

Research Fundamentals

Dr. Bipun Man Pati, DEng., [bemaanpati@ncit.edu.np]

Chief, AI Research Center, ACEM



Who am I?

2011

Bachelor's Degree (B.E.,)
Information Technology Engineering
Nepal



2014

Masters Degree (M.Eng.,)
Telecommunication Engineering
Thailand



51-100
QS WUR Ranking By Subject

2017

Doctoral Degree (D.Eng.,)
Telecommunication and Artificial
Intelligence
Thailand, Japan, USA



Inter-University Research Institute Corporation
Research Organization of Information and Systems
National Institute of Informatics



UNIVERSITY of WASHINGTON

2022

PostDoc
Artificial Intelligence
Thailand, Japan



2023

Chief, AI Research Center
Advanced College of Engineering
and Management
Kathmandu, Nepal



**ADVANCED COLLEGE
OF ENGINEERING & MANAGEMENT**
Affiliated to Tribhuvan University (T.U.)



Research Profile- Google Scholar

Research Interests:

- Wireless Communication
- Artificial Intelligence
- Telecommunications
- Project Management



Bipun Man Pati

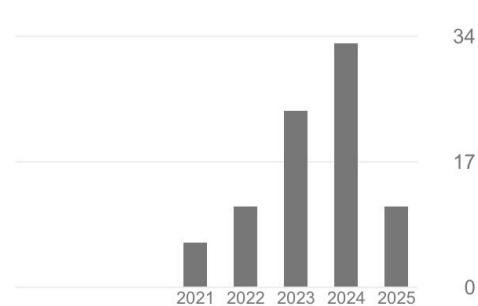
Advanced College of Engineering and Management

Verified email at acem.edu.np - [Homepage](#)

wireless communicaiton spectrum sensing Artificial Intelligence

Cited by

	All	Since 2020
Citations	86	85
h-index	3	3
i10-index	2	2



Course Outline- Syllabus

Unit 1: Introduction (4 hrs)

Unit 2: Research Process Model (10 hrs)

Unit 3: Participants and Research Ethics (4 hrs)

Unit 4: Proposal Writing (4 hrs)

Unit 5: Report Writing (4hrs)

Course Outline: Introduction

- 1.1 What is research?
- 1.2 Research Aim and Objectives
- 1.3 Features of Research
- 1.4 Types of Research
- 1.5 The 6Ps of Research
- 1.6 Purpose of Research- reasons for doing research
- 1.7 Product of Research- outcomes of research
- 1.8 Research and Project

Course Outline: Research Process Model

2.1 Personal Experiences and Motivation

2.2 Literature Review

2.3 Research Question

2.4 Conceptual framework

2.5 Strategies

2.6 Data Generation Methods

2.7 Data Analysis

Course Outline: Participants and Research Ethics

3.1 Participants

3.2 The law and Research

3.3 Rights of People Directly Involved

3.4 Responsibilities of an Ethical Researcher

Course Outline: Proposal Writing

- 4.1 What is a research proposal?
- 4.2 Need of a Research Proposal
- 4.3 Components of a Research Proposal
- 4.4 A case study on any research paper/project

Course Outline: Report Writing

5.1 What is a research report?

5.2 Need of a Research Report

4.3 Components of a Research Report

4.4 A case study on any research paper/report

Course Outline- Books

1. Oates, B. J., Griffiths, M., & McLean, R. (2022). Researching information systems and computing. Sage.
2. Walia, A. M., & Uppal, M. (2020). Fundamentals of Research. Notion Press.

Course Outline- Evaluation

Internal Evaluation	Weight	Marks	External Evaluation	Marks
Theory		30		
Attendance & Class Participation	10%			
Assignments	20%			
Presentation/Quizzes	10%			
Internal Assessment	60%			
Practical		20	Semester End Examination	50
Proposal Report	30%			
Project Presentation	10%			
Final Project Report	40%			
Completeness of Project	20%			
Total Internal		50		
Full Marks: $50 + 50 = 100$				

Practical Work

Phase I:

- The students are grouped in teams each containing at most **4** students.
- Each team chooses a problem to solve as their project/research work and they work in a team.
- They must define clearly what the problem is, justify why they choose the problem and how they will solve it and submit this as a proposal report (based on **Unit 2 and 4**).
- Each team presents their proposal orally.

Phase II:

- After the approval of their proposal, they start working on the project.
- Each team follows the research process studied in **Unit 2** to do their project/research work.
- Students keep reporting their progress about the project/research work to their instructor.
- Students complete the project/research work, develop the final project/research report (based on **Unit 2 and 5**) and again present it orally.

Who are you?

Course Objective

1. What is research or project work,
2. How research is done,
3. Explain what research ethics must be followed during the research/project work,
4. How the research/project proposal is written, and
5. How to write final research/project report.