School of Computer Science and IT

कंप्युटर विज्ञानं एवं आईटी विद्याशाखा

PROGRAMME SUMMARY & FEE STRUCTURE

1. **Title of Programme:** Master of Computer Applications

2. **Programme Code:** MCA-21

3. **Programme Mode:** Semester

4. **Admission Cycle:** Twice every Year in Jan. And July

5. **Eligibility:**

   a. Passed BCA/ Bachelor Degree in Computer Science Engineering or equivalent Degree like PGDCA diploma from UGC recognised University, A- Level from DOEACC with graduation, etc. (obtained at least 50% marks (45% marks in case of candidates belonging to reserved category) in the qualifying Examination).

   Or

   b. B.Sc. / B.Com. / B.A. with Mathematics at l0+2 Level or at Graduation Level (obtained at least 50% marks (45% marks in case of candidates belonging to reserved category) in the qualifying Examination), after admission candidates will complete additional bridge Courses as per the norms of the Uttarakhand Open University. For candidates who do not have Mathematics at 10+2 Level or at Graduation level, they have to enroll and complete an additional Mathematic course available at SWAYAM portal (Sr. Secondary Mathematics paper in SWAYAM portal by Dr. Rajendra Kumar Nayak, NIOS). The equivalent courses shall be identified from time to time and the details shall be provided in the University website.

6. **Duration:**

   Min: 2 Years

   Max: 4 Years

7. **Total Credit :** 80

8. Counselling and Attendance as per the UGC-DEB / AICTE guidelines.

9. Programme Structure: The program structure of the MCA program is as follows

| Programme Name & Abbreviation | Programme Code | Duration In Years | | SLM | Mode of Exam (Annual/ Sem) | Year / Sem | Details of Fees (Rs.) | | | | | | | |
		Min	Max				Programe	Project/ Lab Workshop	Exam	Practical	Viva-Voce	Miscellaneous	Degree Fee	Grand Total
MASTER OF COMPUTER APPLICATIONS	**MCA-21**	2	4	English	Sem	I	10000	-	1000	500	-	150		11650
						II	10000	-	1000	500	-	-		11500
						III	10000	-	1000	500	-	-		11500
						IV	10000	1000	750		-	-	500	12250

Course Structure of 2-year MCA program

Total Credits: 80

SEMESTER I			
MCS-501	Discrete Mathematics	04	100 (80/20)
MCS-502	Object-Oriented Programming through C++	04	100 (80/20)
MCS-503	Software Engineering	04	100 (80/20)
MCS-504	Operating System	04	100 (80/20)
MCS-P1	Practical	04	100
SEMESTER II			
MCS-505	Database Management System	04	100 (80/20)
MCS-506	Introduction to Computer Networks	04	100 (80/20)
MCS-507	Design and Analysis of Algorithm	04	100 (80/20)
MCS-508	Programming in Java	04	100 (80/20)
MCS-P2	Practical	04	100
SEMESTER III			
MCS-601	Information Security Assurance: Framework, Standards & Industry Best Practices	04	100 (80/20)
MCS-602	Computer System Architecture	04	100 (80/20)
	Elective I	04	100 (80/20)
	Elective II	04	100 (80/20)
MCS-P3	Practical	04	100 (80/20)
SEMESTER IV			
MCS-604	Introduction to Mobile Architecture	04	100 (80/20)
	Elective III	04	100 (80/20)
	Elective IV	04	100 (80/20)
MCS-603	Project (200 marks) + Viva-Voce(100 marks)	08	300

Elective I
1. Web Technology(MCS-E1)
2. Introduction to Soft Computing(MCS-E2) (Offered through SWAYAM only)
3. Fuzzy Logic and Neural Networks(MCS-E3) (Offered through SWAYAM only)
4. Basics of Remote Sensing and GIS(MGIS-502)

Elective II
1. Fundamentals of Information Security (MIT(CS)-101)
2. Cyber Security Techniques (MIT(CS)-102)
3. Information System (MIT(CS)-104)
4. Digital Forensics (MIT(CS)-202)

Elective III
1. Formal Languages and Automata(MCA-E4)
2. Python Programming(MCA-E5) (Offered through SWAYAM only)
3. Artificial Intelligence(MCS-E6) (Offered through SWAYAM only)
4. Data Science for Engineers(MCS-E7) (Offered through SWAYAM only)

Elective IV
1. Information System for Business (MCS-E8)
2. Project Management (MCS-E9)
3. Wireless Networks (MCS-E10)
4. Introduction to Internet of Things (MCS-E11) (Offered through SWAYAM only)
5. Cloud Computing (MCS-E12) (Offered through SWAYAM only)

Note: Processing fee of Rs.250/course shall be applicable to facilitate credit transfer along with the application form and transcripts.