Mid-Western University
Surkhet

Detailed Curriculum

BACHELOR OF SCIENCE IN COMPUTER SCIENCE AND INFORMATION TECHNOLOGY

February, 2017

GENERAL POLICY ON
BACHELOR OF SCIENCE IN COMPUTER SCIENCE AND INFORMATION TECHNOLOGY PROGRAMS OF MID-WESTERN UNIVERSITY

Mid-Western University(MWU) is offering undergraduate (Bachelor level) programs in Bachelor of Science in Computer Science and Information Technology and other applied science program under the faculty ofscience and technology (FoST). The following point list some basic information regarding the general policy of Mid Western Universityrelated to undergraduate B. Sc. in computer science and information technology.Mid Western Universityperiodically reviews and updates its policies to uplift the standard of education.

1. Title:

The title of the program is Bachelor of Science in Computer Science and Information Technology (B.Sc. in Computer Science and Information Technology)

2. Objective:

The objective of the Bachelor of Science in Computer Science and Information Technology program at Mid Western Universityis to produce high quality computer science and information technology manpower and researchers.

3. Duration of the Program:

The program of study for Bachelor of Science in Computer Science and Information Technology is over a period of eight semesters (four academic years). The academic year begins in the September of each year.

4. Medium of Instruction and Examination:

The medium of instruction and examination in the Bachelor of Science in Computer Science and Information Technology program shall be English.

5. Entry Requirement for New Students:

The entry requirement for students in Bachelor of Science in Computer Science and Information Technology is Intermediate in Science (I. Sc), or Higher Secondary level (10+2) or Diploma in Engineering or Architecture or equivalent from a recognized institution with at least second division marks at their Intermediate level. Besides the basic academic requirement, an entrance examination will be held for all Nepalese applicants.

6. Admission Procedure:

The entrance test application form and the information brochure shall be provided on request at the Registrar's Office (MWU) or at the concerned college. The concerned college scrutinizes the applications. The eligible candidates fare informed to appear in the entrance test. The exact date for the entrance test is communicated to the applicants by the college. The candidates shall be admitted on merit basis. The subjects and weightage for each subject of the Entrance test will be
Physics: 20%; English: 20%; Mathematics: 40% and Chemistry: 20%.

The college may also hold interviews for the candidates before their final selection for admission. Eligible foreign national students may be admitted against limited seats on the basis of an interview to be conducted by the college.

The candidates, who are given provisional admission pending submission of the qualifying certificates, are required to submit all necessary documents within a week of the beginning of regular classes. Otherwise, the admission will be annulled.

7. The Credit System:

Each course is assigned a certain number of credits depending generally upon its lecture, tutorial and practical work hours in a week. In theory subjects, one lecture per week is assigned one credit as a general rule.

8. Academic Schedule:

The academic session of the University consists of two semesters per year. The Fall semester starts in September and the Spring Semester starts in February. For the Bachelor's program in science and technology, student admission may commence either in the Fall semester or in the Spring semester, as approved by the University. Mid Western Universitypublishes its yearly academic calendar. The affiliated colleges are required to follow the calendar.

9. Student Evaluation:

The students' academic performance during a semester is evaluated using the system of continuous assessment (evaluation of sessional work plus the final examination). The college and the University conduct the sessional works and the final examinations, respectively.

Each course shall have sessional marks of 40% evaluated by the assigned teacher. Generally, each course will have a written semester examination of 60% marks at the end of each semester. In the Practical courses, no final examination will be

conducted and the sessional marks shall be awarded on the basis of continual assessment. Normally, final examinations are not conducted in elective courses and in courses which are offered as intensive courses conducted by reputed international scholars.

To pass in a subject, a student must obtain a minimum of D grade in that subject in sessional work and the final examination, separately.

Grading System:
The grade (marks) awarded to a student in a course is based on his/her consolidated performance in sessional and final examinations. The letter grade in any particular subject is an indication of a student's relative performance in that course. The pattern of grading is as follows:

Grade	A	A-	B	B-	C	C-	D	D-	F
Grade point	4.00	3.67	3.33	3.00	2.50	2.00	1.50	1.00	0.00

Only in very rare and unusual circumstances, if a student cannot finish all the required work for the course, he/she may be awarded an incomplete grade "I". If all the required work is not completed within the following semester, the grade of I will automatically be converted to an "F". A student receiving an I grade do not need to register for that subject in the following semester to complete the required works.

The performance of a student in a semester shall be evaluated in terms of the Semester Grade Point Average (SGPA) which is the grade point average for the semester. The cumulative grade point average (CGPA) is the grade point average for all completed semesters.

SGPA = total honor points earned in a semester / total number of credits registered in a semester
CGPA = total honor points earned / total number of credits completed

10. Attendance Requirement:

The students must attend every lecture, tutorial and practical classes. However, to accommodate for sickness and other contingencies, the attendance requirement shall be a minimum of 80% of the classes actually held. If a student fails to attend 80% of the classes in any particular subject, he/she shall not be allowed to take the final examination in that subject. If a student is continuously absent from the college for more than four weeks without notifying the principal, his/her name will be removed from the college roll.

11. Normal and Maximum Duration of Stay at the College:

The normal duration for completing the Bachelor of Science in Computer Science and Information Technology program at the university will be four years. The maximum duration for the completion of the requirements shall be the normal duration plus two years.

