class Encapsulation • Abstraction • Information Hiding • Access Specifier	**Classes and Objects** • Class Encapsulation • Abstraction • Information Hiding • Access Specifier	**Recommended Book /other:** C++ How to Program, Harvey M. Deitel, Paul J. Deitel, **book edition: 7th chapter no: 09 page no:**	

8	• Constructors • Default Copy Constructor • Objects as Function Arguments • Functions returning Objects	• Constructors • Default Copy Constructor • Objects as Function Arguments • Functions returning Objects	**Recommended Book /other:** C++ How to Program, Harvey M. Deitel, Paul J. Deitel, **book edition: 7th chapter no: 09 page no:**	**Assignment 03:** Classes **Due Date:**April 09th, 2020
LAB	□ Programming Exercise	□ Programming Exercise		

WEEK – 5

Lecture	TOPICS	Content delivered	Reference source	Comments
9	**Classes and Objects** • Array of Objects • Passing/Returning objects • Destructor	**Classes and Objects** • Array of Objects • Passing/Returning objects • Destructor	**Recommended Book /other:** C++ How to Program, Harvey M. Deitel, Paul J. Deitel, **book edition: 7th chapter no: 10 page no:**	
10	• Static Class Data • Constant and Classes • Constant Member Function • Constant Objects	• Static Class Data • Constant and Classes • Constant Member Function • Constant Objects	**Recommended Book /other:** C++ How to Program, Harvey M. Deitel, Paul J. Deitel, **book edition: 7th**	**Quiz 01: Classes** **Date: April 13, 2020**

			chapter no: 10 **page no:**	
LAB	Programming Exercise	Programming Exercise		

WEEK – 6

Lecture	TOPICS	Content delivered	Reference source	Comments
11	**Inheritance** • Derived and Base Classes. • Derived Class Constructors • Protected Specifier • Overriding	**Inheritance** • Derived and Base Classes. • Derived Class Constructors • Protected Specifier • Overriding	**Recommended Book /other:** C++ How to Program, Harvey M. Deitel, Paul J. Deitel, **book edition: 7th chapter no: 12**	
			page no:	
12	• Overriding with • Scope Resolution overridden function	• Overriding • Scope Resolution with overridden function	**Recommended Book /other:** C++ How to Program, Harvey M. Deitel, Paul J. Deitel, **book edition: 7th chapter no: 12** **page no:**	**Assignment 04:** Inheritance **Dead Line:** April 22, 2020
LAB	Programming Exercise	Programming Exercise		

WEEK – 7

Lecture	TOPICS	Content delivered	Reference source	Comments
13	**Levels of Inheritance** • Single Inheritance • Multilevel Inheritance	**Levels of Inheritance** • Single Inheritance • Multilevel Inheritance	**Recommended Book /other:** C++ How to Program, Harvey M. Deitel, Paul J. Deitel, **book edition: 7th chapter no: 12 page no:**	
14	• Multiple Inheritance • Containership	• Multiple Inheritance • Containership	**Recommended Book /other:** C++ How to Program, Harvey M. Deitel, Paul J. Deitel, **book edition: 7th chapter no: 12 page no:**	**Assignment 05:** Inheritance **Due Date:** May 06, 2020
LAB	Programming Exercise	Programming Exercise		

WEEK – 8

Lecture	TOPICS	Content delivered	Reference source	Comments
15	Object Oriented Designing/Modeling	Object Oriented Designing/Modeling	**Recommended Book /other:** C++ How to Program, Harvey M. Deitel, Paul J. Deitel, **book**	

			edition: 7th chapter no: 18 page no:	
16	□ String Classes	□ String Classes	**Recommended Book /other:** C++ How to Program, Harvey M. Deitel, Paul J. Deitel, **book edition: 7th chapter no: 18 page no:**	
LAB	□ Programming Challenge	□ Programming Challenge		

WEEK – 9

Lecture	TOPICS	Content delivered	Reference source	Comments
17	**Operator Overloading** □ Unary Operator	**Operator Overloading** □ Unary Operator	**Recommended Book /other:** C++ How to Program, Harvey M. Deitel, Paul J. Deitel, **book edition: 7th chapter no: 11 page no:**	
18	□ Binary Operator	□ Binary Operator	**Recommended Book /other:**	**Assignment 06:**

			C++ How to Program, Harvey M. Deitel, Paul J. Deitel, **book edition: 7th chapter no: 11 page no:**	Operator Overloading **Due Date:** May 18, 2020
LAB	Programming Exercise	Programming Exercise		

WEEK – 10

Lecture	TOPICS	Content delivered	Reference source	Comments
19	**Polymorphism** • Virtual Function • Inline Function • Static Function	**Polymorphism** • Virtual Function • Inline Function • Static Function	**Recommended Book /other:** C++ How to Program, Harvey M. Deitel, Paul J. Deitel, **book edition: 7th chapter no: 13 page no:**	
20	• Late and Early binding • Friend Function • Abstract Classes	• Late and Early binding • Friend Function • Abstract Classes	**Recommended Book /other:** C++ How to Program, Harvey M. Deitel, Paul J. Deitel, **book edition: 7th chapter no: 13 page no:**	**Assignment 07:** Polymorphism **Due Date:** May 27, 2020
LAB	Programming Exercise	Programming Exercise		

WEEK – 11

Lecture	TOPICS	Content delivered	Reference source	Comments
21	**Memory Management** • Use of New and Delete Keyword. • Pointer to Object	**Memory Management** • Use of New and Delete Keyword. • Pointer to Object	**Recommended Book /other:** C++ How to Program, Harvey M. Deitel, Paul J. Deitel, **book edition: 7th chapter no: 08 page no:**	
22	• Pointer to pointer • Array of Pointer to string	• Pointer to pointer • Array of Pointer to string	**Recommended Book /other:** C++ How to Program, Harvey M. Deitel, Paul J. Deitel, **book edition: 7th chapter no: 08 page no:**	**Assignment 08:** Memory Management **Due Date:** June 04, 2020
LAB	Programming Exercise	Programming Exercise		

WEEK – 12

Lecture	TOPICS	Content delivered	Reference source	Comments

23	**Templates** • Template Functions	**Templates** • Template Functions	**Recommended Book /other:** C++ How to Program, Harvey M. Deitel, Paul J. Deitel, **book edition: 7th chapter no: 14 page no:**	
24	• Class Templates	• Class Templates	**Recommended Book /other:** C++ How to Program, Harvey M. Deitel, Paul J. Deitel, **book edition: 7th chapter no: 14 page no:**	**Assignment 09:** Templates **Due Date:** June 10, 2020
LAB	• Programming Exercise	• Programming Exercise		

WEEK – 13

Lecture	TOPICS	Content delivered	Reference source	Comments
25	**Exception Handling** • Exceptions syntax • Simple and Multiple Exceptions	**Exception Handling** • Exceptions syntax • Simple and Multiple Exceptions	**Recommended Book /other:** C++ How to Program, Harvey M. Deitel, Paul J. Deitel, **book edition: 7th chapter no: 16 page no:**	

26	Exceptions with arguments, Programming Exercise	Exceptions with arguments, Programming Exercise	**Recommended Book /other:** C++ How to Program, Harvey M. Deitel, Paul J. Deitel, **book edition: 7th chapter no: 16 page no:**	
LAB	Programming Exercise	Programming Exercise		

WEEK – 14

Lecture	TOPICS	Content delivered	Reference source	Comments
27	**Standard Template Library** Function Templates	**Standard Template Library** Function Templates	**Recommended Book /other:**	
	Class templates Vector Least De-queue	Class templates Vector Least De-queue	C++ How to Program, Harvey M. Deitel, Paul J. Deitel, **book edition: 7th chapter no: 07 page no:**	
28	Iterator Function Objects	Iterator Function Objects	**Recommended Book /other:** C++ How to Program, Harvey M. Deitel, Paul J. Deitel, **book edition: 7th chapter no: 07 page no:**	

LAB	Programming Exercise	Programming Exercise		

WEEK – 15

Lecture	TOPICS	Content delivered	Reference source	Comments
29	**Files and Streams** • Streams, String I/O • Character I/O • Object I/O • I/O With Multiple Objects • File Pointers	**Files and Streams** • Streams, String I/O • Character I/O • Object I/O • I/O With Multiple Objects • File Pointers	**Recommended Book /other:** C++ How to Program, Harvey M. Deitel, Paul J. Deitel, **book edition: 7th chapter no: 15 page no:**	
30	• File Pointers • Disk I/O With Member Functions • Error Handling • Redirection of Input & Output • Command Line Arguments • Printer Output	• File Pointers • Disk I/O With Member Functions • Error Handling • Redirection of Input and Output • Command Line Arguments	**Recommended Book /other:** C++ How to Program, Harvey M. Deitel, Paul J. Deitel, **book edition: 7th chapter no: 15 page no:**	**Assignment 10:** File Handling **Due Date:** June 19th, 2020
		Printer Output		
LAB	Programming Exercise	Programming Exercise		

WEEK – 16

Lecture	TOPICS	Content delivered	Reference source	Comments
29-30	**Project Demos and Viva**	**Project Demos and Viva**	**Recommended Book /other: book edition: chapter**	

			no: **page** **no:**	

COURSE READINESS			
Subject Title:	Theory of Automata and Formal Languages	**Course code**	
Semester	BSCS 5th	**Department**	CS
Course Introduction	This is an introductory course on the theory of computation. Students are introduced to the concept of formal languages and automata. Formal languages cover regular grammar, regular expression, context free grammar and language. In automata they shall learn about finite automata (deterministic and non-deterministic) and pushdown automata. They shall also learn about fundamental concepts of Turing machines.		
Learning Objective	The objectives of this course are Presenting the theory of finite automata, as the first step towards learning advanced topics, such as compiler design, Applying the concepts learned in fundamental courses such as Discrete Mathematics, in a theoretical setting; in particular, the application of proof techniques, discussing the applications of finite automata towards text processing and developing an understanding of computation through Turing Machines.		

Recommended Textbook	**REQUIRED TEXTS:** • Introduction to Automata Theory, Languages, and Computation, 2/E, John E. Hopcroft, Rajeev Motwani, Jeffrey D. Ullman, Addison-Wesley 2001. ISBN 0-201-44124-1. • Introduction to Computer Theory 2/E, Daniel I. A. Cohen John Wiley & Sons, Inc 1997. ISBN 0471-13772-3 **REFERENCES:** • Introduction to Formal Languages and Automata, Peter Linz, D. C. Heath and Company, 1990. ISBN: 0-669-17342-8. Handouts/Slides						
Grading System (Weighted Percentages)	Assignments	13%	Projects	-	Midterm Exam	30%
	Quizzes	7%	Presentations	-	Final Term Exam	50%
Other Rules						
Logistics	Class Time		Consulting Hours			
	Venue	AIS	Contact Information			

Lesson Plan				
WEEK-1				
Lecture	**TOPICS**	**Content delivered**	**Reference source**	**Assignments/Quiz/Class Activity)**
1	**Introduction to Automata**	Review of proof techniques • Introduction to Formal Proof • Introduction to Automata	**Recommended Book/other:** Introduction to Computer Theory 2/E, Daniel I. A. Cohen John Wiley & Sons, Inc 1997. ISBN 0-471-13772-3	

2	**Introduction to Automata**	• Language in Abstract • Introduction to Formal Languages • Alphabet sets and Languages	**Recommended Book/other:** Introduction to Computer Theory 2/E, Daniel I. A. Cohen John Wiley & Sons, Inc 1997. ISBN 0-471-13772-3	

WEEK – 2

Lecture	TOPICS	Content delivered	Reference source	Comments

3	**Introduction to Automata**	• A new method for defining Language • Finite and Infinite Languages • Structural Representation • Automata and Complexity	**Recommended Book/other:** Introduction to Computer Theory 2/E, Daniel I. A. Cohen John Wiley & Sons, Inc 1997. ISBN 0-471-13772-3 **book edition:2nd** **chapter no:** **page no:** PPT Slides	Assignment 1 (Language Representations Examples) Submission: March 9th,2020
4	**Introduction to Automata**	• Kleen Closure and Positive Closure • Unification, Recursive Definitions	**Recommended Book/other:** Introduction to Computer Theory 2/E, Daniel I. A. Cohen John Wiley & Sons, Inc 1997. ISBN 0-471-13772-3 **book edition:2nd** **chapter no:** **page no:** PPT Slides	

WEEK – 3

Lecture	TOPICS	Content delivered	Reference source	Comments

5	**Finite Automata**	• Finite State Automata • Even-Even Revisited • Deterministic Finite State Automata (DFA) • The Language of a DFA	**Recommended Book/other:** Introduction to Computer Theory 2/E, Daniel I. A. Cohen John Wiley & Sons, Inc 1997. ISBN 0-471-13772-3 **book edition:2nd chapter no: page no:** PPT Slides	Quiz 1 (Language Representations)
6	**Finite Automata**	Non Deterministic • Finite State Automata (NFA) • The extended Transition • Function The Language • of NFA Problems	**Recommended Book/other:** Introduction to Computer Theory 2/E, Daniel I. A. Cohen John Wiley & Sons, Inc 1997. ISBN 0-471-13772-3 **book edition:2nd chapter no: page no:** PPT Slides	

WEEK – 4

Lecture	TOPICS	Content delivered	Reference source	Comments
7	**Finite Automata**	• Designing DFAs • Equivalence of NFA and DFA	**Recommended Book/other:** Introduction to Computer Theory 2/E,	Assignment 2 (Regular Expressions)

		• Problems	Daniel I. A. Cohen John Wiley & Sons, Inc 1997. ISBN 0-471-13772-3 **book edition:2nd** **chapter no:** **page no:** PPT Slides	Submission: March 23rd ,2020
8	**Finite Automata**	• Epsilon NFA • Equivalence of DFAs • Epsilon Closure	**Recommended Book/other:** Introduction to Computer Theory 2/E, Daniel I. A. Cohen John Wiley & Sons, Inc 1997. ISBN 0-471-13772-3 **book edition:2nd** **chapter no:** **page no:** PPT Slides	

WEEK – 5

Lecture	TOPICS	Content delivered	Reference source	Comments
9	**Transition Graphs**	• Relaxing the restriction on input • Generalized Transition Graph • Nondetrminism	**Recommended Book/other:** Introduction to Computer Theory 2/E, Daniel I. A. Cohen John Wiley & Sons, Inc 1997. ISBN 0-471-13772-3	

			book edition:2nd chapter no: page no: PPT Slides	
10	**Regular Expressions & Languages**	• • Regular Grammars • Language associated with Regular Expression Building Regular Expressions for regular languages	**Recommended Book/other:** Introduction to Computer Theory 2/E, Daniel I. A. Cohen John Wiley & Sons, Inc 1997. ISBN 0-471-13772-3 **book edition:2nd chapter no: page no:** PPT Slides	

WEEK – 6

Lecture	TOPICS	Content delivered	Reference source	Comments
11	**Regular Expressions & Languages**	• Finite Languages are Regular • Introducing EvenEven • Operators of Regular Expression • Precedence of operator of Regular Expression	**Recommended Book/other:** Introduction to Computer Theory 2/E, Daniel I. A. Cohen John Wiley & Sons, Inc 1997. ISBN 0-471-13772-3 **book edition:2nd chapter no: page no:**	Assignment 3 (Finite Automata) Submission: April 6th ,2020
			PPT Slides	

12	**Regular Expressions & Languages**	• Finite Automata and • Regular Expressions • From DFA to Regular Expression Converting Regular Expression to Automata	**Recommended Book/other:** Introduction to Computer Theory 2/E, Daniel I. A. Cohen John Wiley & Sons, Inc 1997. ISBN 0-471-13772-3 **book edition:2nd chapter no: page no:** PPT Slides	

WEEK – 7

Lecture	TOPICS	Content delivered	Reference source	Comments
13	**Properties of Regular Languages**	• Algorithms for Regular Languages • Proving a language not to be regular • Identification of nonregular Languages using pigeon hole principle	**Recommended Book/other:** Introduction to Computer Theory 2/E, Daniel I. A. Cohen John Wiley & Sons, Inc 1997. ISBN 0-471-13772-3 **book edition:2nd chapter no: page no:** PPT Slides	Quiz 2 (R.E & FA)
14	**Properties of Regular Languages**	• Closure property of regular languages	**Recommended Book/other:** Introduction to Computer Theory 2/E,	

		• Algorithms for Regular • Languages Complement of regular languages	Daniel I. A. Cohen John Wiley & Sons, Inc 1997. ISBN 0-471-13772-3 **book edition:2nd** **chapter no:** **page no:** PPT Slides	

WEEK – 8

Lecture	TOPICS	Content delivered	Reference source	Comments
15	**Properties of Regular Languages**	• Intersection of regular languages • Finite Automata with output	**Recommended Book/other:** Introduction to Computer Theory 2/E, Daniel I. A. Cohen John Wiley & Sons, Inc 1997. ISBN 0-471-13772-3 **book edition:2nd** **chapter no:** **page no:** PPT Slides	Assignment 4 (Examples of variants of FA) Submission: April 20th,2020
16	**Properties of Regular Languages**	• Moore Machines • Mealy Machines • Moore = Mealy	**Recommended Book/other:** Introduction to Computer Theory 2/E, Daniel I. A. Cohen John Wiley & Sons,	

			Inc 1997. ISBN 0-471-13772-3 **book edition:2nd chapter no: page no:** PPT Slides	

