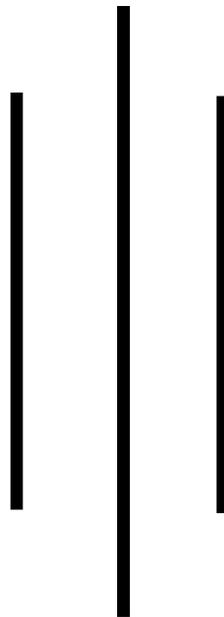




Tribhuvan University
Faculty of Humanities and Social Sciences
Office of the Dean
Balkhu, Kathmandu.



Curriculum of Master of Computer Applications (MCA)

2023

Title

The title of the degree is Master of Computer Applications (MCA).

Objectives

The objectives of the Master of Computer Applications (MCA) at the faculty of Humanities and Social Sciences of Tribhuvan University is to prepare human resource for productive careers in the field of software development, IT Entrepreneur and academic institutions by providing an outstanding environment for teaching, research and development in the core and emerging trends of the discipline.

Credit & Duration of Program

Master of Computer Applications (MCA) is 63 credit program. The program is practical as well as theoretical in nature class load is as specified in the course structure section. The duration of the program is two years. Each year is divided into two semesters. Semester duration is of 16 weeks of working days for teaching learning excluding examinations and other activities.

Medium of Instruction and Examination

The medium of instruction and examination in the Master of Computer Applications (MCA) program shall be English.

Entry Requirement

The entry requirement for students in Master of Computer Applications (MCA) is:

Bachelor of Computer Applications (BCA) completed with minimum B- grade or second division in equivalent degree from recognized institution.

Besides this academic requirement, an entrance will be conducted for all applicants by the Dean's Office, Faculty of Humanities and Social Sciences (FOHSS).

Admission Procedure

An Entrance exam shall be conducted once a year by Dean's Office, FOHSS. Eligible successful candidates shall be admitted on merit basis.

Academic Schedule

The academic session of the program consists of two semesters per year. The fall semester begins in September and the spring semester begins in February. Dean's Office, FOHSS will publish academic calendar.

Students Evaluation

The students' academic performance during a semester is evaluated using the system of continuous assessment (Internal & External Assessment).

The concern institution/department conducts the minimum of two internal assessments (Mid-Term & Pre-final Examination) during the session and it will be evaluated by subject teacher.

University conducts the external assessment (Final Examination) at the end of semester.

Final practical examination shall be conducted by concerned institution/department.

Dean's Office, FOHSS will not conduct final examinations for elective courses and in courses which are offered as intensive courses conducted by reputed national/international scholar.

General Evaluation Scheme:

SN	Assessment Subject Nature	Internal Assessment		External Assessment	Total
		Theory	Practical	Theory	
1	Practical (Lab based)	20%	20%	60%	100%
2	Non-Practical	40%	-	60%	100%

Technical and Academic writing will be evaluated by the respective department/campus.

Project & Dissertation Evaluation Scheme:

SN	Assessment Subject Nature	Internal Assessment	External Assessment (Viva, Presentation & Demonstration)	Total
1	Project	80%	20%	100%
2	Dissertation	80%	20%	100%

Final Examination format:

SN	Group	Types of Question	No. of Questions	Marks per Question	Total Marks
1	Group – A	Objective Type (Multiple Choice Questions)	10	1	10 x 1 = 10
2	Group – B	Short Questions	6	5	6 x 5 = 30
3	Group – C	Long Questions	2	10	2 x 10 = 20

To pass in a subject, a student must pass in internal and external theory and practical examinations separately with securing a minimum of 50% in that subject in internal assessment and B- grade in the final examination.

Grading System

Total marks obtained in internal, Practical and end semester exams shall be graded on absolute basis.

The performance of a student shall be measured on a four-point scale ranging from 0 to 4 grades

A student must secure a minimum Grade Point Average (GPA) of 2.7 or Grade B minus (B-) in each course.

Grading scale

Grade	CGPA	Percentage Equivalent	Grade Point Description
A	4.0	90 and above	Distinction
A-	3.7	80 – 89.9	Very Good
B+	3.3	70 – 79.9	First Division
B	3.0	60 – 69.9	Second Division
B-	2.7	50 – 59.9	Pass in individual Subject
F	0	Below 50	Fail

Performance of a student in a semester is evaluated in terms of the **Semester Grade Point Average (SGPA)** = Total honor points earned in a Semester / Total number of credits registered in a semester.

Performance of a student in a whole program is evaluated in terms of the **Cumulative Grade Point Average (CGPA)** = Total honor point earned / Total number of credits completed.

