

Title of the Course	Open Source Technologies for Engineering Applications (National)
Operational Plan No	CSE-02 Contact Mode
Dates and Venue	20 -24 July 2026, NITTTR, Chandigarh
Course Contents	<ul style="list-style-type: none"> • Foundations of Open Source Technologies for Engineering Applications • Python Programming with Open Source Ecosystem for Engineering Solutions • Open Source Statistical Tools for Data Analysis and Engineering Research • Open Source Frameworks for Computer Vision and Image Processing • Data Visualization and Machine Learning using Open Source Tool Orange • Open Source Software for Engineering Research and Innovation • Open Source Scientific and Technical Publishing using Quarto • Open Source Artificial Intelligence Tools for Engineering Applications • Open Source Tools for Enhancing Teaching and Research in Engineering • Design and Development of AI Agents using Open Source Technologies • Development of Interactive Engineering Dashboards using Open Source Tools • Containerization and Deployment using Docker for Engineering Applications • Open Source U-Net for Engineering Applications • Federated Learning using Open Source Frameworks for Distributed Systems
Course Outcomes:	<p>Participants will be able to:</p> <ul style="list-style-type: none"> • Understand the concepts and significance of open source technologies in engineering, research, and innovation. • Apply Python programming using open source ecosystems to develop engineering solutions. • Utilize open source statistical tools for data analysis and research in engineering domains. • Design and develop AI agents using open source technologies for real-world applications. • Develop interactive dashboards for engineering data visualization using open source tools.
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