WEEK – 9

Lecture	TOPICS	Content delivered	Reference source	Comments
17	**Regular Languages**	• Regular and Non regular Languages • Deciding whether language is regular or nonregular	**Recommended Book/other:** Introduction to Computer Theory 2/E, Daniel I. A. Cohen John Wiley & Sons, Inc 1997. ISBN 0-471-13772-3 **book edition:2nd chapter no: page no:** PPT Slides	
18	**Regular Languages**	• Decidability • Decidable Languages • Proof that every context free Languages are decidable	**Recommended Book/other:** Introduction to Computer Theory 2/E, Daniel I. A. Cohen John Wiley & Sons, Inc 1997. ISBN 0-471-13772-3 **book edition:2nd**	

			chapter no: page no: PPT Slides	

WEEK – 10

Lecture	TOPICS	Content delivered	Reference source	Comments
19	**Regular Languages**	• Decidability (Equivalence, Finiteness) • Problems	**Recommended Book/other:** Introduction to Computer Theory 2/E, Daniel I. A. Cohen John Wiley & Sons, Inc 1997. ISBN 0-471-13772-3 **book edition:2nd chapter no: page no:** PPT Slides	Assignment 5 (RL properties) Submission: May 4th ,2020
20	**Push down automata (PDA)**	• Introduction • Defining PDA • Language accepted by PDA	**Recommended Book/other:** Introduction to Computer Theory 2/E, Daniel I. A. Cohen John Wiley & Sons, Inc 1997. ISBN 0-471-13772-3 **book edition:2nd chapter no: page no:** PPT Slides	

WEEK – 11

Lecture	TOPICS	Content delivered	Reference source	Comments
21	**Push down automata (PDA)**	• Deterministic PDA's • Regular Languages and Deterministic PDA. • DPDA and Context Free Languages	**Recommended Book/other:** Introduction to Computer Theory 2/E, Daniel I. A. Cohen John Wiley & Sons, Inc 1997. ISBN 0-471-13772-3 **book edition:2nd chapter no: page no:** PPT Slides	Quiz 3 (variants of FA & PDA)
22	**Push down automata (PDA)**	• DPDA and Context Free Languages • Non-Deterministic PDA • Problems	**Recommended Book/other:** Introduction to Computer Theory 2/E, Daniel I. A. Cohen John Wiley & Sons, Inc 1997. ISBN 0-471-13772-3 **book edition:2nd chapter no: page no:** PPT Slides	

WEEK – 12

Lecture	TOPICS	Content delivered	Reference source	Comments
23	**Context-free Languages (CFL)**	• Parse Trees	**Recommended Book/other:**	Assignment 6

		• Constructing Parse • Trees The Yield of • Parse Trees Inference, Derivation and Parse Trees	Introduction to Computer Theory 2/E, Daniel I. A. Cohen John Wiley & Sons, Inc 1997. ISBN 0-471-13772-3 **book edition:2nd** **chapter no:** **page no:** PPT Slides	(push down Automata) Submission: May 18th ,2020
24	**Context-free Languages (CFL)**	Derivations • • Left Most & Right most • Derivation Ambiguity	**Recommended Book/other:** Introduction to Computer Theory 2/E, Daniel I. A. Cohen John Wiley & Sons, Inc 1997. ISBN 0-471-13772-3 **book edition:2nd** **chapter no:** **page no:** PPT Slides	

WEEK – 13

Lecture	TOPICS	Content delivered	Reference source	Comments
25	**Context-free Languages (CFL)**	• Removing ambiguity from grammar	**Recommended Book/other:** Introduction to Computer Theory 2/E, Daniel I. A. Cohen John Wiley & Sons,	

		• Leftmost derivation is a way to • remove ambiguity. • Context Free Grammar (CFG) Context Free Language (CFL)	Inc 1997. ISBN 0-471-13772-3 **book edition:2nd** **chapter no:** **page no:** PPT Slides	
26	**PDA/CFG Equivalence**	• • Building a PDA for CFG Building CFG for PDA, Problems	**Recommended Book/other:** Introduction to Computer Theory 2/E, Daniel I. A. Cohen John Wiley & Sons, Inc 1997. ISBN 0-471-13772-3 **book edition:2nd** **chapter no:** **page no:** PPT Slides	

WEEK – 14

Lecture	TOPICS	Content delivered	Reference source	Comments

27	**Properties of Context-free Languages**	• Simplification of Grammar • Chomsky-normalform • Converting grammar to Chomsky Normal Form	**Recommended Book/other:** Introduction to Computer Theory 2/E, Daniel I. A. Cohen John Wiley & Sons, Inc 1997. ISBN 0-471-13772-3 **book edition:2nd**	Assignment 7 (PDAs & CFGs) Submission: June 1st ,2020
			chapter no: **page no:** PPT Slides	
28	**Properties of Context-free Languages**	• Greinbach Normal Form • Grammars Converting grammar to GNF • Applications of Normal Forms	**Recommended Book/other:** Introduction to Computer Theory 2/E, Daniel I. A. Cohen John Wiley & Sons, Inc 1997. ISBN 0-471-13772-3 **book edition:2nd** **chapter no:** **page no:** PPT Slides	

WEEK – 15

Lecture	TOPICS	Content delivered	Reference source	Comments

29	**Properties of Context-free Languages**	• Pumping Lemma (Examples) • Properties of Pumping Lemma • Pumping Lemma for Regular Languages	**Recommended Book/other:** Introduction to Computer Theory 2/E, Daniel I. A. Cohen John Wiley & Sons, Inc 1997. ISBN 0-471-13772-3 **book edition:2nd chapter no: page no:** PPT Slides	Quiz 4 (CFGs)
30	**Turing Machines**	• Introduction	**Recommended Book/other:**	
		• Language of a Turing • Machine The • subprogram INSERT The subprogram DELETE	Introduction to Computer Theory 2/E, Daniel I. A. Cohen John Wiley & Sons, Inc 1997. ISBN 0-471-13772-3 **book edition:2nd chapter no: page no:** PPT Slides	

WEEK – 16

Lecture	TOPICS	Content delivered	Reference source	Comments

31	**Turing Machines**	• Transition diagram for turning machine • Turning Machine and Language accepters • Variations • Introduction to multitape turning machine	**Recommended Book/other:** Introduction to Computer Theory 2/E, Daniel I. A. Cohen John Wiley & Sons, Inc 1997. ISBN 0-471-13772-3 **book edition:2nd chapter no: page no:** PPT Slides	Assignment 8 (Turing Machines) Submission: June 14th,2020
32	**Course Review**	• Course Review • Question/Answers • Discussion	**Recommended Book/other:** Introduction to Computer Theory 2/E, Daniel I. A. Cohen John Wiley & Sons,	
			Inc 1997. ISBN 0-471-13772-3 **book edition:2nd chapter no: page no:** PPT Slides	

COURSE READINESS

Subject Title:	Visual Programming	**Course code**	
Semester	BSCS 5th	**Department**	CS

Course Introduction Learning objective	• Demonstrate fundamental skills in utilizing the tools of a visual programming studio environment in terms of the set of available command menus and toolbars. • Combine event-driven programming with procedural programming • Design practical visual forms for business and scientific/ problem solving applications • Solve mathematical, scientific, and business problems using visual/ component based programming • Demonstrate skills in "database connectivity" by embedding SQL code in their programs to manipulate external databases (Assessed by class work and projects). Apply visual programming to software creation by designing projects with menus and submenus.					
Recommended Textbook	Professional Visual C# by Wrox Series Professional ASP.NET using C# by Wrox Series					
Grading System (Weighted Percentages)	Assignments	8%	Projects	5%	Midterm Exam	20%
	Quizzes	5%	Presentations		Final Term Exam Lab Practical	50% 20%
Other Rules						
Logistics	Class Time		Consulting Hours			
	Venue		Contact Information			

Lesson Plan
WEEK-1

Lecture	TOPICS	Content delivered	Reference source	Assignments/Quiz/Class Activity)
1	Introduction to .NET Persistence framework Layer Object Relational Mapping	Introduction to .NET Persistence framework Layer Object Relational Mapping	Professional C# Wrox Series Chapter 1	
2	NET framework details, JIT, Security, Memory Management, Garbage Collection, Mark / Compact Algorithm, Generations in garbage collection, CTS, CLS, BCL	NET framework details, JIT, Security, Memory Management, Garbage Collection, Mark / Compact Algorithm, Generations in garbage collection, CTS, CLS, BCL	Professional C# Wrox Series Chapter 1	
LAB	Semester Project Proposal / Discuss objectives and outcome	Semester Project Proposal / Discuss objectives and outcome		

Lecture	TOPICS	Content delivered	Reference source	Comments
3	Data Types	Intro to datatypes	Professional C# Wrox Series Chapter 2	

4	Detailed datatype in dot net framework. Type checking and type casting/conversion	Detailed datatype in dot net framework. Type checking and type casting/conversion	Professional C# Wrox Series Chapter 2	

WEEK – 2

WEEK – 3

Lecture	TOPICS	Content delivered	Reference source	Comments
5	Namespaces	Namespaces	Professional C# Wrox Series Chapter 2	GUI Based Calculator
6	Nested Namepsaces Namespace aliases Semester Project Proposal / Discuss objectives and outcome	Nested Namepsaces Namespace aliases Semester Project Proposal / Discuss objectives and outcome		

WEEK – 4

Lecture	TOPICS	Content delivered	Reference source	Comments

7	Properties ,Attributes, Methods, Etc	Properties ,Attributes, Methods, Etc	Professional C# Wrox Series Chapter 3	
8	Classes, Access modifiers	Classes, Access modifiers	Professional C# Wrox Series Chapter 3	GPA Calculaltor

WEEK – 5

Lecture	TOPICS	Content delivered	Reference source	Comments
9	Inheritance	Inheritance	Professional C# Wrox Series Chapter 4	GUI Based Calculator
10	Inheritance Polymorphism (virtual and Abstract)	Inheritance Polymorphism (virtual and Abstract)	Professional C# Wrox Series Chapter 4	

WEEK – 6

Lecture	TOPICS	Content delivered	Reference source	Comments
11	Working on project using OOP Concepts	Working on project		

12	Working on projects Applying concepts on project	Working on projects Applying concepts on project		Project Working

WEEK – 7

Lecture	TOPICS	Content delivered	Reference source	Comments
13	Collections Arrays	Collections Arrays	Professional C# Wrox Series Chapter 9	
14	DataBase Creation Classes creation on project	DataBase Creation Classes creation on project		

WEEK –8

Lecture	TOPICS	Content delivered	Reference source	Comments
15	▪ Working on project	▪ Working on project		
16	▪ Working on project	▪ Working on project		

WEEK – 9

Lecture	TOPICS	Content delivered	Reference source	Comments

17	VC#.NET controls 1 VC#.NET controls 2	VC#.NET controls 1 VC#.NET controls 2	**Recommended Book/other:** Professional C# Wrox Series Chapter 19	
18	Exception Handling Try Catch Finally Block	Exception Handling Try Catch Finally Block	Professional C# Wrox Series Chapter 11	Project Working

WEEK – 10

Lecture	TOPICS	Content delivered	Reference source	Comments
19	Working on project with Windows Form	Working on project with Windows Form	**Recommended Book/other:**	
20	• Working on project with Windows Form	• Working on project with Windows Form		

WEEK – 11

Lecture	TOPICS	Content delivered	Reference source	Comments
21	Working on project using GUI Controls	Working on project using GUI Controls		
22	Working on project using GUI Controls	Working on project using GUI Controls		

WEEK – 12

Lecture	TOPICS	Content delivered	Reference source	Comments

23	Web Development (basic theory) Web Server / Container (basics) Web Request Cycle	Web Development (basic theory) Web Server / Container (basics) Web Request Cycle	Professional ASP.NET using C# by Wrox Series Chapter 1	
24	Asp.net basics, HTML Controls, Server Controls Difference between Html and Server Controls	Asp.net basics, HTML Controls, Server Controls Difference between Html and Server Controls	Professional ASP.NET using C# by Wrox Series Chapter 2	

WEEK – 13

Lecture	TOPICS	Content delivered	Reference source	Comments
25	ASP .NET Event,ViewState Session Application state	ASP .NET Event,ViewState Session Application state		Web Based Login System
26	Asp.net Controls Security Implementation	Asp.net Controls Security Implementation	Professional ASP.NET using C# by Wrox Series Chapter 3	

WEEK – 14

Lecture	TOPICS	Content delivered	Reference source	Comments
27	Multithreading	Multithreading	Professional C# Wrox Series Chapter 15	Multithreaded Application

28	Javascript AJAX basics and asp.net	Javascript AJAX basics and asp.net	Professional ASP.NET using C# by Wrox Series Chapter 18 and 19	

WEEK – 15

Lecture	TOPICS	Content delivered	Reference source	Comments
29	Cookies	Cookies		
30	Web Services in .NET	Web Services in .NET		

WEEK – 16

Lecture	TOPICS	Content delivered	Reference source	Comments
31	Semester Projects Final Evaluation	Semester Projects Final Evaluation		
32	Revision and Student Questions and Queries	Revision and Student Questions and Queries		

COURSE READINESS

Subject Title:	Computer Organization & Assembly Language	**Course code**	CS-
Semester	BSCS 3rd	**Department**	CS

Course Introduction	The course covers aspects of design and architecture of computers. What are components of computer, what are the architectures & designs of these components and how they communicate or transfer data with each other? The course also covers implementations assembly language for practical understanding. In assembly language the course will deal with all the statements that will help in conversion of algorithm to assembly language instructions.

<table>
<tr><td>Learning Objective</td><td colspan="6">The objectives of this course are to discuss from simple to complex architecture of computer. What are the computer components? The design and architecture of these components including RAM, Cache, ROM, Processor, Registers, Busses, etc. Implementation of commands that are relevant to these components. These commands will help creation of low level programs using all these components. Other assembly command to communication or uses of buses, registers, RAM etc will be used.</td></tr>
<tr><td>Recommended Textbook</td><td colspan="6">REQUIRED TEXTS:
1. Fundamentals of Computer Organization & Architecture, Mostafa Abd-El-Barr & Hesham El-Rewini, 2004
2. The x86 PC Assembly Language, Design & Interfacing, 5th Edition, Muhammad Ali Mazidi, Janice Gillispie Mazidi & Danny Causy, Prentice Hall, 2010
3. Computer System Architecture by Morris Mano, 3rd Edition, 1992
REFERENCES:
4. Assembly Language for x86 Processors, 6th Edition, Kip R. Irvin, 2010
5. Computer Organization & Architecture, 9th Edition, William Stallings. 2012</td></tr>
<tr><td rowspan="2">Grading System (Weighted Percentages)</td><td>Assignments</td><td>5 Marks</td><td>Practical</td><td>20 Marks</td><td>Midterm Exam</td><td>18 Marks</td></tr>
<tr><td>Quizzes</td><td>5 Marks</td><td>Presentations</td><td>5 Marks</td><td>Final Term Exam</td><td>30 Marks</td></tr>
<tr><td>Other Rules</td><td colspan="6">• Quizzes will be unannounced some time, but tentative plan of quizzes is given in the outline.
• They will be taken either in the first ten minutes of the class (so come to the class on time & be prepared!) or in the last ten minutes of the class (so listen to the lecture carefully).
• If you miss a quiz, you miss it!</td></tr>
<tr><td rowspan="2">Logistics</td><td>Class Time</td><td colspan="2">1:30PM to 3:00PM</td><td>Consulting Hours</td><td colspan="2"></td></tr>
<tr><td>Venue</td><td colspan="2"></td><td>Contact Information</td><td colspan="2"></td></tr>
</table>

Lesson Plan
WEEK-1

Lecture	TOPICS	Content delivered	Reference source	Assignments/Quiz/Class Activity)
1	What is the Architecture of Computer? Difference between Architecture and Organization	What is the Architecture of Computer? Difference between Architecture and Organization	1st Ref. Book 5.3 P#89 1st Ref. Book 5.1	
2	Different Style of Organizations Components of Computer and Busses Describing Functionality of RAM	Different Style of Organizations Components of Computer and Busses Describing Functionality of RAM	1st Ref. Book 5.1 Generic 1st Ref. Book 5.2	

WEEK – 2

Lecture	TOPICS	Content delivered	Reference source	Comments
3	Busses and their functionality Overview of Processors Architecture of Processors	Busses and their functionality Overview of Processors Architecture of Processors	1st Ref. Book 5.3 P#89 1st Ref. Book 5.1 1st Ref. Book 5.1	
4	Types of Architecture of Processor Register and their importance in Processor	Types of Architecture of Processor Register and their importance in Processor	1. Generic 1st Ref. Book 5.2	Assignment 1 – Announced Topic: How CPU control MAR and

				MBR registers, Flag Registers (Due Date:17-10-2021)

WEEK – 3

Lecture	TOPICS	Content delivered	Reference source	Comments
5	Architecture of Registers Flip-flops and Registers Register with Parallel Load Shift Registers	Architecture of Registers Flip-flops and Registers Register with Parallel Load Shift Registers	3rd Ref. Book 3.4 3rd Ref. Book 3.4 3rd Ref. Book 3.5 3rd Ref. Book 3.5	
6	Bidirectional Shift Registers with Parallel Load Binary Counters Binary Counter with Parallel Load	Bidirectional Shift Registers with Parallel Load Binary Counters Binary Counter with Parallel Load	3rd Ref. Book 3.6 3rd Ref. Book 3.6	Assignment 1 – Submitted Quiz 1

WEEK – 4

Lecture	TOPICS	Content delivered	Reference source	Comments
7	Important Intel Architecture Registers MBR and MAR registers functionalities.	Important Intel Architecture Registers MBR and MAR registers functionalities.	1st Ref. Book 5.2 1st Ref. Book 5.2.1	

8	Basic Instruction Cycle Instruction Types	Basic Instruction Cycle Instruction Types	Instruction Cycle without Interrupts 2nd Ref. Book 1.7	Assignment 2 – Announced Topic: Control Word Generation (Due Date:06-11-2021)

WEEK – 5

Lecture	TOPICS	Content delivered	Reference source	Comments
9	Microprograms and Control Unit Functionality of Control Unit	Microprograms and Control Unit Functionality of Control Unit	1st Ref. Book 5.5 1st Ref. Book 5.5	Assignment 2 – Submitted Quiz 2
10	Type and different designs of Control Units Microprogram Examples	Type and different designs of Control Units Microprogram Examples	1st Ref. Book 5.5 1st Ref. Book 5.5	