The students shall receive their semester grades and academic transcript grades only in letter grades and GPA scores.

Students securing only 2.7 in grade point are considered as “pass in individual subject”.

In order to pass the semester examination, the student must secure a minimum of Grade “B” or Cumulative Grade Point Average (CGPA) of 3.0.

A student who secures CGPA less than 3 may request for the opportunity to improve the grade in two subjects. The office of the dean will provide one-time opportunity to appear in semester exam. The exam of the courses to improve grade shall be held as per the regular course cycle.

Attendance Requirement

Student must attend at least 80% of the classes actually held in each course. It is recommended that the students must attend every lecture, tutorial, and practical classes. Those who will not able to fulfill attendance requirement are not eligible to attend in final examination of that course.

Maximum duration to complete course

Maximum time to complete the course is 5 years. If any student will unable to complete the program during this maximum period of time but still he/she wants to complete the program, he/she will have to rejoin from beginning following the complete admission procedure.

Repeating the course

A course may be taken only once for a grade, except when a student receives a B- or F grade. B- grade is optional for students to improve grade but Students must pass the F Graded (Failed) courses to complete the program. The grade earned on the retake examination will substitute the grade earned in previous time the course was taken.

Elective Courses

The curriculum is oriented to have intensive study in the field of interest. So, number of elective courses will be increased, registration flexibility shall be provided as per market trends and interest.

Major Project (Project III) or Dissertation

As per the need and interest of students, they should choose either Dissertation or Project III but not both in fourth semester to complete the course criteria.

Award of Degree

Tribhuvan University Awards Master of Computer Applications (MCA) degree after completion of all the requirement of this program as prescribed in this curriculum.

Master of Computer Applications(MCA) Course Structure

1 st Year / I Semester					
SN	Course Code	Course Name	Total Credit Hrs.	Theory Hrs.	Practical Hrs.
1	MCA501	Discrete Structure	3	3	2
2	MCA502	Advanced Operating System	3	3	2
3	MCA503	Advanced Database Management System	3	3	2
4	MCA504	Programming Logic & Techniques using Python	3	3	2
5	MCA505	Research Methodology in Computer Applications	3	3	2
6	MCA506	Technical Writing	1	-	2
Total Credits			16		
1 st Year / II Semester					
SN	Course Code	Course Name	Total Credit Hrs.	Theory Hrs.	Practical Hrs.
1	MCA551	Algorithm Analysis & Design	3	3	2
2	MCA552	Object Oriented Software Engineering	3	3	2
3	MCA553	Internet & Web Programming	3	3	2
4	MCA554	Project I	3	-	6
5	MCA555	Academic Writing – I	1	-	2
6		Elective I	3		
Total Credits			16		
Elective Courses					
1	MCA556	Digital Humanity	3	3	1
2	MCA557	Digital Marketing	3	3	2
3	MCA558	Knowledge Management	3	3	2
4	MCA559	E-Governance	3	3	2
2 nd Year / III Semester					
SN	Course Code	Course Name	Total Credit Hrs.	Theory Hrs.	Practical Hrs.
1	MCA601	Cryptography and Network Security	3	3	2
2	MCA602	Data Mining & Data Warehousing	3	3	2
3	MCA603	Project II	3	-	6
4	MCA604	Academic Writing – II	1	-	2
5		Elective II	3		
6		Elective III	3		
Total Credits			16		
Elective Courses					

1	MCA605	Big Data Management	3	3	2
2	MCA606	Managerial Economics	3	3	1
3	MCA607	Virtualization & Cloud Computing	3	3	2
4	MCA608	Image Processing	3	3	2
5	MCA609	Artificial Intelligence	3	3	2
6	MCA610	Digital Forensics	3	3	2
7	MCA611	GIS & Remote Sensing	3	3	2
8	MCA612	Data Science	3	3	2
2nd Year / IV Semester					
SN	Course Code	Course Name	Total Credit Hrs.	Theory Hrs.	Practical Hrs.
1	MCA651 Dissertation / MCA652 Project III		9	-	15
2		Elective IV	3		
3		Elective V	3		
Total Credits			15		
Elective Courses					
1	MCA653	Machine Learning	3	3	2
2	MCA654	Internet of Things (IoT)	3	3	2
3	MCA655	Information Security Audit	3	3	2
4	MCA656	Natural Language Processing	3	3	2
5	MCA657	IT Infrastructure Management	3	3	2
6	MCA658	Quantum Computing	3	3	2
7	MCA659	Business Intelligence	3	3	2
8	MCA660	UI/UX Design	3	3	2