

COCHIN UNIVERSITY OF SCIENCE AND TECHNOLOGY



REGULATION [2023 ADMISSIONS ONWARDS]

Five Year Integrated M.Sc. in Computer Science (Artificial Intelligence and Data Science)

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Regulation, 2023

Preamble: This Regulation shall be called 'Five Year Integrated M.Sc. in Computer Science (Artificial Intelligence and Data Science), 2023'. This document shall supersede all previous Regulations.

1. Introduction

In the fulfillment of the set objectives of the Cochin University of Science and Technology (CUSAT), the University has taken the lead to offer a Five Year Integrated M.Sc. in Computer Science (Artificial Intelligence and Data Science) for imparting specialized education, especially in the emerging areas of Computer Science, to the students on completing their +2 level of education.

2. Course offered by the Cochin University of Science and Technology

Cochin University offers a Five Year Integrated M.Sc. in Computer Science (Artificial Intelligence and Data Science) covering introductory and advanced courses in the domain of Data Science and AI. The nomenclature of the course shall be **Five Year Integrated M.Sc. in Computer Science (Artificial Intelligence and Data Science)**.

3. Overview of the Course

The Five Year Integrated M.Sc. in Computer Science (Artificial Intelligence and Data Science) offered by the Cochin University of Science and Technology (CUSAT) is a professional course. It is not merely an integrated program that combines pre-graduate and post-graduate studies. However, it is also trans-disciplinary, cutting across several emerging disciplines in the domain of Computer Science.

Students of Science subjects require exposure to a significant amount of Mathematics and Computation throughout the five year programme. The University offers bridge courses and other training programs to facilitate this process.

4. Admission

The present intake for the Five Year Integrated M.Sc. in Computer Science (Artificial Intelligence and Data Science) is **20**.

4.1. Eligibility and Entrance Examination

1. Admission is open to the students possessing KVPY Scholarship. They need not have to appear for the entrance Test. However, they have to submit the requisite application and should pay the application fee.
2. All other eligible applicants have to appear for a written test conducted by the University/Department.
3. Candidates with a minimum of 60% marks or equivalent CGPA at +2 level of education (Intermediate, CBSE/ICSE/HSC/ All State Boards or Equivalent) with science subjects Physics, Chemistry, and Mathematics are eligible to apply. The Other Backward Classes (OBC) belonging to non-creamy layer / Scheduled Caste

(SC) / Scheduled Tribe (ST) / Persons with disability (PWD) category candidates are eligible for concessions in the percentage of marks as per the prevailing government rules and regulations. The Five Year Integrated M.Sc. in Computer Science (Artificial Intelligence and Data Science) is for students who have an inclination and aptitude to study emerging areas in Computer Science and have plans to build a career in IT or Research & Development institutions.

The admission to the programme will be based on the Common Admission Test (CAT) conducted by CUSAT for the under-graduate B.Tech. (Test 101) programmes.

4.2. Selection List

Applicants possessing KVPY Scholarship can join directly to the program if clause 4.1.3 holds. The admission will be through a common counseling process. While preparing the Selection List, if there is a tie in the entrance examination marks, the procedure followed in the case of B.Tech. (Test 101) programmes shall be followed.

5. Reservation

All relevant reservation rules (Kerala State) will be followed for admission. Similarly, concession in fees for the course also will be based on the Government of Kerala Rules. The seat matrix based on reservation, similar to other professional courses in the University is applicable.

6. Extra Course/Credits

A student can take online courses over and above those stipulated for a semester and accumulate extra credits in a given semester. The students can undergo extra online credit-based courses of their interest, coming under the domain of Computer Science/Data Science/Artificial Intelligence, only after forwarding a formal request to the Head of the Department, and getting it approved by the Department Council. The extra credit-based courses, completed by a student, will be shown in the consolidated mark list, issued by the University, as a separate section.

7. Audit Course

There is a provision for auditing not more than one course each semester. Students who desire to audit courses over and above the number of courses prescribed have to choose from among the courses offered by different Departments in that semester and inform the Department in writing and get it approved by the Department Council. Courses thus audited should also be indicated in the registration forms, and other courses opted for that semester. Only one Audit Course is allowed per semester. The audit courses, completed by a student, will be shown in the consolidated mark list, issued by the University, as a separate section.

8. Possibility of Tutorials

Based on the request of a sizable number of students for additional guidance in coping with the subjects, the Head of the Department, after consulting with the concerned Faculty Member, can take the necessary steps to provide tutorial support for small groups of students.

9. Enrichment Program

The students are encouraged to undertake internships/ summer research programs during the winter and summer breaks at institutes of national importance such as IISc, IIT, NIT, IIIT, IISER, IEST, or reputed & D labs of Central/State Government. Students are encouraged to attend Workshops/Seminars/Conferences organized by various academic, research, or professional institutions.