WEEK – 6

Lecture	TOPICS	Content delivered	Reference source	Comments
11	Control Word Micro operations	Control Word Micro operations	3rd Ref. Book 8.2 3rd Ref. Book 8.2	

12	Program Control Status Bit Control	Program Control Status Bit Control	3rd Ref. Book 8.7 3. T 8.7	Assignment 3 – Announced Topic: Pipelining and its Stalls & solution (Due Date:20-11-2021)

WEEK – 7

Lecture	TOPICS	Content delivered	Reference source	Comments
13	Pipelining Instruction Level Pipeline	Pipelining Instruction Level Pipeline	3rd Ref. Book chap 9	
14	Arithmetic Pipeline Pipeline Stall and Its Solutions	Arithmetic Pipeline Pipeline Stall and Its Solutions	1st Ref. Book 9.1 ~ 9.6	Assignment 3 – Submitted

WEEK – 8

Lecture	TOPICS	Content delivered	Reference source	Comments
15	Pipeline stalls and its' Solutions	Pipeline stalls and its' Solutions	3rd Ref. Book 9.1 ~ 9.4 1st Ref. Book 9.1 ~ 9.6	Quiz 3
16	Pipeline stalls and its' Solutions	Pipeline stalls and its' Solutions	3rd Ref. Book 9.1 ~ 9.4 1st Ref. Book 9.1 ~ 9.6	

WEEK – 9

Lecture	TOPICS	Content delivered	Reference source	Comments
17	Pipeline stalls and its' Solutions	Pipeline stalls and its' Solutions	**Recommended Book/other:** 3rd Ref. Book 9.1 ~ 9.4 1st Ref. Book 9.1 ~ 9.6	
18	Pipeline stalls and its' Solutions	Pipeline stalls and its' Solutions	**Recommended Book/other:** 3rd Ref. Book 9.1 ~ 9.4 1st Ref. Book 9.1 ~ 9.6	

WEEK – 10

Lecture	TOPICS	Content delivered	Reference source	Comments
19	Pipeline stalls and its' Solutions	Pipeline stalls and its' Solutions	**Recommended Book/other:** 3rd Ref. Book 9.1 ~ 9.4 1st Ref. Book 9.1 ~ 9.6	Assignment 4 – Announced Topic: Interrupts (Due Date:11-12-2021)
20	Pipeline stalls and its' Solutions	Pipeline stalls and its' Solutions	**Recommended Book/other:** 3rd Ref. Book 9.1 ~ 9.4 1st Ref. Book 9.1 ~ 9.6	Assignment 4 – Submitted

WEEK – 11

Lecture	TOPICS	Content delivered	Reference source	Comments
21	Input & Output Designs and Organization Overview of Interrupts	Input & Output Designs and Organization	**Recommended Book/other:** 1st Ref. Book Chapter 8	

		Overview of Interrupts		
22	Programmed and Interrupts Driven I/O	Programmed and Interrupts Driven I/O	1st Ref. Book Chapter 8	

WEEK – 12

Lecture	TOPICS	Content delivered	Reference source	Comments
23	Input & Output Designs and Configuration DMA and Busses	Input & Output Designs and Configuration DMA and Busses	**Recommended Book/other:** 1st Ref. Book Chapter 8	
24	Complex Instruction Cycle	Complex Instruction Cycle	1st Ref. Book Chapter 8	**Quiz 4**

WEEK – 13

Lecture	TOPICS	Content delivered	Reference source	Comments
25	Memory Hierarchy Cache Memory	Memory Hierarchy Cache Memory	1st Ref. Book Chapter 6	
26	Cache Memory Performance Parameters Cache Memory Mapping Techniques	Cache Memory Performance Parameters Cache Memory Mapping Techniques	1st Ref. Book Chapter 6	Assignment 5 – Announced Topic: DMA and Buses (Due Date:08-01-2022)

WEEK – 14

Lecture	TOPICS	Content delivered	Reference source	Comments
27	Main Memory Design of RAM	Main Memory Design of RAM	**Recommended Book/other:** 1st Ref. Book Chapter 7	Assignment 5– Submitted
28	Types of RAM Address Mapping Techniques of RAM	Types of RAM Address Mapping Techniques of RAM	**Recommended Book/other:** 1st Ref. Book Chapter 7	

WEEK – 15

Lecture	TOPICS	Content delivered	Reference source	Comments
29	Virtual Memory Design of Virtual Memory	Virtual Memory Design of Virtual Memory	**Recommended Book/other:** 1st Ref. Book Chapter 7	
30	Virtual Memory Address Mapping Techniques	Virtual Memory Address Mapping Techniques	**Recommended Book/other:** 1st Ref. Book Chapter 7	

WEEK – 16

Lecture	TOPICS	Content delivered	Reference source	Comments
29	ROM Memory Design of ROM	ROM Memory Design of ROM	**Recommended Book/other:** 1st Ref. Book Chapter 7	
30	Types of ROM	Types of ROM	**Recommended Book/other:** 1st Ref. Book Chapter 7	

Annexure E: Survey for Teaching Method Evaluation

Class Report

instructor Name:			**Department/Course:**			**Class:**		
Week	**Date**	**Lecture**	**Arrival Time**			**Leave Time**		
3			On time ☐	Late ☐	Specify time:	On time ☐	Before ☐	Specify time:
Day 02			On time ☐	Late ☐	Specify time:	On time ☐	Before ☐	Specify time:
Day 03			On time ☐	Late ☐	Specify time:	On time ☐	Before ☐	Specify time:

Day: 01	**Date:**	**Class:**

instructor Attitude/Behavior				
Mobile Use	Once ☐	Thrice ☐	Number of times ☐	Comments:
Sitting on chair	Once ☐	Thrice ☐	Number of times ☐	Comments:
Eating	Once ☐	Thrice ☐	Number of times ☐	Comments:
Class Environment				
Students are desciplined	Never ☐	Some time ☐	All the time ☐	Comments:
Student's Group activity	Never ☐	Some time ☐	All the time ☐	Comments:
instructor maintained formal attiude	Never ☐	Some time ☐	All the time ☐	Comments:

Day: 02	**Date:**	**Class:**

instructor Attitude/Behavior				
Mobile Use	Once ☐	Thrice ☐	Number of times ☐	Comments:
Sitting on chair	Once ☐	Thrice ☐	Number of times ☐	Comments:
Eating	Once ☐	Thrice ☐	Number of times ☐	Comments:
Class Environment				
Students are desciplined	Never ☐	Some time ☐	All the time ☐	Comments:

Student's Group activity	Never ☐	Some time ☐	All the time ☐	Comments:
instructor maintained formal attiude	Never ☐	Some time ☐	All the time ☐	Comments:

Day: 03		**Date:**		**Class:**
instructor Attitude/Behavior				
Mobile Use	Once ☐	Thrice ☐	Number of times ☐	Comments:
Sitting on chair	Once ☐	Thrice ☐	Number of times ☐	Comments:
Eating	Once ☐	Thrice ☐	Number of times ☐	Comments:
Class Environment				
Students are desciplined	Never ☐	Some time ☐	All the time ☐	Comments:
Student's Group activity	Never ☐	Some time ☐	All the time ☐	Comments:
instructor maintained formal attiude	Never ☐	Some time ☐	All the time ☐	Comments:

_____

CMO Signature

Verified by
Quality Enhancement Department (QED)

Performa for Teacher's Work Evaluation

Start Date: _____ **End Date:** _____

instructor's Name: _____ **Course No:** _____

Class/Section: _____ **Name of Subject:** _____

Sr. No.	Percentage of Course Executed	instructor Feedback	Reason (if not taken)	Cross Observation
1	Number of Assignments taken			
2	Number of Assignments taken			
3	Number of Presentation taken			
4	Number of Assignments marked			
5	Number of Assignments marked			
6	Number of Presentation marked			
7	Percentage of marks uploaded on sessional sheets/portal			
8	Any other activity done in the class			
9	Number of classes/labs taken			
10	Percentage of Content covered/highlighted			

Date: _____ **Verified by:** _____

Instructor Feedback:

Observer Feedback:

QED Feedback:

Date: _____ **Verified by:** _____

Survey for Enhancing Quality of Education

instructor Name		**Department**	
subjects currently teaching			
1.	Subject in nature	□ Theoretical	□ Practical
Practical application:			
Does this subject meet the needs and expectations of industry?			
2.	Subject in nature	□ Theoretical	□ Practical
Practical application:			
Is this subject meets the need and expectations of industry?			
3.	Subject in nature	□ Theoretical	□ Practical
Practical application:			
Is this subject meets the need and expectations of industry?			
4.	Subject in nature	□ Theoretical	□ Practical
Practical application:			
Is this subject meets the need and expectations of industry?			
How quality graduates can be produced who would meet the expectations of employer in terms of the knowledge, skills, and competencies?			
Do you think, you are delivering updated knowledge?			
What mechanism do you suggest towards achieving learning outcomes of a given study program			
How do you define a good quality teacher			

What strategies do you generally use in class while teaching as how you clarify the concepts that you teach to your students?
How do you relate disciplinary knowledge to other subject areas?
Is this way working for students to make them clear?
How do you apply theoretical knowledge from discipline to practical situation?
What have you done to keep yourself up to date with developments in your subject area?
Do you plan your teaching in accordance to achieve the desire objectives?
What do you consider to be the key elements of teaching a successful lesson?
How many steps do you follow for planning a lesson? Can you give me an example of a lesson to which you consider good, and you are asked to repeat that lesson then what would you do to make that different?
What is your opinion about the use of modern instructional techniques in teaching relevant to your subject area?
Are these techniques beneficial for students?
Do you know the specific uses of technology in your discipline?
How you find technological resources specific to discipline?

Like is there any subject which you consider incomplete in teaching or learning if you do not use them?
Enlist technological tools use in your subject area
Suggestions..?

Annexure F: FYP Policy and Rubric

Arid Institute of Sciences
PMAS-Arid Agriculture University RWP
PROJECT MANAGEMENT OFFICE
Faculty of Computer Science

SUPERVISOR CERTIFICATE FOR FINAL EVALUATION
(SUPERVISOR'S DETAIL)

SUPERVISOR NAME:		PROJECT ID:(To be filled by PMO)	
PROJECT TITLE:			

(PROJECT DETAILS)

No.	Document Requirements	Progress		Your comments if any
1	Chapter 4 (Testing) of Documentation is updated and checked by your good self?	☐ Full Complete ☐ Partial Complete ☐ Not Complete		
2	Chapter 5 (User Manual) of Documentation is updated and checked by your good self?	☐ Full Complete ☐ Partial Complete ☐ Not Complete		
3	Are you satisfied that students have coded the project by their own?	☐ Full Satisfied ☐ Partial Satisfied ☐ Not Satisfied		
4	What Grade do you recommend to the committee according to your Evaluation of Project?	**Roll No:**	**Grade:**	

(STUDENTS CONTRIBUTION)

	Student's Roll #	Comments about student
Supervisor's comments about students		
Supervisor's comments about project's progress and general feedback		

SUPERVISOR SIGNATURE

DATE: _____

PMO SIGNATURE
DATE: _____

Pir Mehr Ali Shah

Arid Agriculture University Rawalpindi

Arid Institute of Sciences

FYP I - IDEA EVALUATION FORM

Project Title: _____

Supervisor: _____ Project No: _____

Sr. No.	Registration No.	Student Name
1		
2		
3		

a. Project Features:

Proposed Features	
i.	vi.
ii.	vii.
iii.	viii.
iv.	ix.
v.	x.

b. Project Evaluation:

Criteria	Good	Normal	Inferior
Project Complexity			
Technological Aspect			
Potential Impact on Society			
Benchmarking			
Project Features			

c. Add/Remove Features:

Add	Remove

Examiner Decision: Approved ☐ Approved with changes ☐

Remarks: _____

_____

_____

_____

_____

Name of Supervisor	Date	Signature

_____

Definition of Terms:

i. **Project Complexity:** The project complexity is referred to as the degree of significant contribution that a group of students will put in the design and development of project, spanning over two academic semesters. Secondly, determine if the domain of the project marks the standard of complexity required from a bachelor's student degree, as thisproject will determine the skills they learnt throughout the degree.

ii. **Technological Aspects:** Technological aspects of the project means tools/technologies and language(s) used to develop it.

iii. **Potential Impact on Society:** Determine how much impact the product could have in its stated strategy for a society or community/focused group.

iv. **Benchmarking:** The proposed project should be compared with existing similar type of works. A comparison table is more helpful for comparative view, listing features of existing works and proposed project.

v. **Project Features:** Verify that the features mentioned are complete and significant enough for an FYP project.

Arid Institute of Sciences
PMAS -Arid Agriculture University RWP
Department of Computer Science
FYP-1 Mid Evaluation Form

☐ BSCS ☐ BSSE

Project ID:		**Date:**	
Time:		**Venue:**	

Project Title:	

Supervisor:		**Evaluators:**	

Instructions: -Please give minimum 20 minutes to each group.
-Evaluate each student individually.
-Use back sheet if need to write more comments

Things to Evaluate: - Presentation, Chapter 1 (Introduction, Problem Background, Project Features, Stakeholders, Constraints), Chapter 2 (Req Analysis), Front End 40 % (Designing 40% of functional requirements with front end in working state)

Sr. #	Student Reg.#	Student Name	Ch. 1	Ch. 2	Presentation	Front End	Supervisor	Total 20(3+6+3+4+4)
			3 marks	6 marks	3 marks	4 marks	4 marks	
Evaluator 1								

Evaluator 2								
Aggregated Results by PMO								

Evaluator Name	Comments	Signature

PMO CS/SE AIS

AIS

Arid Institute of Sciences
PMAS -Arid Agriculture University RWP
Department of Computer Science
FYP-2 Final Evaluation Form

☐ BSCS ☐ BSSE **Status:** ☐ Passed ☐ Deferred

Project ID		**Date**		**Time &Venue**	
Project Title		**Supervisor**			

Things to Evaluate: Following criteria needs to be met for the final evaluation:
Student can demonstrate his Use Case/work from code, Project code is complete and fully functional, Test Cases available, Deployment, Project Worth i.e. Complexity, Problem nature e.g. scientific, information system, mathematical representation, Design Methodology, Design stability/ Architecture stability/ Design Pattern incorporated, Project timeline and tasks.
Note: * means revised mid marks (at the discretion of evaluation committee)

Sr. #	Student Reg.#	Student Name	Ch. 5 5	Supervisor 5	Functional/Non Functional Requirements-40 marks			Mid Marks * 30	Final Marks 80(5+5+40+30)
					Code (20)	Viva(10)	Demo (10)		
Evaluator 1									
Evaluator 2									

Aggregated Results by PMO								

Evaluator Name	Comments	Signature

PMO CS/SE AIS

AIS

Annexure L: Teacher and Course Evaluation

Session: Fall_2024
Instructor Name: Mr/Ms Asifa Batool
Course: CSC-110 Discrete Structures
Class: BSCS (1st)(1)

The student shows the positive response towards instructor which showcase the student's satisfaction towards teacher. The 79% students were strongly agreed instructor was prepared for class. The 83% and 12% were strongly agreed and agreed respectively that instructor was available during the specified office hours and for after class consultations

Description	S.A	A	UC	D	S.D
The Instructor is prepared for each class.	79%	21%	0%	0%	0%
The Instructor demonstrates knowledge of the subject.	92%	8%	0%	0%	0%
The Instructor has completed the whole course.	92%	8%	0%	0%	0%
The Instructor provides additional material apart from the textbook.	71%	21%	4%	0%	4%
The Instructor gives citations regarding current situations with reference to Pakistani context.	79%	17%	0%	0%	4%
The Instructor communicates the subject matter effectively.	88%	13%	0%	0%	0%
The Instructor shows respect towards students and encourages class participation	83%	17%	0%	0%	0%
The Instructor maintains an environment that is conducive to learning.	79%	21%	0%	0%	0%
The Instructor arrives on time.	88%	13%	0%	0%	0%
The Instructor leaves on time.	92%	8%	0%	0%	0%
The instructor has completed all classes regularly.	92%	8%	0%	0%	0%
The instructor posts the assignments/quizzes on time and give reasonable time to complete the assigned assignments/quizzes.	92%	4%	4%	0%	0%
The Subject matter presented in the course has increased your knowledge of the subject.	88%	8%	0%	0%	4%

The Instructor was available during the specified hours on office and after class for consultations.	83%	13%	4%	0%	0%
The course integrates theoretical course concepts with real-world applications.	83%	13%	0%	0%	4%
The assignments and exams covered the materials presented in the course.	92%	8%	0%	0%	0%
The course material is modern and updated	88%	8%	0%	0%	4%
The teacher is fair in exams.	96%	4%	0%	0%	0%

S.A:(Strongly Agree) A:(Agree) UC:(Uncentain) D:(Disagree) S.D:(Strongly Disagree)

Session: Fall_2024
Instructor Name: Mr/Ms Syed Zeeshan Hassan
Course: CSC-251 Web Engineering
Class: BS CS 5th(5)

The student shows the positive response towards instructor which showcase the student's satisfaction towards teacher. The 75% students were strongly agreed instructor was prepared for class. The 75% and 25% were strongly agreed and agreed respectively that instructor was available during the specified office hours and for after class consultations

Description	**S.A**	**A**	**UC**	**D**	**S.D**
The Instructor is prepared for each class.	75%	25%	0%	0%	0%
The Instructor demonstrates knowledge of the subject.	75%	25%	0%	0%	0%
The Instructor has completed the whole course.	75%	25%	0%	0%	0%
The Instructor provides additional material apart from the textbook.	75%	25%	0%	0%	0%
The Instructor gives citations regarding current situations with reference to Pakistani context.	75%	25%	0%	0%	0%
The Instructor communicates the subject matter effectively.	75%	25%	0%	0%	0%
The Instructor shows respect towards students and encourages class participation	75%	25%	0%	0%	0%
The Instructor maintains an environment that is conducive to learning.	75%	25%	0%	0%	0%
The Instructor arrives on time.	75%	25%	0%	0%	0%
The Instructor leaves on time.	75%	25%	0%	0%	0%

