

Government College of Engineering Kalahandi, Bhawanipatna



Summer Internship-2025

On

"From Basics to Breakthroughs: Python in Data Science Applications"

Organized by

Department of Computer Science & Engineering

3rd June to 2nd July 2025

Faculty Coordinators:

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About GCE, Kalahandi:

Government College of Engineering, Kalahandi (GCEK), established in 2009, is a premier state-government engineering institute located in Bhawanipatna, Odisha. Affiliated with Biju Patnaik University of Technology (BPUT), Rourkela, and approved by AICTE, New Delhi, GCEK is committed to excellence in technical education, research, and innovation. The college offers undergraduate (B.Tech) and postgraduate (M.Tech) programs across various engineering disciplines. With a strong emphasis on academic rigor and industry-relevant skills, GCEK empowers students in emerging areas such as **Artificial Intelligence (AI)**, **Machine Learning (ML)**, **Data Science**, and Smart Systems, preparing them for future-ready careers and interdisciplinary research.

About Department of CSE:

The Department of Computer Science & Engineering was established in 2009 to address the growing technological needs of the Western Odisha region. It offers an undergraduate program affiliated with Biju Patnaik University of Technology (BPUT), Rourkela. The department equips students with both breadth and depth of knowledge across various computing disciplines, preparing them for successful careers in industry as well as academia. The current intake capacity for the program is 60 students.

About Internship:

The Summer Internship 2025 on "**From Basics to Breakthroughs: Python in Data Science Applications**" aims to provide comprehensive insights into the fundamentals and practical aspects of Data Science and its growing impact across various domains. This program will cover core concepts, advanced analytical techniques, and real-world applications in areas such as healthcare, finance, and cybersecurity. Through expert lectures, hands-on sessions, and interactive discussions, participants will gain valuable experience in data-driven decision-making, fostering interdisciplinary research and enhancing both their teaching and professional capabilities.

Eligibility Criteria:

Students currently pursuing **Senior Secondary Student, B. Tech, BBA, BCA, MCA, B.Sc., M.Sc.**, or other related programs with an interest in computer science, research, or project development are eligible to apply.

Selection Criteria:

Selection will be based on a **first-come, first-served basis**, subject to a maximum of **50 participants**. Internship certificates will be awarded upon **successful completion** of the program, based on active participation and satisfactory performance.

Accommodation & Food:

Hostel accommodation may be provided to outstation participants upon request, subject to availability and applicable conditions. Food facilities will also be available at the hostel on a payment basis.

How to Apply:

Participants are required to fill the online registration form by clicking on the following link on or before 1st June 2025. Physical registration will be conducted on 2nd June 2025, upon payment of a registration fee of ₹500 (Rupees Five Hundred only).

<https://forms.gle/VenDhpiVBfYqZra48>

Important Dates:

Last Date for filling form	01.06.2025
Selection List by E-mail	02.06.2025
Duration	03.06.2025 to 02.07.2025

Week Wise Course Plan:

Week 1: Python Essentials & Programming Logic

1. Python setup and basic syntax
2. Data types, variables, and operations
3. Control flow and functions
4. Introduction to OOP and error handling

Week 2: Data Science Concepts in Python

1. Numpy and Pandas for data handling
2. Data cleaning and preprocessing
3. Exploratory data analysis (EDA)
4. Intro to machine learning with Scikit-learn

Week 3: Data Visualization & Statistical Understanding

1. Plotting with Matplotlib and Seaborn
2. Descriptive and inferential statistics
3. Probability and distributions
4. Correlation, regression, and hypothesis testing

Week 4: Real-World Application in Data Science

1. Understanding Business Problems
2. Exploring the Data Science Workflow
3. Basics to data visualization and communication
4. Capstone project development and presentation