UNIVERSITY OF DELHI

Certificate Course
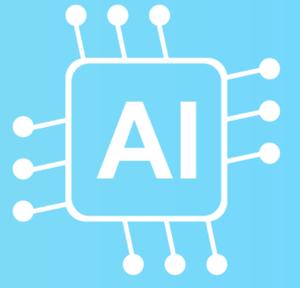
on

Applications of Artificial Intelligence in Health Sciences

FIRST BATCH
STARTING
MARCH 2026

Enroll Now Before the Batch Fills Up

⏱ 15-Week Program | 60 Learning Hours

👥 Batch Size: 50 | 🎯 Level: Basic | 🌐 Mode: Online

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Professor Yogesh Singh
Vice Chancellor
University of Delhi

Professor Balaram Pani
Dean of Colleges
University of Delhi

Professor Rajni Abbi
Director South Campus
University of Delhi

Professor Payal Mago
Director, Campus of Open
Learning
University of Delhi

Dr. Vikas Gupta
Registrar
University of Delhi

Professor K. Ratnabali
Dean, Academic Affairs
University of Delhi

Girish Ranjan
Finance Officer
University of Delhi
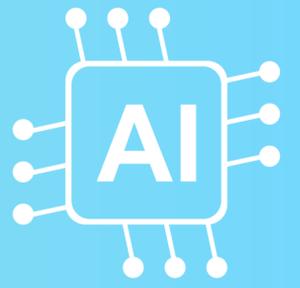
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Prof. Dinabandhu Sahoo
Chairperson
Research, Innovation and
Entrepreneurship Council
University of Delhi, Institute of Bioresource
**and Sustainable Development**

Prof. Daman Saluja
Course Director
Honorary Professor, Delhi
School of Public Health
(DSPH),
Institution of Eminence
(IoE), University of Delhi

Prof. Naveen Kumar
Course Joint Director
Senior Professor,
Department of
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University of Delhi

Dr. Ankit Rajpal
Course Coordinator
Assistant Professor,
Department of
Computer Science,
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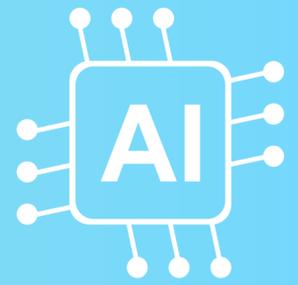
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Eligibility Criteria

Bachelor's Degree from a recognized University, at least equivalent to National Higher Education Qualifications Framework (NHEQF) Level 5.5, with recommended basic proficiency in Mathematics. The degree must be earned in any one of the following disciplines:

- Computer Science/ Information Technology
- Engineering
- Mathematics / Statistics
- Biotechnology
- Bioinformatics
- Medicine (MBBS), Nursing, or Pharmacy
- All areas of Life Sciences/ Pharmacy

Applicability of the Course

The course is highly applicable to students and professionals seeking to bridge computational techniques with real-world health challenges. With a focus on diagnostics, prognosis, imaging, drug discovery, and clinical NLP, the course prepares learners to get hands-on with multi-source healthcare data such as EHR, medical images, genomic profiles, and clinical text. It offers practical training in state-of-the-art AI frameworks, deep learning models, and bioinformatics tools, enabling participants to develop, evaluate, and interpret medical AI systems responsibly. The interdisciplinary design makes it suitable for graduates from Computer Science, Engineering, Life Sciences (all branches) , Medicine, and related fields, empowering them to contribute to evidence-based clinical decision support, personalized medicine, and innovative digital health solutions. Learners also gain insights into the ethical, regulatory, and societal considerations that are critical to the safe deployment of AI in healthcare settings.

Course Objectives

This course aims to provide a comprehensive introduction to the applications of Artificial Intelligence in health sciences. It equips students with the skills to handle diverse healthcare data, build and evaluate AI models for diagnostics, prognosis, imaging, drug discovery, and clinical NLP. The course also emphasizes ethical, regulatory, and interpretability aspects of AI in healthcare, fostering interdisciplinary problem-solving and responsible innovation.

Register Now
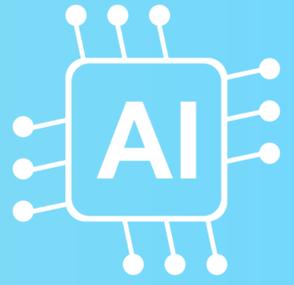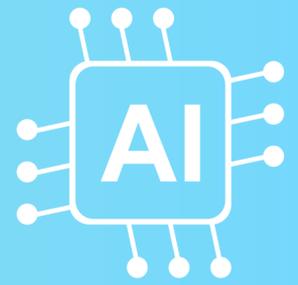
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Modules

- **Module 1:** Introduction to AI in Healthcare
- **Module 2:** Introduction to Bioinformatics and Multi-Omics
- **Module 3:** Machine Learning Foundations in Medical Sciences
- **Module 4:** Medical Imaging and Data Handling
- **Module 5:** Deep Learning and CNNs for Medical Image Analysis
- **Module 6:** AI in Drug Discovery and Cheminformatics
- **Module 7:** Natural Language Processing in Healthcare
- **Module 8:** Ethics, Regulation, and Future of AI in Medicine

Each Module will be augmented with hands on training appropriate through tools

Assessment Method

Continuous evaluation through:
1. MCQ tests and assignments on completion of each module by the instructor (to be submitted to the Course coordinator)
2. Seminar presentations, etc.
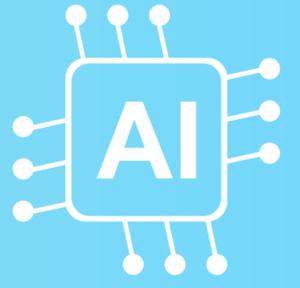
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Teaching Learning Outcomes