The instructor has completed all classes regularly.	75%	25%	0%	0%	0%
The instructor posts the assignments/quizzes on time and give reasonable time to complete the assigned assignments/quizzes.	75%	25%	0%	0%	0%
The Subject matter presented in the course has increased your knowledge of the subject.	75%	25%	0%	0%	0%
The Instructor was available during the specified hours on office and after class for consultations.	75%	25%	0%	0%	0%
The course integrates theoretical course concepts with real-world applications.	75%	25%	0%	0%	0%
The assignments and exams covered the materials presented in the course.	75%	25%	0%	0%	0%
The course material is modern and updated	75%	25%	0%	0%	0%
The teacher is fair in exams.	75%	25%	0%	0%	0%

S.A:(Strongly Agree) A:(Agree) UC:(Uncertain) D:(Disagree) S.D:(Strongly Disagree)

Session: Fall_2024
Instructor Name: Mr/Ms Asma Batool
Course: MTH-101 Calculus and Analytical Geometry
Class: BS CS 3rd(3)

The student shows the positive response towards instructor which showcase the student's satisfaction towards teacher. The 75% students were strongly agreed instructor was prepared for class. The 100% were strongly agreed that instructor was available during the specified office hours and for after class consultations

Description	S.A	A	UC	D	S.D
The Instructor is prepared for each class.	75%	25%	0%	0%	0%
The Instructor demonstrates knowledge of the subject.	50%	25%	25%	0%	0%
The Instructor has completed the whole course.	50%	25%	25%	0%	0%
The Instructor provides additional material apart from the textbook.	75%	25%	0%	0%	0%
The Instructor gives citations regarding current situations with reference to Pakistani context.	100%	0%	0%	0%	0%
The Instructor communicates the subject matter effectively.	75%	25%	0%	0%	0%

The Instructor shows respect towards students and encourages class participation	75%	0%	25%	0%	0%
The Instructor maintains an environment that is conducive to learning.	50%	25%	25%	0%	0%
The Instructor arrives on time.	100%	0%	0%	0%	0%
The Instructor leaves on time.	100%	0%	0%	0%	0%
The instructor has completed all classes regularly.	100%	0%	0%	0%	0%
The instructor posts the assignments/quizzes on time and give reasonable time to complete the assigned assignments/quizzes.	100%	0%	0%	0%	0%
The Subject matter presented in the course has increased your knowledge of the subject.	100%	0%	0%	0%	0%
The Instructor was available during the specified hours on office and after class for consultations.	100%	0%	0%	0%	0%
The course integrates theoretical course concepts with real-world applications.	100%	0%	0%	0%	0%
The assignments and exams covered the materials presented in the course.	100%	0%	0%	0%	0%
The course material is modern and updated	100%	0%	0%	0%	0%
The teacher is fair in exams.	100%	0%	0%	0%	0%

S.A:(Strongly Agree) A:(Agree) UC:(Uncertain) D:(Disagree) S.D:(Strongly Disagree)

Session: Fall_2024

Instructer Name: Mr/Ms Nimrah Ashraf

Course: CSC-303 Advance Database Managements Systems

Class: BS CS 5th(5)

The student shows the positive response towards instructor which showcase the student's satisfaction towards teacher. The 75% students were strongly agreed instructor was prepared for class. The 75% and 25% were strongly agreed and agreed respectively that instructor was available during the specified office hours and for after class consultations

Description	S.A	A	UC	D	S.D
The Instructor is prepared for each class.	75%	25%	0%	0%	0%
The Instructor demonstrates knowledge of the subject.	75%	25%	0%	0%	0%
The Instructor has completed the whole course.	75%	25%	0%	0%	0%

The Instructor provides additional material apart from the textbook.	75%	25%	0%	0%	0%
The Instructor gives citations regarding current situations with reference to Pakistani context.	75%	25%	0%	0%	0%
The Instructor communicates the subject matter effectively.	75%	25%	0%	0%	0%
The Instructor shows respect towards students and encourages class participation	75%	25%	0%	0%	0%
The Instructor maintains an environment that is conducive to learning.	75%	25%	0%	0%	0%
The Instructor arrives on time.	75%	25%	0%	0%	0%
The Instructor leaves on time.	75%	25%	0%	0%	0%
The instructor has completed all classes regularly.	75%	25%	0%	0%	0%
The instructor posts the assignments/quizzes on time and give reasonable time to complete the assigned assignments/quizzes.	75%	25%	0%	0%	0%
The Subject matter presented in the course has increased your knowledge of the subject.	75%	25%	0%	0%	0%
The Instructor was available during the specified hours on office and after class for consultations.	75%	25%	0%	0%	0%
The course integrates theoretical course concepts with real-world applications.	75%	25%	0%	0%	0%
The assignments and exams covered the materials presented in the course.	75%	25%	0%	0%	0%
The course material is modern and updated	75%	25%	0%	0%	0%
The teacher is fair in exams.	75%	25%	0%	0%	0%

S.A:(Strongly Agree) A:(Agree) UC:(Uncertain) D:(Disagree) S.D:(Strongly Disagree)

Session: Spring_2024

Instructor Name: Mr/Ms Shoaib Nazir

Course: CSC-211 Computer Organization & Assembly Language

Class: BS CS 4th(4)

The student shows the positive response towards instructor which showcase the student's satisfaction towards teacher. The 67% students were strongly agreed instructor was prepared for class. The 67% and 33% were strongly agreed and agreed respectively that instructor was available during the specified office hours and for after class consultations

Description	S.A	A	UC	D	S.D
The Instructor is prepared for each class.	67%	33%	0%	0%	0%
The Instructor demonstrates knowledge of the subject.	67%	33%	0%	0%	0%
The Instructor has completed the whole course.	56%	44%	0%	0%	0%
The Instructor provides additional material apart from the textbook.	67%	33%	0%	0%	0%
The Instructor gives citations regarding current situations with reference to Pakistani context.	67%	33%	0%	0%	0%
The Instructor communicates the subject matter effectively.	67%	33%	0%	0%	0%
The Instructor shows respect towards students and encourages class participation	67%	33%	0%	0%	0%
The Instructor maintains an environment that is conducive to learning.	67%	33%	0%	0%	0%
The Instructor arrives on time.	44%	56%	0%	0%	0%
The Instructor leaves on time.	56%	44%	0%	0%	0%
The instructor has completed all classes regularly.	56%	44%	0%	0%	0%
The instructor posts the assignments/quizzes on time and give reasonable time to complete the assigned assignments/quizzes.	44%	56%	0%	0%	0%
The Subject matter presented in the course has increased your knowledge of the subject.	67%	33%	0%	0%	0%
The Instructor was available during the specified hours on office and after class for consultations.	67%	33%	0%	0%	0%
The course integrates theoretical course concepts with real-world applications.	67%	33%	0%	0%	0%
The assignments and exams covered the materials presented in the course.	56%	44%	0%	0%	0%
The course material is modern and updated	67%	33%	0%	0%	0%
The teacher is fair in exams.	67%	33%	0%	0%	0%

S.A:(Strongly Agree) A:(Agree) UC:(Uncertain) D:(Disagree) S.D:(Strongly Disagree)

Session: Spring_2024

Instructer Name: Mr/Ms Ume I Hubbeeba Ijaz Ahmed

Course: CSC-252 Advanced Programming

Class: BS CS 4th(4)

The student shows the positive response towards instructor which showcase the student's satisfaction towards teacher. The 56% students were strongly agreed instructor was prepared for class. The 67% and 33% were strongly agreed and agreed respectively that instructor was available during the specified office hours and for after class consultations

Description	S.A	A	UC	D	S.D
The Instructor is prepared for each class.	56%	44%	0%	0%	0%
The Instructor demonstrates knowledge of the subject.	44%	56%	0%	0%	0%
The Instructor has completed the whole course.	44%	56%	0%	0%	0%
The Instructor provides additional material apart from the textbook.	56%	33%	0%	11%	0%
The Instructor gives citations regarding current situations with reference to Pakistani context.	44%	44%	0%	11%	0%
The Instructor communicates the subject matter effectively.	56%	44%	0%	0%	0%
The Instructor shows respect towards students and encourages class participation	44%	56%	0%	0%	0%
The Instructor maintains an environment that is conducive to learning.	56%	44%	0%	0%	0%
The Instructor arrives on time.	67%	33%	0%	0%	0%
The Instructor leaves on time.	67%	33%	0%	0%	0%
The instructor has completed all classes regularly.	56%	33%	0%	11%	0%
The instructor posts the assignments/quizzes on time and give reasonable time to complete the assigned assignments/quizzes.	44%	56%	0%	0%	0%
The Subject matter presented in the course has increased your knowledge of the subject.	56%	44%	0%	0%	0%
The Instructor was available during the specified hours on office and after class for consultations.	67%	33%	0%	0%	0%
The course integrates theoretical course concepts with real-world applications.	67%	33%	0%	0%	0%
The assignments and exams covered the materials presented in the course.	67%	33%	0%	0%	0%
The course material is modern and updated	67%	33%	0%	0%	0%

The teacher is fair in exams.	67%	33%	0%	0%	0%

S.A:(Strongly Agree) A:(Agree) UC:(Uncertain) D:(Disagree) S.D:(Strongly Disagree)

Session: Spring_2024

Instructor Name: Mr/Ms Nimrah Ashraf

Course: CSC-103 Database systems

Class: BS CS(2nd)

The student shows the positive response towards instructor which showcase the student's satisfaction towards teacher. The 75% students were strongly agreed instructor was prepared for class. The 75% and 25% were strongly agreed and agreed respectively that instructor was available during the specified office hours and for after class consultations

Description	S.A	A	UC	D	S.D
The Instructor is prepared for each class.	75%	35%	0%	0%	0%
The Instructor demonstrates knowledge of the subject.	56%	44%	0%	0%	0%
The Instructor has completed the whole course.	44%	56%	0%	0%	0%
The Instructor provides additional material apart from the textbook.	56%	33%	0%	11%	0%
The Instructor gives citations regarding current situations with reference to Pakistani context.	44%	44%	0%	11%	0%
The Instructor communicates the subject matter effectively.	56%	44%	0%	0%	0%
The Instructor shows respect towards students and encourages class participation	70%	30%	0%	0%	0%
The Instructor maintains an environment that is conducive to learning.	56%	44%	0%	0%	0%
The Instructor arrives on time.	67%	33%	0%	0%	0%
The Instructor leaves on time.	67%	33%	0%	0%	0%
The instructor has completed all classes regularly.	56%	33%	0%	11%	0%
The instructor posts the assignments/quizzes on time and give reasonable time to complete the assigned assignments/quizzes.	44%	56%	0%	0%	0%
The Subject matter presented in the course has increased your knowledge of the subject.	56%	44%	0%	0%	0%
The Instructor was available during the specified hours on office and after class for consultations.	67%	33%	0%	0%	0%

The course integrates theoretical course concepts with real-world applications.	67%	33%	0%	0%	0%
The assignments and exams covered the materials presented in the course.	33%	67%	0%	0%	0%
The course material is modern and updated	67%	33%	0%	0%	0%
The teacher is fair in exams.	67%	33%	0%	0%	0%

S.A:(Strongly Agree) A:(Agree) UC:(Uncertain) D:(Disagree) S.D:(Strongly Disagree)

Session: Spring_2024

Instructor Name: Mr/Ms Ume I Hubbeeba Ijaz Ahmed

Course: CSC-252 Advanced Programming

Class: BS CS 4th(4)

The student shows the positive response towards instructor which showcase the student's satisfaction towards teacher. The 56% students were strongly agreed instructor was prepared for class. The 67% and 33% were strongly agreed and agreed respectively that instructor was available during the specified office hours and for after class consultations

Description	S.A	A	UC	D	S.D
The Instructor is prepared for each class.	56%	44%	0%	0%	0%
The Instructor demonstrates knowledge of the subject.	44%	56%	0%	0%	0%
The Instructor has completed the whole course.	44%	56%	0%	0%	0%
The Instructor provides additional material apart from the textbook.	56%	33%	0%	11%	0%
The Instructor gives citations regarding current situations with reference to Pakistani context.	44%	44%	0%	11%	0%
The Instructor communicates the subject matter effectively.	56%	44%	0%	0%	0%
The Instructor shows respect towards students and encourages class participation	44%	56%	0%	0%	0%
The Instructor maintains an environment that is conducive to learning.	56%	44%	0%	0%	0%
The Instructor arrives on time.	67%	33%	0%	0%	0%
The Instructor leaves on time.	67%	33%	0%	0%	0%
The instructor has completed all classes regularly.	56%	33%	0%	11%	0%

The instructor posts the assignments/quizzes on time and give reasonable time to complete the assigned assignments/quizzes.	44%	56%	0%	0%	0%
The Subject matter presented in the course has increased your knowledge of the subject.	56%	44%	0%	0%	0%
The Instructor was available during the specified hours on office and after class for consultations.	67%	33%	0%	0%	0%
The course integrates theoretical course concepts with real-world applications.	67%	33%	0%	0%	0%
The assignments and exams covered the materials presented in the course.	67%	33%	0%	0%	0%
The course material is modern and updated	67%	33%	0%	0%	0%
The teacher is fair in exams.	67%	33%	0%	0%	0%

S.A:(Strongly Agree) A:(Agree) UC:(Uncertain) D:(Disagree) S.D:(Strongly Disagree)

Session: Fall_2023

Instructor Name: Mr/Ms Ifrah Afzal

Course: ENG-102 Functional English

Class: BSCS (1st)(1)

The student shows the positive response towards instructor which showcase the student's satisfaction towards teacher. The 100% students were strongly agreed instructor was prepared for class. The 78% and 11% were strongly agreed and agreed respectively that instructor was available during the specified office hours and for after class consultations

Description	S.A	A	UC	D	S.D
The Instructor is prepared for each class.	100%	0%	0%	0%	0%
The Instructor demonstrates knowledge of the subject.	100%	0%	0%	0%	0%
The Instructor has completed the whole course.	100%	0%	0%	0%	0%
The Instructor provides additional material apart from the textbook.	89%	0%	11%	0%	0%
The Instructor gives citations regarding current situations with reference to Pakistani context.	89%	0%	11%	0%	0%
The Instructor communicates the subject matter effectively.	100%	0%	0%	0%	0%
The Instructor shows respect towards students and encourages class participation	100%	0%	0%	0%	0%

The Instructor maintains an environment that is conducive to learning.	89%	11%	0%	0%	0%
The Instructor arrives on time.	100%	0%	0%	0%	0%
The Instructor leaves on time.	100%	0%	0%	0%	0%
The instructor has completed all classes regularly.	100%	0%	0%	0%	0%
The instructor posts the assignments/quizzes on time and give reasonable time to complete the assigned assignments/quizzes.	100%	0%	0%	0%	0%
The Subject matter presented in the course has increased your knowledge of the subject.	100%	0%	0%	0%	0%
The Instructor was available during the specified hours on office and after class for consultations.	78%	11%	11%	0%	0%
The course integrates theoretical course concepts with real-world applications.	89%	0%	11%	0%	0%
The assignments and exams covered the materials presented in the course.	100%	0%	0%	0%	0%
The course material is modern and updated	100%	0%	0%	0%	0%
The teacher is fair in exams.	100%	0%	0%	0%	0%

S.A:(Strongly Agree) A:(Agree) UC:(Uncertain) D:(Disagree) S.D:(Strongly Disagree)

Session: Fall_2023

Instructer Name: Mr/Ms Nimrah Ashraf

Course: CSC-202 Information Security

Class: BS CS 3rd(3)

The student shows the positive response towards the instructor which shows the student's satisfaction towards teacher. 100% of students strongly agreed instructor was prepared for class. 100% strongly agreed that instructor was available during the specified office hours and for after class consultations

Description	S.A	A	UC	D	S.D
The Instructor is prepared for each class.	100%	0%	0%	0%	0%
The Instructor demonstrates knowledge of the subject.	67%	33%	0%	0%	0%
The Instructor has completed the whole course.	100%	0%	0%	0%	0%
The Instructor provides additional material apart from the textbook.	100%	0%	0%	0%	0%

The Instructor gives citations regarding current situations with reference to Pakistani context.	67%	33%	0%	0%	0%
The Instructor communicates the subject matter effectively.	100%	0%	0%	0%	0%
The Instructor shows respect towards students and encourages class participation	100%	0%	0%	0%	0%
The Instructor maintains an environment that is conducive to learning.	67%	33%	0%	0%	0%
The Instructor arrives on time.	100%	0%	0%	0%	0%
The Instructor leaves on time.	67%	33%	0%	0%	0%
The instructor has completed all classes regularly.	100%	0%	0%	0%	0%
The instructor posts the assignments/quizzes on time and give reasonable time to complete the assigned assignments/quizzes.	100%	0%	0%	0%	0%
The Subject matter presented in the course has increased your knowledge of the subject.	67%	33%	0%	0%	0%
The Instructor was available during the specified hours on office and after class for consultations.	100%	0%	0%	0%	0%
The course integrates theoretical course concepts with real-world applications.	100%	0%	0%	0%	0%
The assignments and exams covered the materials presented in the course.	100%	0%	0%	0%	0%
The course material is modern and updated	100%	0%	0%	0%	0%
The teacher is fair in exams.	67%	33%	0%	0%	0%

S.A:(Strongly Agree) A:(Agree) UC:(Uncertain) D:(Disagree) S.D:(Strongly Disagree)

