Nepal Open University

Faculty of Science, Health and Technology

Masters of Philosophy in Information and Communication Technology

Program Overview

Program Introduction

The objective of this course is to involve students and researchers into the specific research area in the field of Information Technology. Students and researchers will get the in-depth knowledge of recent trends in Information Technology and finally they will be able to conduct the research-led activities in the domain they have chosen. The research in this course focuses on the emerging technologies such as Data Science, Cloud Computing, Big data, and Communications etc. This course also develops the researchers, capable of making the research contributions to the nation building in various areas of Information Technology.

Program Objectives

The objectives of the program are to produce high-level professional manpower to work in teaching, research and academic fields, and to serve in government, non-government, public and private enterprises. This program aims to upgrade independent research abilities among the teachers, academics and the professionals in various fields. The specific objectives of the MPhil program are:

a) Training the students for deeper knowledge and research skills in the key areas of information science, communication technology and organization behavior, research methodologies, human resource management, and IT governance;

b) Providing in-depth knowledge in the areas of research methods; and

c) Preparing the students to pursue Ph.D. in the field of ICT.

Admission Eligibility

Candidates, who have successfully completed Master's degree in ICT or IT as recognized by Nepal Open University with at least Second Division with minimum 2.7 CGPA in a scale of 4 are eligible for M. Phil in Information and Communication Technology. Proficiency in English language is essential as it is the language of instruction, examination, and writing term papers and thesis. There is a provision of entrance test for admission to the MPhil in ICT

Syllabus for examination:

Program Name: MPhil in Information and Communication Technology (MPhil in ICT)	
• **Eligibility:** Master's degree in IT or IT related subjects or equivalent qualifications from a recognized University/Institute.	
Full Marks:	100
Numbers of Questions (Objective Based) no negative marking system:	100
Durations of Entrance Examination:	2 Hours
Courses Cover:	100%
Programming Concept and Programming Logic (25) • Variables and constraint. • Condition and loop concept. • Array, structure and pointer. • Stack, Ques and List. • Sort, search and Tree.	25%
Database (15) + Information System (10) • Concept of Database and Models • Relational Database, Relational Algebra and Normalization. • Basic SQL • Concept of Distributed Database • File and Index • Transactional Processing, concurrency control and recovery • Software Development Life Cycle • Requirement Analysis • Software Testing.	25%
Computer Network and Architecture (25) • Communication Media and Network Architecture and OSI and TCP/IP • Network Security and IPv4 • Modulation Techniques and Switching Techniques • Boolean Algebra and Fundamental of processor • Memory Organization and I/O Structure	25%
Concept of Research (25) (Research Methodology) • Foundation of Research and Problem Identification & Formulation • Research Design/Architecture • Qualitative and Quantitative Research • Data Analysis and Interpretation of Data and Proposal Writing • Research Tools	25%

Admission Procedure

Merit list in the Entrance Examination conducted by the University

Course Structure and Semester Distribution

Semester: First

Course Code	Course Title	Credits	HRS
ICT701	Advanced Research Methodology	3	45
ICT702	Data Science	3	45
ICT703	Digital Governance	3	45
ICT704	Advanced Programming Techniques	3	45
ICT705	IT Management	3	45
Total		15	

Semester: Second

Course Code	Course Name	Credits	HRS
ICT 751	Cloud Computing and Big Data	3	45
ICT 752	Integrated Communications	3	45
ICT 753	Database Management System	3	45
ICT 754	Advanced Software Engineering	3	45
ICT 755	Research Project *(Preliminary Dissertation Works)*	3	45
Total		15	

Semester: Third

Course Code	Course Name	Credits
ICT 801	Elective	3
ICT 899	Dissertation	6
Total		9

List of Approved Electives:

1. ICT 801 : Artificial Intelligence
2. ICT 802 : Information and Network Security
3. ICT 803 : Multi media and Signal Processing
4. ICT 804 : Machine Learning

Mode of Course Delivery

➢ Online 90%

- E-Leaning Platform (MOODLE, TEAMS)

➢ 10% contact

Learning Method

- Literature Review
- Presentation and Discussion
- Online Lecture Delivery
- Case Study
- Research
- Dissertation

Examination and Evaluation

In Semester Evaluation (40%)	End Semester Evaluation (60%)
a) Unit Assignment/Project/Task (20%) b) Critical Comment/Review (15%) c) Interaction with the Tutor (5%)	a) Short answer questions b) Long answer questions or research paper writing (With a focus on higher order thinking skills such as analysis, synthesis, evaluation, innovation etc.)

Fee Structure and Payment

S.N.	Particulars	Amounts (NRS)
1	Admission Fee	2000 (one time)
2	Library Fee	1500 per year
3	Examination Fee	3000 per Semester
4	Nou Registration Fee	3000 (One time)
5	Tuition Fee	4200 Per Credit

Program Activity:

- **MPhil ICT Program**
  - **Admission Procedure**
    - Eligibility Check
    - Entrance Examination
    - Merit List Publication
    - Fees Payment
    - Admit and Allocate Roll NO
  - **Induction (Contact Session)**
    - Program Introduction
    - MOODLE and TEAMS
    - Course Introduction
  - **Academic Activities**
    - Online Classes (5 Days) 18:00-21:00
    - Makeup Classes (when needed)
    - In-Semester Contact Session
    - End-Semester Contact Session
  - **Research Activities**
    - Research Project (2nd) Semester
    - Dissertation (3rd Semester)
    - Publication Required
  - **End Semester Examination** — Physical / Alternative Way
    - Regular
      - On-Site
    - Alternative
      - Take Home
      - Reveiw Article
      - Case Study
      - Presentation/ Viva
      - Project Work
  - **Degree Award**
    - Min 1.5 Yrs to 4.5 Yrs