On completing this course, the students will be able to:

- Identify and describe the role, opportunities, and limitations of AI in various healthcare applications (diagnostics, prognosis, image analysis, drug discovery, NLP).
- Acquire, preprocess, and integrate multi-source healthcare data, including structured (EHR), unstructured (text), imaging, and genomic datasets.
- Apply machine learning and deep learning techniques for classification, regression, segmentation, and survival analysis tasks on medical datasets.
- Develop and evaluate medical AI models using frameworks like Scikit-learn, TensorFlow, PyTorch, BioBERT, and DeepChem with appropriate performance metrics.
- Design end-to-end pipelines for medical image analysis using CNNs, U-Net, and transfer learning approaches.
- Use AI tools in bioinformatics, such as Cytoscape, STRING, and pathway analysis tools, to identify key biomarkers and disease pathways.
- Implement natural language processing (NLP) pipelines for EHR mining, clinical decision support, and chatbot development using domain-specific models like BioBERT.
- Assess AI models for ethical compliance, explainability, and fairness, using interpretability tools like SHAP, LIME, and fairness metrics.
- Critically analyze legal, regulatory, and societal implications of AI in clinical decision-making, ensuring adherence to HIPAA/GDPR and other frameworks.
- Collaborate effectively across medical and computational disciplines, integrating AI techniques with domain-specific knowledge in health sciences.

Modalities of the Course

- The course is in online mode.
- The students' intake is 50 per batch.
- The course fee is Rs 10000/- per student. A discount of 25% for a student of the University of Delhi.
- The course duration is 15 weeks.
- The classes will be 2 hours each on Saturday and Sunday.
- The assessment method is continuous evaluation by taking MCQs and assignments and/or quizzes/viva, problem-solving exercises, and/or Seminar Presentations, etc
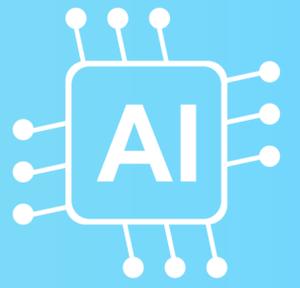
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Important Dates

ANNOUNCEMENT OF THE COURSE	07th February, 2026
LAST DATE OF APPLICATION	28th February, 2026
PROCESSING AND FINALIZATION	09th March, 2026
FEE SUBMISSION 1ST LIST	09th-11th March 2026
DECLARATION OF 2ND LIST	13th March 2026
SUBMISSION FOR FEE OF 2ND LIST	13th to 16th March 2026
INAUGURATION OF COURSE	22nd March 2026
COMMENCEMENT OF COURSE	28th March 2026
TENTATIVE COMPLETION OF COURSE	19th July 2026
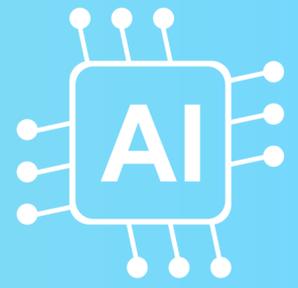
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Teaching Learning Plan

Unit	Title	No. of Weeks
I	Introduction to AI in Healthcare	1
II	Introduction to Bioinformatics and Multi-Omics	2
III	Machine Learning Foundations in Medical Sciences	2
IV	Medical Imaging and Data Handling	2
V	Deep Learning and CNNs for Medical Image Analysis	2
VI	AI in Drug Discovery and Cheminformatics	2
VII	Natural Language Processing in Healthcare	2
VIII	Ethics, Regulation, and Future of AI in Medicine	2

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FACULTY PROFILE

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Honorary Professor, Delhi
School of Public Health (DSPH),
Institution of Eminence (IoE),
University of Delhi

Prof. Sanjeev Singh
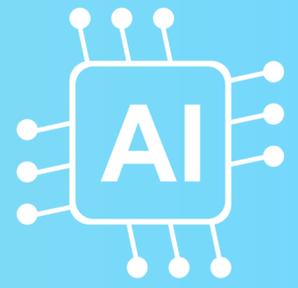Dean, Faculty of
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Computer Center

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Jawaharlal Nehru
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Prof. Madhu Chopra
Professor, Dr B R
Ambedkar Center for
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(ACBR)

Prof. Areejit Samal
Professor, The Institute
of Mathematical
Sciences (IMSc),
Chennai

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FACULTY PROFILE

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Prof. Huiru (Jane) Zheng
Professor, School of Computing and Mathematics, Ulster University, UK

Prof. Vineet Kumar Sharma
Department of Biological Sciences, Indian Institute of Science Education and Research Bhopal
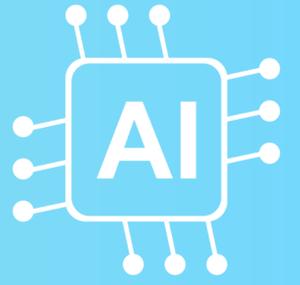
Prof. D. Sundar
Institute Chair Professor, Department of Biochemical Engineering and Biotechnology, IIT Delhi

Prof. Sonika Bhatnagar
Department of Biological Sciences and Engineering, NSUT, Delhi

Prof. Yasha Hasija
Professor and Head, Department of Biotechnology, Delhi Technological University

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FACULTY PROFILE

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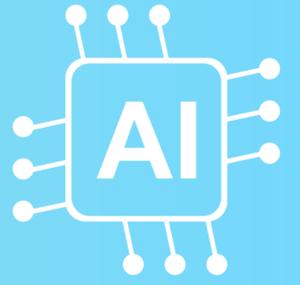Faculty of Technology,
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Apply here:

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