Session: Fall_2023

Instructor Name: Mr/Ms Shoaib Nazir

Course: CSC-101 Programming Fundamentals

Class: BSCS (1st)(1)

The student shows the positive response towards instructor which showcase the student's satisfaction towards teacher. 100% students were strongly agreed instructor was prepared for class. The 50% and 50% were strongly agreed and agreed respectively that instructor was available during the specified office hours and for after class consultations

Description	S.A	A	UC	D	S.D

The Instructor is prepared for each class.	100%	0%	0%	0%	0%
The Instructor demonstrates knowledge of the subject.	70%	30%	0%	0%	0%
The Instructor has completed the whole course.	80%	20%	0%	0%	0%
The Instructor provides additional material apart from the textbook.	50%	40%	0%	10%	0%
The Instructor gives citations regarding current situations with reference to Pakistani context.	60%	20%	0%	20%	0%
The Instructor communicates the subject matter effectively.	80%	20%	0%	0%	0%
The Instructor shows respect towards students and encourages class participation	80%	10%	10%	0%	0%
The Instructor maintains an environment that is conducive to learning.	80%	20%	0%	0%	0%
The Instructor arrives on time.	30%	50%	20%	0%	0%
The Instructor leaves on time.	90%	10%	0%	0%	0%
The instructor has completed all classes regularly.	50%	40%	0%	10%	0%
The instructor posts the assignments/quizzes on time and give reasonable time to complete the assigned assignments/quizzes.	50%	20%	30%	0%	0%
The Subject matter presented in the course has increased your knowledge of the subject.	60%	40%	0%	0%	0%
The Instructor was available during the specified hours on office and after class for consultations.	50%	50%	0%	0%	0%
The course integrates theoretical course concepts with real-world applications.	50%	50%	0%	0%	0%
The assignments and exams covered the materials presented in the course.	80%	10%	10%	0%	0%
The course material is modern and updated	50%	20%	30%	0%	0%
The teacher is fair in exams.	60%	30%	10%	0%	0%

S.A:(Strongly Agree) A:(Agree) UC:(Uncertain) D:(Disagree) S.D:(Strongly Disagree)

Session: Fall_2023

Instructor Name: Mr/Ms Zara Rafaqat

Course: MTH-103 Linear Algebra

Class: BS CS 3rd(3)

The student shows the positive response towards instructor which showcase the student's satisfaction towards teacher. The 100% students were strongly agreed instructor was prepared for class. 100% were strongly agreed that instructor was available during the specified office hours and for after class consultations

Description	S.A	A	UC	D	S.D
The Instructor is prepared for each class.	100%	0%	0%	0%	0%
The Instructor demonstrates knowledge of the subject.	100%	0%	0%	0%	0%
The Instructor has completed the whole course.	100%	0%	0%	0%	0%
The Instructor provides additional material apart from the textbook.	100%	0%	0%	0%	0%
The Instructor gives citations regarding current situations with reference to Pakistani context.	100%	0%	0%	0%	0%
The Instructor communicates the subject matter effectively.	100%	0%	0%	0%	0%
The Instructor shows respect towards students and encourages class participation	100%	0%	0%	0%	0%
The Instructor maintains an environment that is conducive to learning.	100%	0%	0%	0%	0%
The Instructor arrives on time.	100%	0%	0%	0%	0%
The Instructor leaves on time.	100%	0%	0%	0%	0%
The instructor has completed all classes regularly.	100%	0%	0%	0%	0%
The instructor posts the assignments/quizzes on time and give reasonable time to complete the assigned assignments/quizzes.	100%	0%	0%	0%	0%
The Subject matter presented in the course has increased your knowledge of the subject.	100%	0%	0%	0%	0%
The Instructor was available during the specified hours on office and after class for consultations.	100%	0%	0%	0%	0%
The course integrates theoretical course concepts with real-world applications.	100%	0%	0%	0%	0%
The assignments and exams covered the materials presented in the course.	100%	0%	0%	0%	0%
The course material is modern and updated		0%	0%	0%	0%

The teacher is fair in exams.	100% 100%	0%	0%	0%	0%

S.A:(Strongly Agree) A:(Agree) UC:(Uncertain) D:(Disagree) S.D:(Strongly Disagree)

Session: Spring_2023

Instructor Name: Mr/Ms Shoaib Nazir

Course: CSC-111 Digital logic Design

Class: BS CS(2nd)

The student shows the positive response towards instructor which showcase the student's satisfaction towards teacher. The 100% students were strongly agreed instructor was prepared for class. 100% were strongly agreed that instructor was available during the specified office hours and for after class consultations

Description	S.A	A	UC	D	S.D
The Instructor is prepared for each class.	100%	0%	0%	0%	0%
The Instructor demonstrates knowledge of the subject.	100%	0%	0%	0%	0%
The Instructor has completed the whole course.	100%	0%	0%	0%	0%
The Instructor provides additional material apart from the textbook.	100%	0%	0%	0%	0%
The Instructor gives citations regarding current situations with reference to Pakistani context.	100%	0%	0%	0%	0%
The Instructor communicates the subject matter effectively.	100%	0%	0%	0%	0%
The Instructor shows respect towards students and encourages class participation	100%	0%	0%	0%	0%
The Instructor maintains an environment that is conducive to learning.	100%	0%	0%	0%	0%
The Instructor arrives on time.	100%	0%	0%	0%	0%
The Instructor leaves on time.	100%	0%	0%	0%	0%
The instructor has completed all classes regularly.	100%	0%	0%	0%	0%
The instructor posts the assignments/quizzes on time and give reasonable time to complete the assigned assignments/quizzes.	100%	0%	0%	0%	0%
The Subject matter presented in the course has increased your knowledge of the subject.	100%	0%	0%	0%	0%

The Instructor was available during the specified hours on office and after class for consultations.	100%	0%	0%	0%	0%
The course integrates theoretical course concepts with real-world applications.	100%	0%	0%	0%	0%
The assignments and exams covered the materials presented in the course.	100%	0%	0%	0%	0%
The course material is modern and updated	100%	0%	0%	0%	0%
The teacher is fair in exams.	100%	0%	0%	0%	0%

S.A:(Strongly Agree) A:(Agree) UC:(Uncertain) D:(Disagree) S.D:(Strongly Disagree)

Session: Spring_2023

Instructor Name: Mr/Ms Syed Aon Ali Naqvi

Course: CSC-102 Object Oriented Programming

Class: BS CS(2nd)

The student shows the positive response towards instructor which showcase the student's satisfaction towards teacher. The 100% students were strongly agreed instructor was prepared for class. 100% were strongly agreed that instructor was available during the specified office hours and for after class consultations

Description	S.A	A	UC	D	S.D
The Instructor is prepared for each class.	100%	0%	0%	0%	0%
The Instructor demonstrates knowledge of the subject.	100%	0%	0%	0%	0%
The Instructor has completed the whole course.	100%	0%	0%	0%	0%
The Instructor provides additional material apart from the textbook.	100%	0%	0%	0%	0%
The Instructor gives citations regarding current situations with reference to Pakistani context.	100%	0%	0%	0%	0%
The Instructor communicates the subject matter effectively.	100%	0%	0%	0%	0%
The Instructor shows respect towards students and encourages class participation	100%	0%	0%	0%	0%
The Instructor maintains an environment that is conducive to learning.	100%	0%	0%	0%	0%
The Instructor arrives on time.	100%	0%	0%	0%	0%
The Instructor leaves on time.	100%	0%	0%	0%	0%
The instructor has completed all classes regularly.	100%	0%	0%	0%	0%

The instructor posts the assignments/quizzes on time and give reasonable time to complete the assigned assignments/quizzes.	100%	0%	0%	0%	0%
The Subject matter presented in the course has increased your knowledge of the subject.	100%	0%	0%	0%	0%
The Instructor was available during the specified hours on office and after class for consultations.	100%	0%	0%	0%	0%
The course integrates theoretical course concepts with real-world applications.	100%	0%	0%	0%	0%
The assignments and exams covered the materials presented in the course.	100%	0%	0%	0%	0%
The course material is modern and updated	100%	0%	0%	0%	0%
The teacher is fair in exams.	100%	0%	0%	0%	0%

S.A:(Strongly Agree) A:(Agree) UC:(Uncertain) D:(Disagree) S.D:(Strongly Disagree)

Session: Spring_2023

Instructor Name: Mr/Ms Zara Rafaqat

Course: MTH-102 Multivariable Calculus

Class: BS CS(2nd)

The student shows the positive response towards instructor which showcase the student's satisfaction towards teacher. The 100% students were strongly agreed instructor was prepared for class. 100% were strongly agreed that instructor was available during the specified office hours and for after class consultations

Description	S.A	A	UC	D	S.D
The Instructor is prepared for each class.	100%	0%	0%	0%	0%
The Instructor demonstrates knowledge of the subject.	100%	0%	0%	0%	0%
The Instructor has completed the whole course.	100%	0%	0%	0%	0%
The Instructor provides additional material apart from the textbook.	100%	0%	0%	0%	0%
The Instructor gives citations regarding current situations with reference to Pakistani context.	100%	0%	0%	0%	0%
The Instructor communicates the subject matter effectively.	100%	0%	0%	0%	0%
The Instructor shows respect towards students and encourages class participation	100%	0%	0%	0%	0%

The Instructor maintains an environment that is conducive to learning.	100%	0%	0%	0%	0%
The Instructor arrives on time.	100%	0%	0%	0%	0%
The Instructor leaves on time.	100%	0%	0%	0%	0%
The instructor has completed all classes regularly.	100%	0%	0%	0%	0%
The instructor posts the assignments/quizzes on time and give reasonable time to complete the assigned assignments/quizzes.	100%	0%	0%	0%	0%
The Subject matter presented in the course has increased your knowledge of the subject.	100%	0%	0%	0%	0%
The Instructor was available during the specified hours on office and after class for consultations.	100%	0%	0%	0%	0%
The course integrates theoretical course concepts with real-world applications.	100%	0%	0%	0%	0%
The assignments and exams covered the materials presented in the course.	100%	0%	0%	0%	0%
The course material is modern and updated	100%	0%	0%	0%	0%
The teacher is fair in exams.	100%	0%	0%	0%	0%

S.A:(Strongly Agree) A:(Agree) UC:(Uncertain) D:(Disagree) S.D:(Strongly Disagree)

Instructor Name: Ms. Zara Rafaqat

Course: MTH-102 Multivariable Calculus

The student's response has been observed satisfactory towards the statement the instructor is prepared for each class. The 94% and 6% were strongly agree and agreed respectively. The survey results indicate that the instructor has completed the course outline.

Course Evaluation Summary					
S. A:(Strongly Agree) A:(Agree) UC:(Uncertain) D:(Disagree) S. D:(Strongly Disagree)					
Questions	**S. A**	**A**	**UC**	**D**	**S. D**
The course objectives were clear.	94%	6%	0%	0%	0%
The course workload was manageable.	94%	6%	0%	0%	0%
The course was well organized (e.g. timely access to materials, notification of changes, etc.)	94%	6%	0%	0%	0%
The approximate level of your attendance during the whole course.	94%	6%	0%	0%	0%
I participated actively in the course.	94%	6%	0%	0%	0%
I think I have made progress in this course	94%	6%	0%	0%	0%
I think the Course was well structured to achieve the learning outcomes (there was a good balance of lectures, tutorials, practical, etc.)	94%	6%	0%	0%	0%
The learning and teaching methods encouraged participation.	94%	6%	0%	0%	0%
The overall environment in the class was conducive to learning.	94%	6%	0%	0%	0%
The classrooms were satisfactory.	94%	6%	0%	0%	0%
Learning materials (Lesson Plans, Course Notes, etc.) were relevant and useful.	94%	3%	3%	0%	0%
Recommended reading Books etc. were relevant and appropriate.	94%	3%	3%	0%	0%
The provision of learning resources in the library was adequate and appropriate.	94%	6%	0%	0%	0%
The provision of learning resources on the Web was adequate and appropriate (if relevant).	94%	6%	0%	0%	0%
The course stimulated my interest and thought about the subject area.	94%	6%	0%	0%	0%
The course was appropriate with reference to current technologies.	94%	6%	0%	0%	0%

Ideas and concepts were presented clearly.	94%	6%	0%	0%	0%
The method of assessment were reasonable.	97%	3%	0%	0%	0%
Feedback on assessment was timely.	94%	3%	3%	0%	0%
Feedback on assessment was helpful	94%	3%	3%	0%	0%
I understood the lectures.	97%	3%	0%	0%	0%
The material was well organized and presented.	97%	3%	0%	0%	0%
The instructor was responsive to student needs and problems.	94%	6%	0%	0%	0%
Had The instructor been regular throughout the course?	94%	6%	0%	0%	0%
The material in the tutorials was useful.	97%	3%	0%	0%	0%
I was happy with the amount of work needed for assignments and projects.	97%	3%	0%	0%	0%

Instructor Name: Mr. Shoaib Nazir
Course: CSC-211 Computer organization and Assembly Language
The student's response has been observed satisfactory towards the statement the instructor is prepared for each class. The 94% and 6% were strongly agree and agreed respectively. The survey results indicate that the instructor has completed the course outline.

Course Evaluation Summary					
S. A:(Strongly Agree) A:(Agree) UC:(Uncertain) D:(Disagree) S. D:(Strongly Disagree)					
Questions	**S. A**	**A**	**UC**	**D**	**S. D**
The course objectives were clear.	94%	6%	0%	0%	0%
The course workload was manageable.	84%	10%	6%	0%	0%
The course was well organized (e.g. timely access to materials, notification of changes, etc.)	94%	6%	0%	0%	0%
The approximate level of your attendance during the whole course.	87%	10%	3%	0%	0%
I participated actively in the course.	87%	10%	3%	0%	0%
I think I have made progress in this course	87%	10%	3%	0%	0%
I think the Course was well structured to achieve the learning outcomes (there was a good balance of lectures, tutorials, practical, etc.)	84%	16%	0%	0%	0%
The learning and teaching methods encouraged participation.	94%	6%	0%	0%	0%

The overall environment in the class was conducive to learning.	90%	10%	0%	0%	0%
The classrooms were satisfactory.	90%	10%	0%	0%	0%
Learning materials (Lesson Plans, Course Notes, etc.) were relevant and useful.	94%	6%	0%	0%	0%
Recommended reading Books etc. were relevant and appropriate.	90%	10%	0%	0%	0%
The provision of learning resources in the library was adequate and appropriate.	94%	6%	0%	0%	0%
The provision of learning resources on the Web was adequate and appropriate (if relevant).	90%	10%	0%	0%	0%
The course stimulated my interest and thought about the subject area.	97%	3%	0%	0%	0%
The course was appropriate with reference to current technologies.	90%	10%	0%	0%	0%
Ideas and concepts were presented clearly.	90%	6%	3%	0%	0%
The method of assessment were reasonable.	87%	10%	3%	0%	0%
Feedback on assessment was timely.	90%	10%	0%	0%	0%
Feedback on assessment was helpful	87%	13%	0%	0%	0%
I understood the lectures.	87%	13%	0%	0%	0%
The material was well organized and presented.	87%	13%	0%	0%	0%
The instructor was responsive to student needs and problems.	90%	10%	0%	0%	0%
Had The instructor been regular throughout the course?	90%	10%	0%	0%	0%
The material in the tutorials was useful.	90%	10%	0%	0%	0%
I was happy with the amount of work needed for assignments and projects.	87%	10%	3%	0%	0%

Instructor Name: Ms. Nimrah Ashraf
Course: CSC-103 Database Systems
The student's response has been observed satisfactory towards the statement the instructor is prepared for each class. The 89% and 11% were strongly agree and agreed respectively. The survey results indicate that the instructor has completed the course outline. The 78% and 17% were strongly agreed and agreed respectively that the course workload was manageable

Course Evaluation Summary					
S. A:(Strongly Agree) A:(Agree) UC:(Uncertain) D:(Disagree) S. D:(Strongly Disagree)					
Questions	**S. A**	**A**	**UC**	**D**	**S. D**
The course objectives were clear.	89%	11%	0%	0%	0%
The course workload was manageable.	78%	17%	6%	0%	0%
The course was well organized (e.g. timely access to materials, notification of changes, etc.)	83%	11%	6%	0%	0%
The approximate level of your attendance during the whole course.	78%	17%	6%	0%	0%
I participated actively in the course.	89%	11%	0%	0%	0%
I think I have made progress in this course	83%	11%	6%	0%	0%
I think the Course was well structured to achieve the learning outcomes (there was a good balance of lectures, tutorials, practical, etc.)	78%	22%	0%	0%	0%
The learning and teaching methods encouraged participation.	78%	11%	11%	0%	0%
The overall environment in the class was conducive to learning.	89%	11%	0%	0%	0%
The classrooms were satisfactory.	78%	22%	0%	0%	0%
Learning materials (Lesson Plans, Course Notes, etc.) were relevant and useful.	89%	11%	0%	0%	0%
Recommended reading Books etc. were relevant and appropriate.	83%	11%	6%	0%	0%
The provision of learning resources in the library was adequate and appropriate.	83%	11%	6%	0%	0%
The provision of learning resources on the Web was adequate and appropriate (if relevant).	78%	17%	6%	0%	0%
The course stimulated my interest and thought about the subject area.	89%	11%	0%	0%	0%
The course was appropriate with reference to current technologies.	83%	11%	6%	0%	0%

Ideas and concepts were presented clearly.	89%	6%	6%	0%	0%
The method of assessment were reasonable.	83%	17%	0%	0%	0%
Feedback on assessment was timely.	78%	11%	11%	0%	0%
Feedback on assessment was helpful	83%	17%	0%	0%	0%
I understood the lectures.	89%	11%	0%	0%	0%
The material was well organized and presented.	83%	17%	0%	0%	0%
The instructor was responsive to student needs and problems.	89%	6%	6%	0%	0%
Had The instructor been regular throughout the course?	83%	11%	6%	0%	0%
The material in the tutorials was useful.	89%	11%	0%	0%	0%
I was happy with the amount of work needed for assignments and projects.	72%	28%	0%	0%	0%

Instructor Name: Ms.Ume Habiba
Course: CSC-351 Web Engineering
The student's response has been observed satisfactory towards the statement the instructor is prepared for each class. The 80% and 10% were strongly agree and agreed respectively. The survey results indicate that the instructor has completed the course outline.