12. Course Registration:

The academic record of a student is maintained in terms of the courses for which he/she registers in any semester, and the grades he/she obtains in those courses. Registration for courses is done at the beginning of each semester. Since registration is a very important procedural part of the credit system, it is absolutely essential that all students present themselves at the college. In case of illness or any exceptional circumstance during the registration period, he/she must inform the Principal of the same. Registration in absentia may be allowed only in rare cases, at the discretion of the Principal.

However, the student's nominee cannot register for courses but will only be allowed to complete other formalities.

13. Repeating a Course:

A course may be taken only once for a grade, except when a student receives a D or F grade. Since passing of all core courses individually is a degree requirement, the student must retake the failing core course when offered and must successfully complete the course. Retaking a course in which a student has earned a D grade is optional. However, a student cannot retake more than two courses in which he/she has received D grade. The grade earned on the retake will be substituted for the grade earned first time the course was taken.

14. Transfer of Credit Hours:

A maximum of 15 credit hours of course work completed in an equivalent program of a recognized institution may be transferred for credit. For transfer of credit, a student must have received a grade of B or better in the respective course. Courses taken earlier than five years from the time of transfer may not be accepted for transfer of credit.

The concerned Subject Committee of the University will make an evaluation of the applicant for transfer of credit. The awarding of transferred credit will be based on the applicant's score in the college or University, which he/she attended previously.

15. Course Coding for Bachelor of Science in Computer Science and Information Technology:

Each course is identified by three letters followed by a four-digit number. The three letters indicate the subject area (e.g., COM for computer, PHY for physics, etc). The first digit of each number indicates the level or academic year the course is normally taken (1 for first year, 2 for second year, 3 for third year and so on). The second and the third digits indicate departmental sequence, and the fourth digit, which is preceded by a decimal, indicates the number of semester hour credit awarded for the course (e.g., COM411 is a four year and first semesterand course serial).

In the course description, figures in parenthesis following the course number, for example,(3-2-0), indicate the hours per week devoted to lecture, tutorial, and practical, respectively.

16. Elective Courses:

The curriculum is oriented to have intensive study in the field of interest with course registration flexibility at least for two courses. But in future, course registration flexibility shall be increased to more number of courses.

17. Award of Degree:

MWU awards Bachelor of Science in Computer Science and Information Technology degree upon completion of all requirements as prescribed in the curriculum. MWU awards grades as explained in the curriculum on the basis of individual student's relative performance. The minimum credit hours needed for Bachelor of Science in Computer Science and Information Technology degree is 120.

Cumulative Grade Point Average (CGPA) for the degree shall be awarded upon completion of all requirements.

18. Scrutinizing of Final Examination Paper:

Students may apply for re-totaling or rechecking of their grades as per University rule, upon payment of prescribed fee.

19. Final Examination:

MWU conducts final examination at the end of each semester. The procedure of final examination conduction will be as per the examination rules of the Mid Western University.

Note: The provisions of this document are not to be regarded as a binding contract between the University and the students. The University reserves the right to change any provisions or requirements contained in this document at any time, without pre-notification, within the students' term of residence.

CURRICULUM FOR THE BACHELOR OF SCENCE IN COMPUTER SCIENCE AND INFORMATION (BSCCSIT)

Sr. No	**Course Description**	Course Code	Credit Hour
1st Semester			
1.	Fundamentals of Computer	COM411	3
2.	Programming in C	COM412	3
3.	Physics	PHY413	3
4.	Basic Mathematics I	MAT414	3
5.	Digital logic	COM415	3
2nd Semester			
6.	Discrete structure	COM421	3
7.	Microprocessor and Assembly Language	COM422	3
8.	Object Oriented Programming	COM423	3
9.	Statistics	MAT424	3
10.	Basic Mathematics II	MAT425	3
3rd Semester			
11.	Data Structure and Algorithm	COM431	3
12.	Computer Organization and Architecture	COM432	3
13.	Numerical Methods	COM433	3
14.	Principle of Management	MAN434	3
15.	Computer Networks	COM435	3
4th Semester			
16.	Operating Systems	COM441	3
17.	Database Management System	COM442	3

18.	Technical Writing	ENG443	3
19.	Computer Graphics	COM444	3
20.	Theory of Computation	COM445	3
5th Semester			
21.	Artificial Intelligence	COM451	3
22.	Systems Analysis and Design	COM452	3
23.	Design and Analysis of Algorithms	COM453	3
24.	Compiler Design	COM454	3
25.	Elective I i. Management Information System ii. Multimedia Computing	COM455	3
6th Semester			
26.	Simulation and Modeling	COM461	3
27.	Software Engineering	COM462	3
28.	Web Technology	COM463	3
29.	Advanced Java	COM464	3
30.	Elective II i. Information Retrieval ii. Database Administration	COM465	3
7th Semester			
31.	Cryptography and Network Security	COM471	3
32.	Real Time Systems	COM472	3
33.	Data Warehousing and Data Mining	COM473	3
34.	Project Work	COM474	3

35.	Elective III i. Software Project Management ii. Network System Administration iii. E- Governance	COM475	3
8th Semester			
36.	Image Processing	COM481	3
37.	Cloud Computing	COM482	3
38.	Internship	COM483	6
39.	Elective IV i. Geographical Information System ii. Mobile Computing iii. Bioinformatics	COM484	3
		Total Credit Hours	120