10. Attendance

A student needs to attend at least 75% of the classes held in each course to be eligible to write the end-semester examination. If the student has been absent for medical reasons, the shortfall of attendance would be condoned up to 5% subject to submitting the relevant medical certificate to the Head of the Department. If, due to unusual circumstances, the student's attendance falls far short of the required percentage, he/she may bring it to the notice of his/her Course Coordinator well in advance. He/ she may be considered for re-registration to the course concerned when it is offered in the following academic year. He/She can also explore the possibility of dropping the semester and opt for re-registration to that semester along with the junior batch. It may be noted that it is the student's responsibility to monitor his/her attendance and inform the instructor about his/her absence. Any amendments to the attendance and leave policies issued by the University from time to time shall also be applicable to the students.

11. Mode of Evaluation

The student shall be evaluated continuously throughout the semester, and marks shall be awarded based on tests/assignments. A maximum of 10 marks as awarded for the assignments given to the students by the concerned teacher. There shall be two class tests and an end semester examination. The first test carries 20 marks and will be based on the syllabus's portions covered till then. The second class test also carries 20 marks and will be based on the portions covered until after the first class test. The end semester examination will be for 50 marks and shall contain questions from the course's entire syllabus. The duration of the end semester examination shall be three hours.

The results of each subject in a semester shall be finalized by the concerned faculty member within 10 days from the last date of the end semester examination and the marks and grades obtained by the candidate shall be displayed on the notice board with the approval of the Course-Coordinator and the Head of the Department. The passing minimum in a subject is 50%. If a candidate fails to secure 50% marks, he/she shall be deemed to have failed in the subject. A makeup examination for the end semester examination shall be conducted for the failed candidates within ten days from displaying the marks/grades. Such examination shall carry questions

from the entire portion of the syllabus, and the weightage shall be only 75%. It shall substitute one of the three tests that have fetched the least marks.

The candidate's final marks/grade, taking into account his/her performance in the makeup examination and periodic tests and assignments, shall be finalized within five days from the makeup examination date. A candidate securing a minimum of 50 percent marks shall be considered to have passed in that subject. If the candidate fails to meet the minimum requirement for a pass even after two attempts, he/she shall have to repeat the subject at the next available chance.

A pass in the course will entitle the student to acquire the number of credits allotted for that particular course (for the details of the number of credits, please refer to the course structure).

No student shall be allowed to move to the next semester, if he/she has failed in 3 or more courses of the previous semester subject to a maximum of 6 arrears at any given point of time including the arrears of previous semester/s, if any. The maximum duration for completing the programme will in any case be 9 years from the date of commencement of first semester.

A student who wishes to take up professional employment after completing the ninth semester shall obtain permission from the Head of the Department. The student will be permitted to carry out the project work in the institution /organization where they are employed on production of a certificate from the Head of that institution/organization to the effect that the student is permitted to carry out the project at the institution/organization. Such candidates shall carry out the project work under the joint supervision of a project guide from the Department and an external guide from the Institution/Organization concerned. The Department Council shall verify the academic/research credentials of the proposed external guide before granting permission.

In the case of students who propose to carry out their project work in National Laboratories on a full-time basis, the provision regarding having a project guide from the Department concerned may be exempted by the Department if the situation warrants.

Project evaluation shall be done at the end of IX and X semesters. The evaluation at the end of IX Semester shall be conducted by an Examination Committee consisting of the Head of the Department, a Senior Teacher nominated by the Head, and the Project Guide. At the end of X semester, the students will have to submit a dissertation on his / her project work. Three bound copies and a soft copy of the dissertation shall be submitted to the Head of the Department within the last date prescribed by the Department for the purpose. The dissertation will be evaluated by an Examination Committee consisting of the Head of the Department, another Senior Teacher of the Department nominated by the Head of the Department, and the Project Guide. However, an External Examiner may also be included in the Examination Committee with the Department Council's

approval. The candidate shall make an open defense of his/her dissertation, which will be followed by a viva-voce examination.

For the purpose of assessment, the performance of a student in the project dissertation may be divided into the following sub-components:

At the end of IX Semester

Assessment by the project guide (based on periodic assessment of the work of the candidate) - 50%

Assessment by the Examination Committee – 50%

At the end of X Semester

Assessment by the project guide (based on periodic assessment of the work of the candidate) - 50%

Assessment by the Examination Committee – 50%

12. Classification

The following grading system is adopted for all the courses. The following grades will be awarded based on the overall performance in each subject.