Course Evaluation Summary					
S. A:(Strongly Agree) A:(Agree) UC:(Uncertain) D:(Disagree) S. D:(Strongly Disagree)					
Questions	**S. A**	**A**	**UC**	**D**	**S. D**
The course objectives were clear.	80%	10%	7%	3%	0%
The course workload was manageable.	77%	10%	3%	10%	0%
The course was well organized (e.g. timely access to materials, notification of changes, etc.)	87%	10%	0%	3%	0%
The approximate level of your attendance during the whole course.	87%	10%	3%	0%	0%
I participated actively in the course.	80%	10%	10%	0%	0%
I think I have made progress in this course	77%	10%	10%	3%	0%
I think the Course was well structured to achieve the learning outcomes (there was a good balance of lectures, tutorials, practical, etc.)	70%	13%	13%	3%	0%
The learning and teaching methods encouraged participation.	77%	13%	7%	3%	0%
The overall environment in the class was conducive to learning.	77%	10%	13%	0%	0%
The classrooms were satisfactory.	80%	10%	10%	0%	0%
Learning materials (Lesson Plans, Course Notes, etc.) were relevant and useful.	83%	7%	10%	0%	0%
Recommended reading Books etc. were relevant and appropriate.	77%	13%	7%	3%	0%
The provision of learning resources in the library was adequate and appropriate.	80%	7%	10%	3%	0%
The provision of learning resources on the Web was adequate and appropriate (if relevant).	80%	10%	7%	3%	0%
The course stimulated my interest and thought about the subject area.	77%	10%	10%	3%	0%
The course was appropriate with reference to current technologies.	80%	10%	10%	0%	0%

Ideas and concepts were presented clearly.	80%	10%	10%	0%	0%
The method of assessment were reasonable.	77%	13%	7%	0%	3%
Feedback on assessment was timely.	73%	17%	7%	0%	3%
Feedback on assessment was helpful	77%	13%	10%	0%	0%
I understood the lectures.	83%	7%	10%	0%	0%
The material was well organized and presented.	80%	13%	7%	0%	0%
The instructor was responsive to student needs and problems.	73%	20%	7%	0%	0%
Had The instructor been regular throughout the course?	87%	7%	7%	0%	0%
The material in the tutorials was useful.	77%	13%	10%	0%	0%
I was happy with the amount of work needed for assignments and projects.	80%	7%	13%	0%	0%

Instructor Name: Ms.Nimrah Ashraf
Course: CS-251 Web Technologies

The student's response has been observed satisfactory towards the statement the instructor is prepared for each class. The 100% were strongly agree the survey results indicate that the instructor has completed the course outline.

Course Evaluation Summary					
S. A:(Strongly Agree) A:(Agree) UC:(Uncertain) D:(Disagree) S. D:(Strongly Disagree)					
Questions	**S. A**	**A**	**UC**	**D**	**S. D**
The course objectives were clear.	100%	0%	0%	0%	0%
The course workload was manageable.	77%	0%	0%	0%	0%
The course was well organized (e.g. timely access to materials, notification of changes, etc.)	100%	0%	0%	0%	0%
The approximate level of your attendance during the whole course.	100%	0%	0%	0%	0%
I participated actively in the course.	96%	4%	0%	0%	0%
I think I have made progress in this course	96%	4%	0%	0%	0%
I think the Course was well structured to achieve the learning outcomes (there was a good balance of lectures, tutorials, practical, etc.)	100%	0%	0%	0%	0%

The learning and teaching methods encouraged participation.	100%	0%	0%	0%	0%
The overall environment in the class was conducive to learning.	100%	0%	0%	0%	0%
The classrooms were satisfactory.	100%	0%	0%	0%	0%
Learning materials (Lesson Plans, Course Notes, etc.) were relevant and useful.	100%	0%	0%	0%	0%
Recommended reading Books etc. were relevant and appropriate.	100%	0%	0%	0%	0%
The provision of learning resources in the library was adequate and appropriate.	100%	0%	0%	0%	0%
The provision of learning resources on the Web was adequate and appropriate (if relevant).	100%	0%	0%	0%	0%
The course stimulated my interest and thought about the subject area.	100%	0%	0%	0%	0%
The course was appropriate with reference to current technologies.	100%	0%	0%	0%	0%
Ideas and concepts were presented clearly.	80%	0%	0%	0%	0%
The method of assessment were reasonable.	77%	0%	0%	0%	0%
Feedback on assessment was timely.	73%	0%	0%	0%	0%
Feedback on assessment was helpful	77%	0%	0%	0%	0%
I understood the lectures.	83%	0%	0%	0%	0%
The material was well organized and presented.	80%	0%	0%	0%	0%
The instructor was responsive to student needs and problems.	100%	0%	0%	0%	0%
Had The instructor been regular throughout the course?	100%	0%	0%	0%	0%
The material in the tutorials was useful.	100%	0%	0%	0%	0%
I was happy with the amount of work needed for assignments and projects.	100%	0%	0%	0%	0%

Instructor Name: Mr. Shoaib Nazir
Course: CSC-111 Digital Logic and Design
The student's response has been observed satisfactory towards the statement the instructor is prepared for each class. The 96% and 4% were strongly agree and uncertain respectively. The survey results indicate that the instructor has completed the course outline.

Course Evaluation Summary					
S. A:(Strongly Agree) A:(Agree) UC:(Uncertain) D:(Disagree) S. D:(Strongly Disagree)					
Questions	**S. A**	**A**	**UC**	**D**	**S. D**
The course objectives were clear.	96%	0%	4%	0%	0%
The course workload was manageable.	91%	4%	4%	0%	0%
The course was well organized (e.g. timely access to materials, notification of changes, etc.)	96%	0%	4%	0%	0%
The approximate level of your attendance during the whole course.	96%	0%	4%	0%	0%
I participated actively in the course.	91%	4%	4%	0%	0%
I think I have made progress in this course	91%	4%	4%	0%	0%
I think the Course was well structured to achieve the learning outcomes (there was a good balance of lectures, tutorials, practical, etc.)	91%	4%	4%	0%	0%
The learning and teaching methods encouraged participation.	96%	0%	4%	0%	0%
The overall environment in the class was conducive to learning.	96%	0%	4%	0%	0%
The classrooms were satisfactory.	96%	0%	4%	0%	0%
Learning materials (Lesson Plans, Course Notes, etc.) were relevant and useful.	96%	0%	4%	0%	0%
Recommended reading Books etc. were relevant and appropriate.	96%	0%	4%	0%	0%
The provision of learning resources in the library was adequate and appropriate.	91%	4%	4%	0%	0%
The provision of learning resources on the Web was adequate and appropriate (if relevant).	96%	0%	4%	0%	0%
The course stimulated my interest and thought about the subject area.	87%	9%	4%	0%	0%
The course was appropriate with reference to current technologies.	91%	4%	4%	0%	0%

Ideas and concepts were presented clearly.	96%	0%	4%	0%	0%
The method of assessment were reasonable.	91%	4%	4%	0%	0%
Feedback on assessment was timely.	96%	0%	4%	0%	0%
Feedback on assessment was helpful	96%	0%	4%	0%	0%
I understood the lectures.	96%	0%	4%	0%	0%
The material was well organized and presented.	96%	0%	4%	0%	0%
The instructor was responsive to student needs and problems.	91%	4%	4%	0%	0%
Had The instructor been regular throughout the course?	96%	0%	4%	0%	0%
The material in the tutorials was useful.	96%	0%	4%	0%	0%
I was happy with the amount of work needed for assignments and projects.	91%	4%	4%	0%	0%

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Annexure G: Teacher Feedback on Teacher and Course Evaluation

Performa 10/1: Teacher & Course Evaluation Feedback

Fall -2024

S. no	instructor Name	Courses	Class	Remarks
1	Mr. Shoaib Nazir	Programming Fundamentals	BS-CS(1st)	
		Introduction to Communication and technologies	BS-CS(1st)	
		Data Structures	BSCS (3rd)	
		Computer Networks		

Note: write your remarks as per the instructions i.e.

S.A:(Strongly Agree) **A**:(Agree) **UC**:(Uncertain) **D**:(Disagree) **S.D**:(Strongly Disagree)

Feedback:

Mention area of improvement:

Enforcement on term Projects

Please give suggestions for academic improvements:

No notable short comings

Nimrah Ashraf

Head QED | Nimrah Ashraf

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Signature

Date: February 15, ,2025

Performa 10/1: Teacher & Course Evaluation Feedback
Fall -2024

S. no	instructor Name	Courses	Class	Remarks
2	Ms. Maryam Riaz	Cloud Computing	BS-CS (5th)	
		Software Engineering	BS-CS(3rd)	
		Operating System	BS-CS (5th)	
		Introduction to simulation & Modeling	BS-SE (7th)	

Note: write your remarks as per the instructions i.e.

S.A:(Strongly Agree) **A**:(Agree) **UC**:(Uncertain) **D**:(Disagree) **S.D**:(Strongly Disagree)

Feedback:

Mention area of improvement:

Enforcement on term Projects

Please give your suggestions for academic improvements:

Internal Evaluation should be conducted to improve student learning and teaching method,

Motivate students.

We should put more focus on practical aspects of the course

Nimrah Ashraf

Head QED | Nimrah Ashraf

_____

Signature

Date: February 15, 2025

Performa 10/1: Teacher & Course Evaluation Feedback
Fall -2024

S. no	instructor Name	Courses	Class	Remarks
3	Mr. Syed Zeeshan Hassan	Web Engineering	BS-CS(5th)	

Note: write your remarks as per the instructions i.e.

S.A:(Strongly Agree) **A**:(Agree) **UC**:(Uncertain) **D**:(Disagree) **S.D**:(Strongly Disagree)

Feedback:

Mention area of improvement:

All good

Please give suggestions for academic improvements:

No notable short comings

Nimrah Ashraf

Head QED | Nimrah Ashraf

_____

Signature

Date: February 22, 2025

Performa 10/1: Teacher & Course Evaluation Feedback
Fall- 2024

S. no	instructor Name	Courses	Class	Remarks
4	Ms. Asma Batool	Calculus & Analytical Geometry	BS-CS (3rd)	

Note: write your remarks as per the instructions i.e.

S.A:(Strongly Agree) **A**:(Agree) **UC**:(Uncertain) **D**:(Disagree) **S.D**:(Strongly Disagree)

Feedback:

Mention area of improvement:

Going all good

Please give your suggestions for academic improvements:

No such notable short comings

Nimrah Ashraf

Head QED | Nimrah Ashraf

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Signature

Date: February 22, 2025

Performa 10/1: Teacher & Course Evaluation Feedback
Spring-2024

S. no	instructor Name	Courses	Class	Remarks
1	Mr. Shoaib Nazir	OOP	BS-CS(2nd)	
		DLD	BS-CS(2nd)	
		Professional Practices	BSSE (6th)	
		Computer Organization & Assembly Language	BS-CS(4th)	

Note: write your remarks as per the instructions i.e.

S.A:(Strongly Agree) **A**:(Agree) **UC**:(Uncertain) **D**:(Disagree) **S.D**:(Strongly Disagree)

Feedback:

Mention area of improvement:

Enforcement on term Projects

Please give suggestions for academic improvements:

No notable short comings

Nimrah Ashraf

Head QED | Nimrah Ashraf

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Signature

Date: August 15, ,2024

Performa 10/1: Teacher & Course Evaluation Feedback
Spring -2020

S. no	instructor Name	Courses	Class	Remarks
2	Ms. Ume Habiba	ICT	BS-CS (1st)	
		Visual Programming	BS-CS(4th)	
		Web Engineering	BS-SE (6th)	

Note: write your remarks as per the instructions i.e.

S.A:(Strongly Agree) **A**:(Agree) **UC**:(Uncertain) **D**:(Disagree) **S.D**:(Strongly Disagree)

Feedback:

Mention area of improvement:

Enforcement on term Projects

Please give your suggestions for academic improvements:

Internal Evaluation should be conducted to improve student learning and teaching method,

Motivate students.

We should put more focus on practical aspects of the course

Nimrah Ashraf

Head QED | Nimrah Ashraf

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Signature

Date: February 15, 2025

Annexure H: Faculty Survey

Performa: 5 Faculty Survey Report-fall 2024

Department of CS

S.no	Statements	VS	SA	UC	DS	VD
1	Your mix of research teaching and community service	8.3%	66.7%	25%	0%	0%
2	The intellectual stimulation of your work	8.3%	83.3%	8.3%	0%	0%
3	Type of teaching / research you currently do	8.3%	83.3%	8.3%	0%	0%
4	Your interaction with students	25%	66.7%	8.3%	0%	0%
5	Cooperation you receive form colleagues	8.3%	66.7%	25%	0%	0%
6	The mentoring (guidance) available to you	33.3%	55.6%	5.6%	5.6%	0%
7	Administrative support from the department	8.3%	50%	41.7%	0%	0%
8	Providing clarity about the faculty promotion process	16.7%	66.7%	8.3%	8.3%	0%
9	Your prospects for advancement and progress through ranks	0%	33.3%	50%	16.7%	0%
10	Salary and compensation package	0%	58.3%	25%	16.7%	0%
11	Job security and stability at the department	0%	75%	25%	0%	0%
12	Amount of time you have for yourself and family	0%	75%	25%	0%	0%
13	The overall climate at the department	8.3%	75%	16.7%	0%	0%
14	Whether the department is utilizing your experience and knowledge	0%	83.3%	16.7%	0%	0%

VS: Very Satisfied SA: Satisfied UC: Uncertain DS: Dissatisfied VD: Very Dissatisfied

Performa: 5 Faculty Survey Report Spring 2024

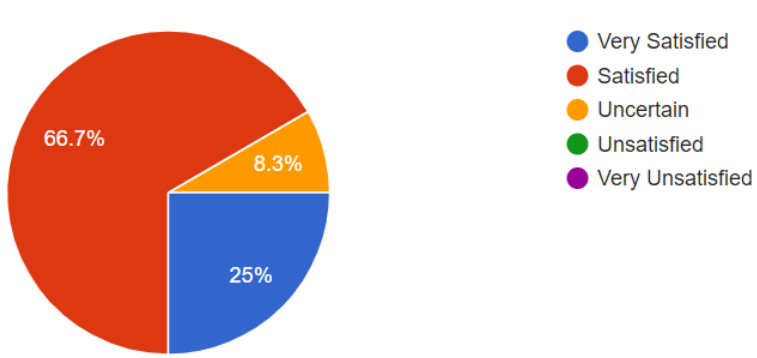
Department of CS

S.no	Statements	VS	SA	UC	DS	VD
1	Your mix of research teaching and community service	0%	90%	10%	0%	0%
2	The intellectual stimulation of your work	0%	100%	0%	0%	0%
3	Type of teaching / research you currently do	50%	50%	0%	0%	0%
4	Your interaction with students	80%	20%	0%	0%	0%
5	Cooperation you receive form colleagues	0%	90%	0%	0%	0%
6	The mentoring (guidance) available to you	0%	90%	10%	0%	0%
7	Administrative support from the department	10%	70%	0%	20%	0%
8	Providing clarity about the faculty promotion process	0%	50%	50%	10%	5.6%
9	Your prospects for advancement and progress through ranks	10%	30%	50%	10%	0%
10	Salary and compensation package	0%	30%	50%	10%	10%
11	Job security and stability at the department	0%	60%	30%	10%	0%
12	Amount of time you have for yourself and family	20%	80%	0%	0%	0%
13	The overall climate at the department	20%	70%	10%	0%	0%
14	Whether the department is utilizing your experience and knowledge	10%	80%	10%	0%	0%

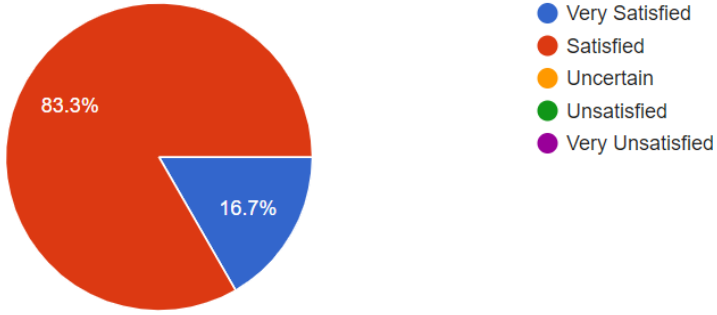
VS: Very Satisfied SA: Satisfied UC: Uncertain DS: Dissatisfied VD: Very Dissatisfied

Performa: 5 Faculty Survey Report-Fall 2024
Department of CS

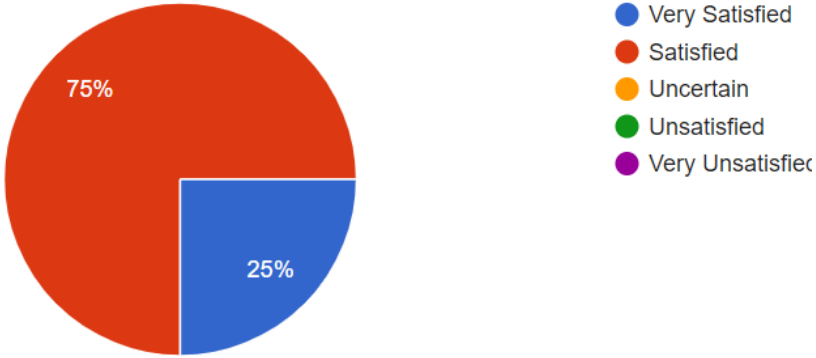
1. Your mix of research teaching and community service.