Range of Marks (in %)	Grades	Weightage
90 and above	S- Outstanding	10
80 – 90	A- Excellent	9
70 – 80	B-Very Good	8
60 – 70	C- Good	7
50 – 60	D- Satisfactory	6
Below 50%	F- Failed	0

*where X – Y range denotes X inclusive and Y exclusive

Overall performance at the end of the semester will be indicated by Grade Point Average (GPA) calculated as follows:

$$GPA = (G_1C_1 + G_2C_2 + G_3C_3 + \dots + G_nC_n) / (C_1 + C_2 + C_3 + \dots + C_n)$$

where 'G' refers to the grade weightage, and 'C' refers to the credit value of the corresponding course undergone by the student. At the end of the final semester, the Cumulative Grade Point Average (CGPA) will be calculated based on the above formula. Classification for the Degree will be as follows :

CGPA	Classification
8.0 and above	First Class with Distinction
6.5 – 8.0	First Class
6 – 6.5	Second Class

*where X – Y range denotes X inclusive and Y exclusive

13. Declaration of Results

An examination committee consisting of the Head of the Department (Chairperson), a Senior Teacher and the Course Coordinator shall scrutinize the marks and grades obtained by the candidates and finalize the results. The Head of the Department will constitute the Examination Committee. The final marks will be reported to the University for Tabulation and declaration of results. The University shall issue mark lists at the end of each semester.

At the end of each semester, the question papers set for class tests and end semester examination will be reviewed by the Department Council. The review report may be placed in the Board of Studies concerned for scrutiny.

The Departmental Council or a Sub-Committee nominated by the Council will act as the grievance cell for the redress of complaints from the students on the conduct of the class test, semester exam, and the valuation methodology. The student shall make such complaints to the Head of the Department within a week of the display of the marks/grades for a particular course on the Notice board of the Department.

14. Award of Degree

The students will be awarded Five Year Integrated M.Sc. in Computer Science (Artificial Intelligence and Data Science) degree under the Faculty of Technology, after acquiring the required number of credits within the stipulated time period.

15. Leave for an M.Sc. Student

Leave rules issued by the university from time to time are applicable to M.Sc Students as well.

16. Re-admission

Students who are not found eligible to take semester examinations and those who are not promoted to the next semester of the course may be considered for re-admission to the semester concerned about the immediately following academic year. Such students should seek re-admission before the commencement of classes for the semester concerned or within a week of the semester's commencement if they appear in the supplementary examinations. Such students are given an option either to undergo instruction for all the courses of the semester concerned or instruction in only such courses. The option, once exercised, will be binding on the student concerned.

17. Exit Option

The programme offers two exit options - one at the end of the sixth semester and the other at the end of the eighth semester. The candidates who successfully complete six semesters of the programme have a provision to leave the course with a B.Sc degree in Computer Science. The candidates who successfully complete eight semesters of the programme have a provision to leave the course with a B.Sc (Honours) Degree in Computer Science without completing the 9th and 10th semesters. They also have a provision to exit the course after finishing the 8th semester with a B.Sc (Honours with Research) Degree in Computer Science provided they successfully complete a 12 credit dissertation in the 8th semester.

The only candidates who successfully complete the ten semesters of the programme are eligible for the Five Year Integrated M.Sc. Degree in Computer Science (Artificial Intelligence and Data Science).

The candidate should earn a minimum of 135 credits to enter the 7th semester of the programme. Similarly he/she should earn a minimum of 180 credits to enter the 9th semester of the course. If any candidate fails to earn the above mentioned credits, he/she have to continue with the junior batch.

18. Lateral Entry

Candidates with three year B.Sc Degree in Computer Science / BCA / B.Voc. Business Process and Data Analytics or equivalent awarded by any of the UGC recognized institution with not less than 60% marks, will be considered for admission to the 4th year of the Five Year Integrated M.Sc. in Computer Science (Artificial Intelligence and Data Science) programme provided vacant seats are available.

19. Students' Welfare

The office of the Director of Students' Welfare will look after the welfare of the students with active support from the elected representatives of the students, faculty, and administration. A Student Counseling Service by professionals is available at the University. In the case of any student requiring parental guidance, his/her parents will be informed accordingly. A Students' Union caters to the students' interests and promotes cultural and sports activities.

20. Gender Justice Committee

CUSAT is committed to providing a place of work and study, free of sexual harassment, intimidation, or exploitation. The Committee Against Sexual Harassment (CASH) at CUSAT is the University's instrument for

addressing issues/grievances/cases of sexual harassment and recommending their redressal. The Constitution of India entitles every individual the right to live with human dignity, free from exploitation. In this spirit, CUSAT expects that its entire community, including students, faculty, staff, and officers – will treat each other and visitors to the University with respect. Anyone violating this principle is subject to disciplinary action.

21. Revision of Regulation and Curriculum

The University may, from time to time, revise, amend or change the regulations, schemes of examinations, and syllabus. In the case of students already undergoing the course, the change will take effect from the beginning of the following academic year after the changes are introduced and shall cover the course's part that remains to be completed.