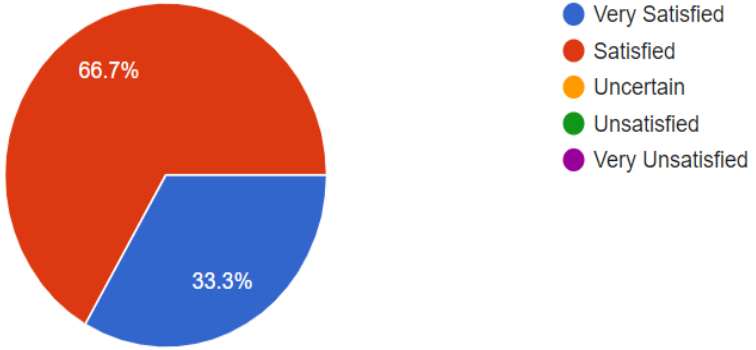
2. The intellectual stimulation of your work.



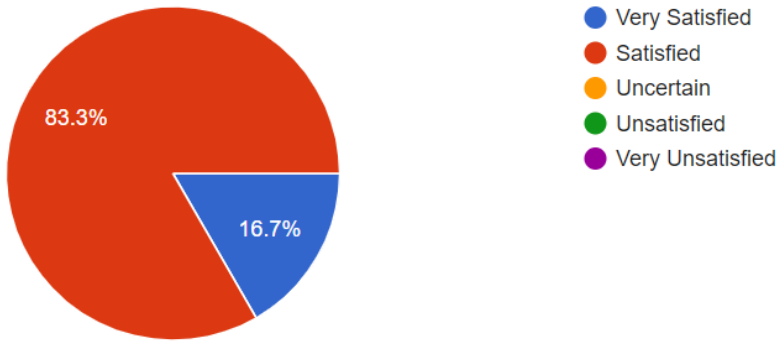
3. Type of teaching / research you currently doing.



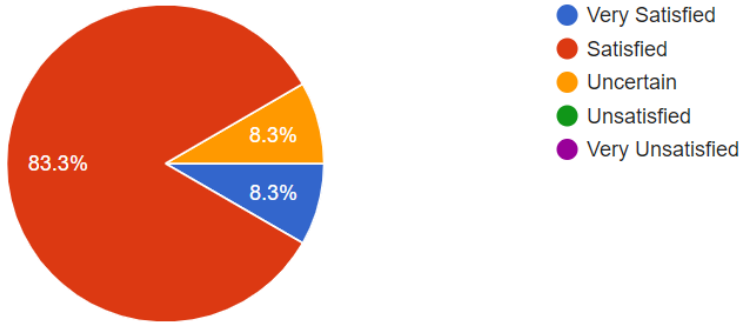
4. Your interaction with students.



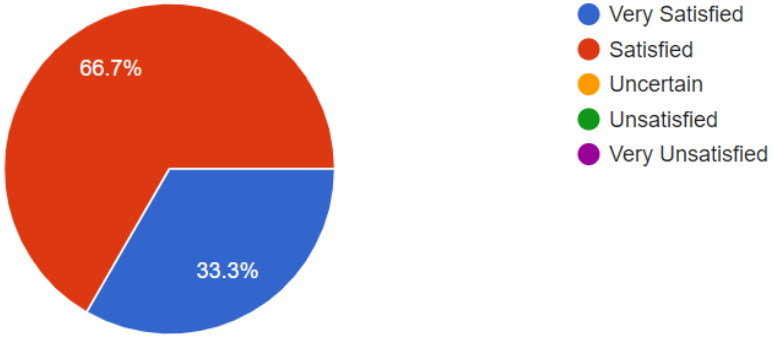
5. Cooperation you receive from colleagues.



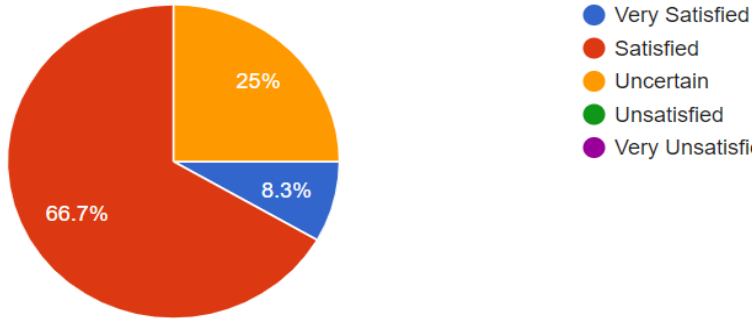
6. The mentoring (guidance) available to you.



7. Administrative support from the department.

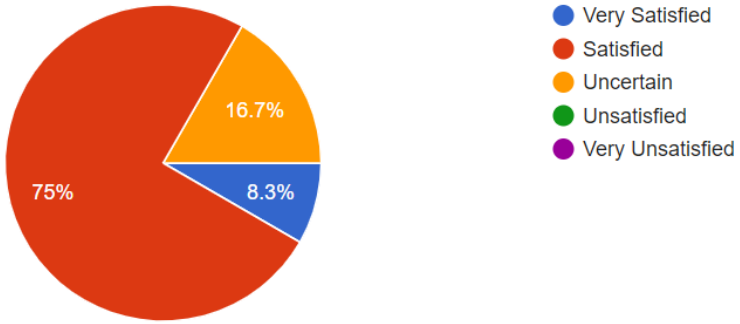


8. Providing clarity about the faculty promotion process.

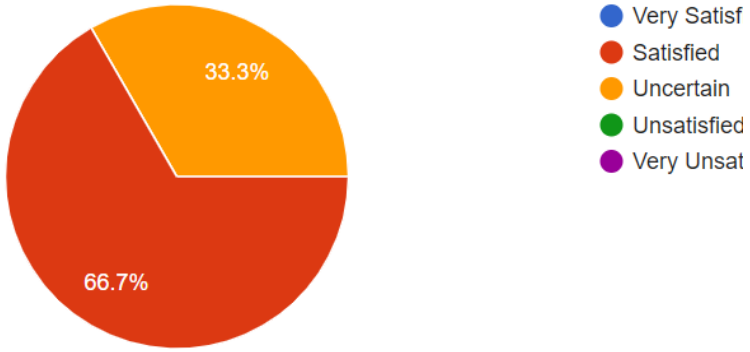


9. Your prospects for advancement and progress through ranks.

10. Salary and compensation package.

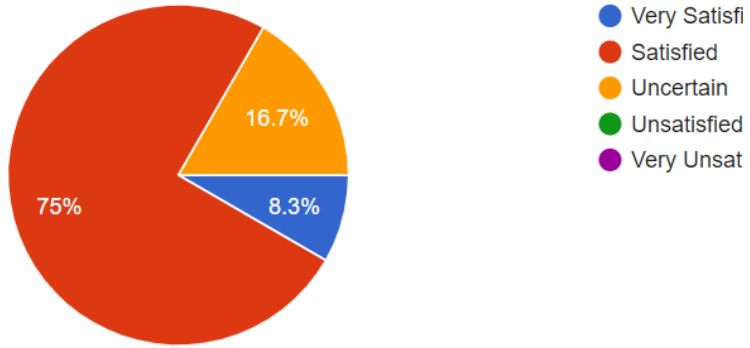


11. Job security and stability at the department.

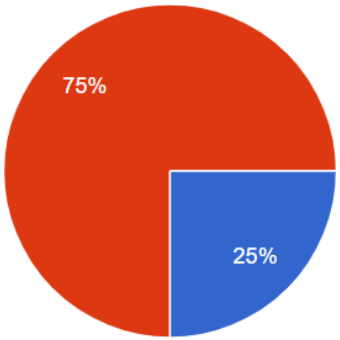


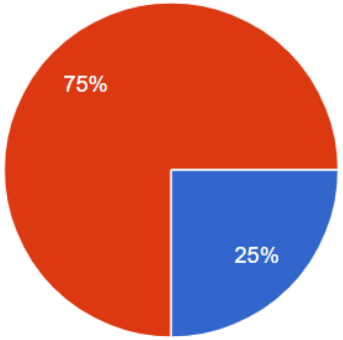
12. Amount of time you have for yourself and family.

13. The overall environment at the department.



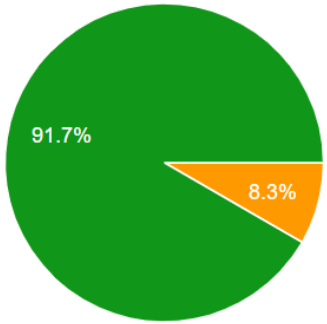
14. Whether the department is utilizing your experience and knowledge.

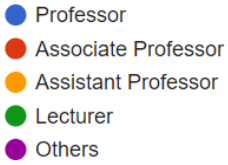




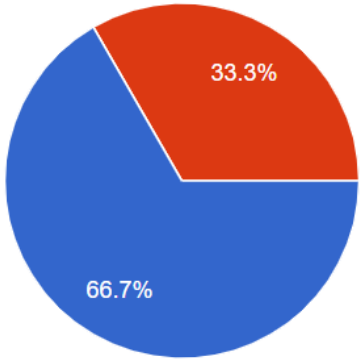
Information About Faculty

i. Academic Rank



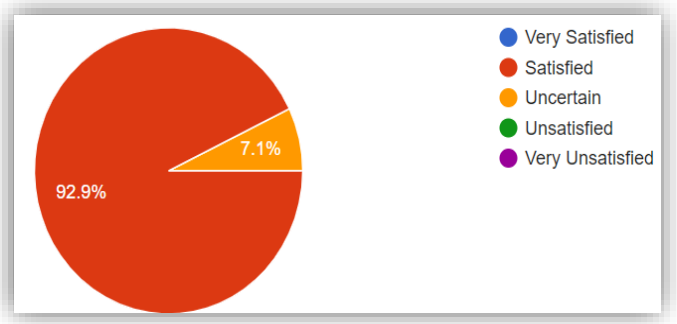


ii. Years of Service

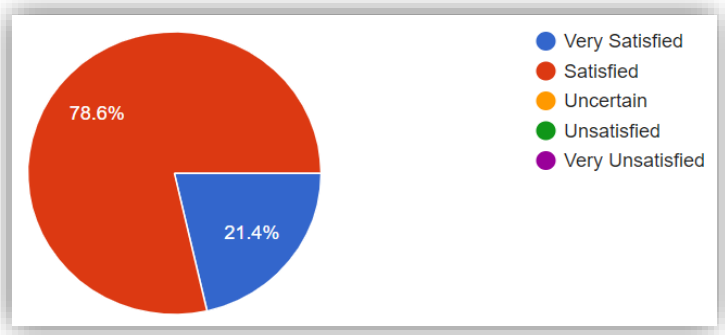


Performa: 5 Faculty Survey Report-Spring 2024
Department of CS

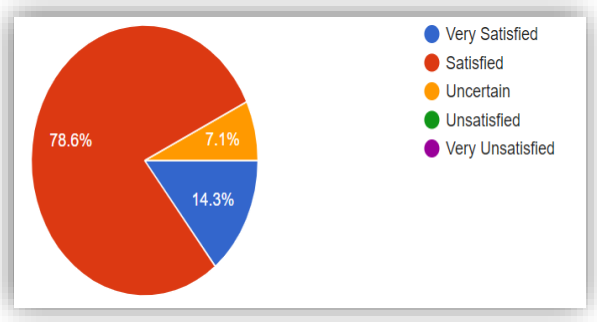
1. Your mix of research teaching and community service.



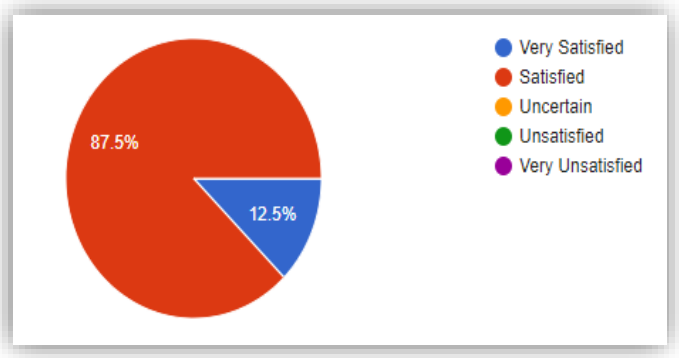
2. The intellectual stimulation of your work.



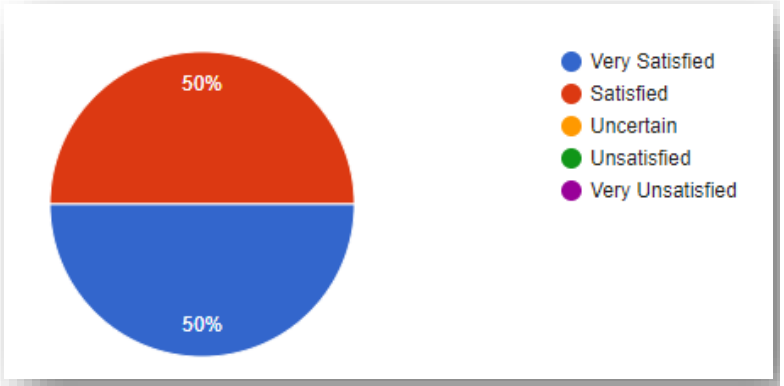
3. Type of teaching / research you currently doing.



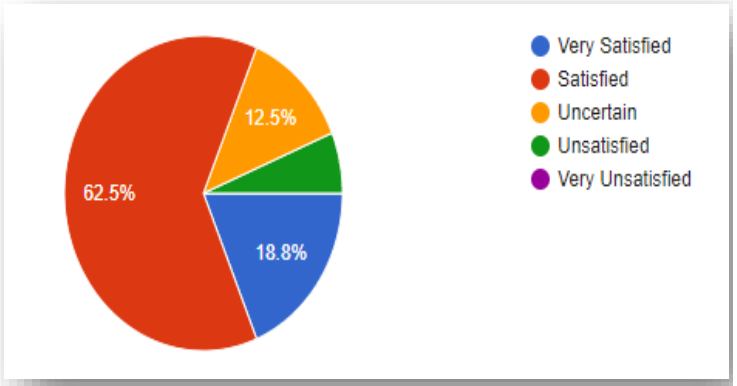
4. Your interaction with students.



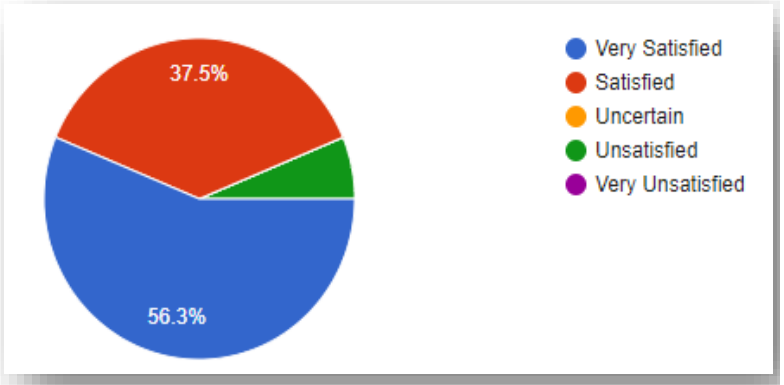
5. Cooperation you receive from colleagues.



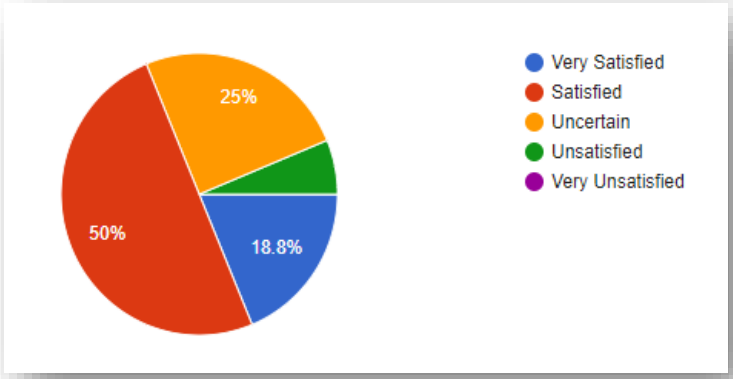
6. The mentoring (guidance) available to you.



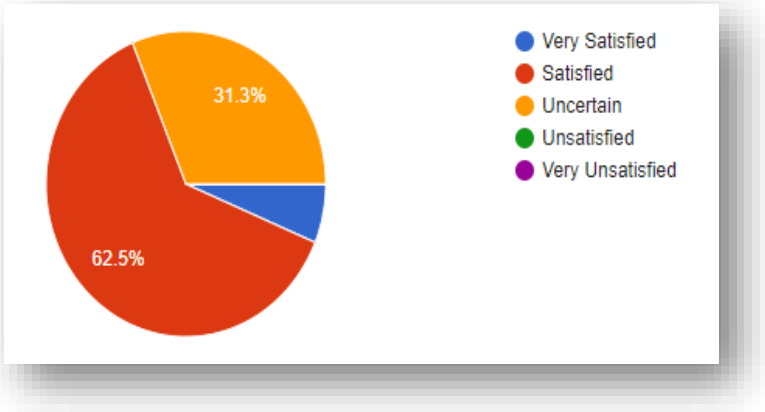
7. Administrative support from the department.



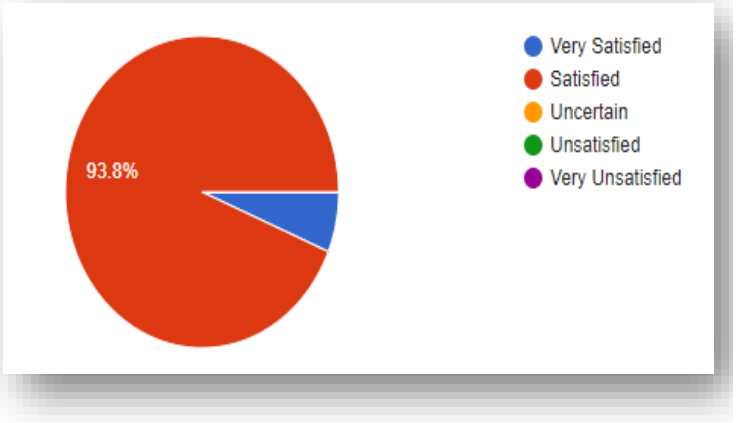
8. Providing clarity about the faculty promotion process.



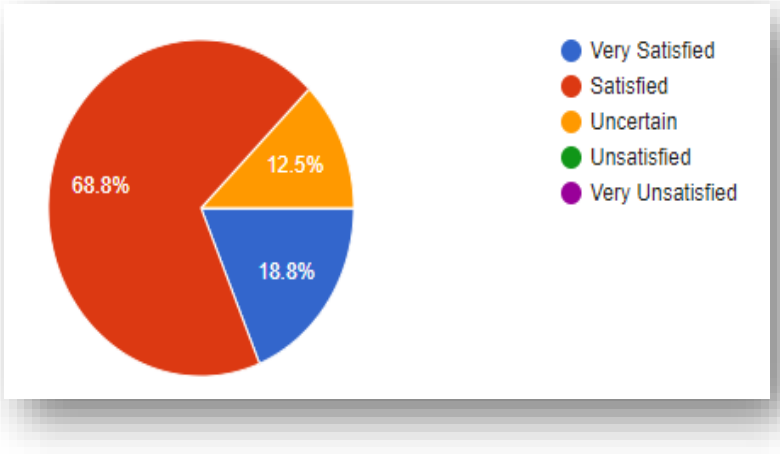
9. Your prospects for advancement and progress through ranks.



10. Salary and compensation package.



11. Job security and stability at the department.



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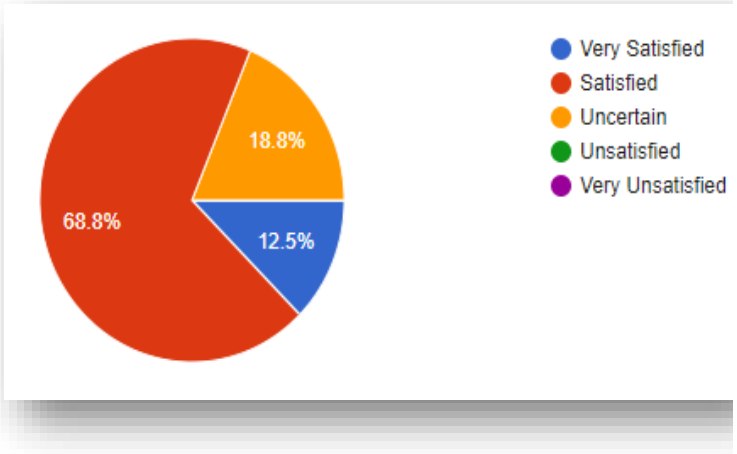
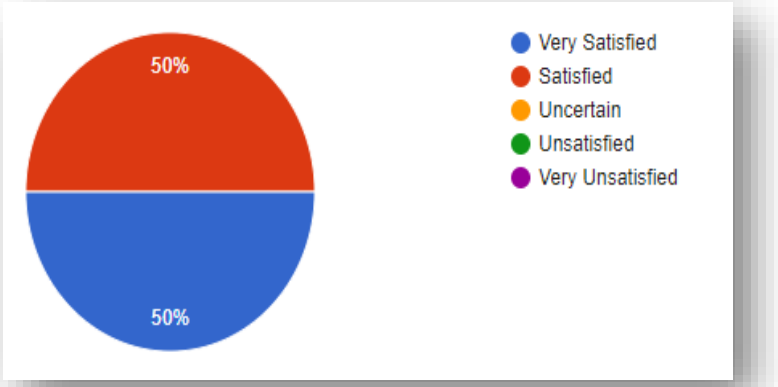
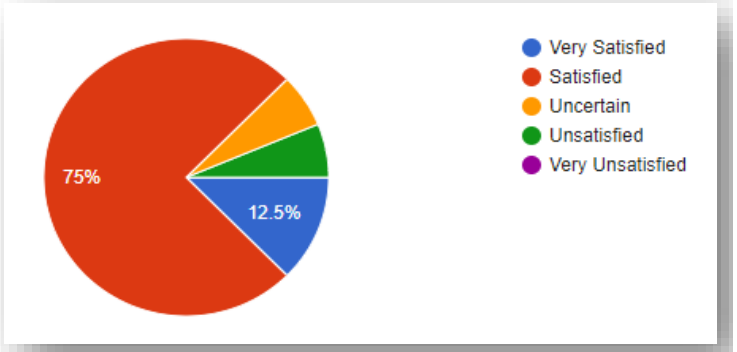


13. The overall environment at the department.

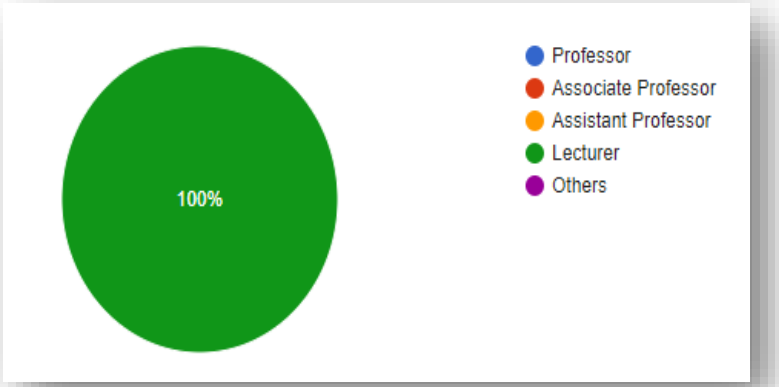


14. Whether the department is utilizing your experience and knowledge.

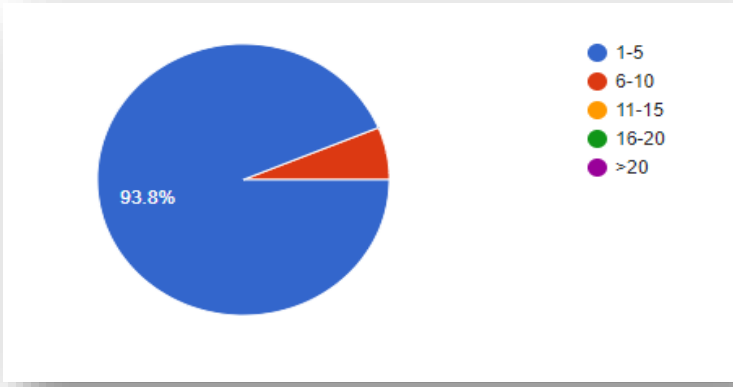


Information About Faculty

iii. Academic Rank



iv. Years of Service



Annexure I: Annual Faculty Review

Annual Review: Faculty Self Evaluation
2023-2024

Faculty Name: Nimrah Ashraf **Designation:** Lecturer

Department: Computer Science **Date:** October 22, 2024

Please answer the items below in the space provided to conduct a self-evaluation and forward it to your Department Head/QED. Typing is preferred, but you may complete in clear handwriting.

Five criteria are important in evaluating faculty performance:

- *Quality of teaching*
- *Evidence that knowledge is being updated*
- *Research and scholarly activity*
- *Service to the institution and contributions to governance*
- *Evidence that shows professional development efforts to improve as a teacher and/or advisor*

List responsibilities over the reporting period: Describe your assignment over the past two semesters or the past year in terms of courses taught, administration responsibilities, committees, advising, research, and service. Then estimate the percentage of your total effort you devoted to each type of activity. (Should total 100 %.)

Teaching load in Semester Fall 2024 (undergraduate / postgraduate)

Course 1 Advance Database Management System, 2 Information Security, 3 Artificial Intelligence , 4 Theory of Automata,

Teaching load in Semester Spring 2024 (undergraduate / postgraduate)

Course 1 Database Systems, 2 NLP, 3 Web Technologies, 4 Information Security

FYP Supervisory load for the year (undergraduate / Postgraduate)

Formally Designated Administrative Role : ☑ Yes No

(Specify)

Notified as QED Head. Followings are the some responsibilities that I had done during last year

1. Conducting Faculty Survey and Preparing the Summary of results.
2. Conducting students and teacher evaluation and getting and all record both in hard and soft form
3. Getting teacher feedback on students and teacher evaluation
4. Prepared Implementation Plan
5. Maintained all QED records and corresponded to all departments

Formally Designated Advisor: Yes No

Estimate of Activity (Use 40 hours work week as the basis for your estimate):
(Teaching includes lectures, time for preparation, marking quizzes, assignments)

Activity	**% of Effort**
Teaching	60
FYP	
Administration	25
Research	
Service	15
	100%

Teaching: How effective have you been as a teacher this year? How well have your students performed because of your teaching? What courses and programs have you revised and proposed?
I was available all the time to all my students and entertain all their queries. I have revised the web technologies outline and design Artificial Intelligence Outline. I had to share assessment feedback time to make student's assessment more effective. I remain punctual throughout the semester. The overall performance of students in all courses was satisfactory.

Updating Knowledge: Describe what you have done this year to increase your knowledge and to remain "up to date" in your field (seminars attended, courses taken, reading program, research).
To update my knowledge and revise the current outline and lesson plans. I have taken a number of courses in this regard. Following online courses taken to improve my knowledge

1. Advanced Python course from Udemy
2. Web development from Udemy
3. Data science from Udemy

List any degree programs in which you are currently enrolled:_____

- -AIS Funded
- - Self-Funded
- - Other Funded (Specify source)

Research: Describe your research and scholarly work over the reporting period. List proposals, papers, and publications and in-press publications. Do not list work completed before the current evaluation period or work listed in other evaluation periods other than renewed research projects.

Service to Students: Describe your involvement with students outside of the classroom. Judge the quality of your interactions with students in these informal settings. What evidence do you have that your formal and informal advising is effective?

I had pre-defined consulting hours for all classes where I used to listen to their problems and review their work. Moreover, I had spent much time on student's semester project's documentation where I taught them all advance formatting and how to maintain several versions of single document. I had advised students in class and those students who seems to have serious issues, I had invited them in my office to listen and help them out form their difficult time s

AIS and Community Service: Describe the service you have provided to the institute community, institute's other departments or to the broader community.

I have worked on semester timetables to ensure efficient scheduling and have also designed job advertisements to attract the right candidates.

Efforts to improve as teacher/advisor: Describe what you have done this year to increase your efforts to improve as a teacher / advisor. (Classroom visits, portfolios, training sessions)

Strengths: In light of the above, assess your overall performance this year. What are your strengths as a faculty member?

Annexure K: Faculty Resume

Performa No-09 Faculty Resume			
Name	Asifa Batool		
Personal	Department: computer science Date of Appointment: 01-Oct-2023 Email Address: asifabatool@gmail.com Contact No: 0344-1175120		
Experience	Designation	Institute	No. of Years
	lecturer	AIS	1
	Lecturer	University of Gujrat (M.B.DIN)	1
Honor and Awards			
Memberships			
Post Graduate Students			
Undergraduate Students	Almost 350		
Honour Students			
Service Activity			

Performa 9 Faculty Resume			
Name	Ume Habiba		
Personal	Department: Computer Science Date of Appointment: (1st November 2023) Fall -2023 Email Address: Contact No : 03143557017		
Experience	Designation	Institute	No. of Years
	Lecturer	University of Sargodha	2 years
	Lecturer	Superior College	2 years
Honor and Awards	NONE		
Memberships	NONE		
Post Graduate Students	NONE		
Undergraduate Students	Almost 300		
Honor Students			
Service Activity			

Performa 9
Faculty Resume

Name	Muhammad Usama		
Personal	Department: Computer Science Date of Appointment: November, 2021 (visiting) Contact No : 0307-6878201		
Experience	Designation	Institute	No. of Years
	Lecturer	GC law college	1
	Lecturer	Ripha College	1
	Lecturer	Concordia College	1
Honor and Awards			
Memberships			
Post Graduate Students			
Undergraduate Students	Almost 200		
Honour Students			
Service Activity			
Brief Statement of Research Interest			
Publications			
Research grants and Contracts.			
Other Research or Creative Accomplishments			

Performa 9
Faculty Resume

Name	Rabia Mushtaq		
Personal	Department: Computer Sciences Date of Appointment: Fall-2024-Visiting Email Address: rabiawaqas653@gmail.com Contact No: 03328007877		
Experience	Designation	Institute	No. of Years
	Lecturer	AIS M.B.DIN	0.5
	Lecturer	The educators	1.5 years
Honor and Awards			
Memberships			
Post Graduate Students	N/A		
Undergraduate Students	Almost 100		
Brief Statement of Research Interest			
Research grants and Contracts.			
Other Research or Creative Accomplishments			
Selected Professional Presentations			

Performa 9
Faculty Resume

Name	Nimrah Ashraf		
Personal	Department: Computer Science Date of Appointment: October 26, 2023 Email Address: Nimrah.yasmeen@gmail.com Contact No : 03328007877		
Experience	Designation	Institute	No. of Years
	Lecturer	University of Gujrat M.B.Din campus	1 year
	Lecturer	Arid Institute of Science	October 26, 2023 -Current
Honor and Awards	N/A		
Undergraduate Students	Almost 250		
Honour Students			
Service Activity	QED Head		
Brief Statement of Research Interest			
Publications			
Other Research or Creative Accomplishments			

Performa 9 Faculty Resume			
Name	Maryam Riaz		
Personal	Department: Computer Sciences Date of Appointment: 1st November, 2024 Contact No: 0315- 6268487		
Experience	Designation	Institute	No. of Years
	Lecturer	AIS ARID	0.5
Undergraduate Students	60		
Honour Students	NA		
Service Activity	NA		
Brief Statement of Research Interest	My research interests: Machine Learning		
Publications	NA		
Research grants and Contracts.	NA		
Other Research or Creative Accomplishments	NA		
Selected Professional Presentations	NA		

Annexure: L Faculty Course Review

Faculty Course Review Report

(To be filled by each teacher at the time of Course Completion)
For completion by the course instructor and transmission to Head of Department of his/her nominee (Dept. Quality Officer) together with copies of the Course Syllabus outline

Department:	Computer Science		Faculty:	Full time	
Course Code:	CS-355	Title:	**Cloud Computing**		
Session:	BSCS 5th	Semester:	Autumn ☒	Spring	Summer
Credit Value:	3(2-3)	Level:		Prerequisites:	
Name of Course Instructor:	Maryam Riaz	No. of Students Contact Hours	Lectures	2 hours per week	
			Seminars	3 hours per week	
Assessment Methods: give precise details (no & length of assignments, exams,		2 marks Assignments , 2 marks Quizzes , 4 marks Presentation			

Distribution of Grade/Marks and other Outcomes: (adopt the grading system as required)

Undergraduate	Originally Registered	%Grade A	%Grade B	%Grade C	D	F	Absent	Total
No.of Students	**9**	**66.67%**	**22.22%**	**11.11 %**	**0**	**0**	**0**	**9**

Post-Graduate	Originally Registered	%Grade A	%Grade B	%Grade C	F	No Grade	Total
No.of Students							

Ms. Maryam Raiz Date: 22-02-2025

Faculty Course Review Report

(To be filled by each teacher at the time of Course Completion)
For completion by the course instructor and transmission to Head of Department of his/her nominee (Dept. Quality Officer) together with copies of the Course Syllabus outline

Department:	Computer Science		Faculty:	Visiting	
Course Code:	CS-102	Title:	Object Oriented Programming		
Session:	BSCS 3rd	Semester:	Autumn ☒	Spring	Summer
Credit Value:	4(3-3)	Level:		Prerequisites:	
Name of Course Instructor:	Shoaib Nazir	No. of Students Contact Hours	Lectures	3 hours per week	
			Lab	3 hours per week	
Assessment Methods: give precise details (no & length of assignments, exams,	2 marks Assignments , 2 marks Quizzes , 4 marks Presentation				

Distribution of Grade/Marks and other Outcomes: (adopt the grading system as required)

Undergraduate	Originally Registered	%Grade A	%Grade B	%Grade C	D	F	Absent	Total
No.of Students	**17**	**17.65%**	**41.18 %**	**17.65 %**	**5.88 %**	**17.65%**	**0**	**17**

Post-Graduate	Originally Registered	%Grade A	%Grade B	%Grade C	E	No Grade	Total
No.of Students							

Mr. Shoaib Nazir Date: 22-02-2025

Faculty Course Review Report

(To be filled by each teacher at the time of Course Completion)
For completion by the course instructor and transmission to Head of Department of his/her nominee (Dept. Quality Officer) together with copies of the Course Syllabus outline

Department:	Computer Science		Faculty:	Full time	
Course Code:	CS-203	Title:	ARTIFICIAL INTELLIIGENCE		
Session:	BSCS 3rd	Semester:	Autumn ☒	Spring	Summer
Credit Value:	3(2-3)	Level:		Prerequisites:	
Name of Course Instructor:	Nimrah Ashraf	No. of Students Contact Hours	Lectures	2 hours per week	
			Lab	3 hours per week	
Assessment Methods: give precise details (no & length of assignments, exams,		2 marks Assignments, 2 marks Quizzes , 4 marks Presentation			

Distribution of Grade/Marks and other Outcomes: (adopt the grading system as required)

Undergraduate	Originally Registered	%Grade A	%Grade B	%Grade C	D	F	Absent	Total
No.of Students	**12**	**58.33%**	**33.33%**	**8.33%**	**0**	**0**	**0**	**12**

Post-Graduate	Originally Registered	%Grade A	%Grade B	%Grade C	F	No Grade	Total
No.of Students							

Ms. Nimrah Ashraf Date: 22-02-2025