

INTEGRAL UNIVERSITY, LUCKNOW

(Office of the Dept. of Civil Engineering)

Ref. No. IUL/CE/Head/2026/061

Dated: 20th August 2026

NOTICE

Regarding Value Added Course (VAC) on Design and Construction Methodology of Highway Projects

The Department of Civil Engineering is pleased to announce the commencement of a Value Added Course (VAC) from **22nd August 2026** on “**Design and Construction Methodology of Highway Projects**”.

The course details are as follows:

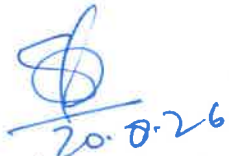
Course Details

- **Course Code** : VACCE/HIGH/26/01
- **Mode** : Offline
- **Contact Hours** : 30 Hours
- **Commencement** : 22nd August 2026
- **Resource Person** : Er. Parvez Ahmad Khan, Former CE (NH), UPPWD, Government of Uttar Pradesh and Adjunct Professor, Department of Civil Engineering, Integral University.

Course Completion & Certification

The course will include three MCQ-based quizzes and three assignments, which will be mandatory for all enrolled participants. Each quiz and assignment will carry 20 marks, and participants must secure a minimum of 50% marks as the eligibility criterion for successful completion of the course and award of the certificate.


Mr. Mohd Kashif Khan
Course Coordinator


Dr. Syed Aqeel Ahmad
Prof. & Head

Encl: Brochure Attached



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Department of Civil Engineering
Integral University, Lucknow

Offers

Value Added Course

On

Design and Construction methodology of Highway Projects

Use Course Code VACCE/HIGH/26/01 for Registrations



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Course Overview

This value-added course provides comprehensive exposure to highway engineering, covering planning, traffic analysis, geometric design, pavement design, materials, and construction practices. The course integrates Indian standards (IRC) with practical methodologies, case studies, and software-based applications such as IITPAVE. It is designed to equip students with industry-relevant skills required for highway project development and execution.

Course Objectives

- ☐ Develop a strong foundation in highway engineering principles and planning methodologies
- ☐ Understand and apply traffic studies and feasibility analysis for highway projects
- ☐ Gain proficiency in geometric design of highways as per IRC standards
- ☐ Master flexible and rigid pavement design concepts using IRC guidelines and software tools
- ☐ Understand material properties and construction techniques used in highway engineering
- ☐ Integrate knowledge to prepare and interpret Detailed Project Reports (DPRs)
- ☐ Build capability to address real-world highway engineering problems

Key Course Content

Module 1: Introduction to Highway Engineering

- Scope, importance, and history of highway engineering
 - Highway development in India
 - Role of IRC and other organizations
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Module 2: Highway Planning and Alignment

- Road patterns and master plans
 - Highway planning principles
 - Factors controlling highway alignment
 - Engineering surveys (map study, reconnaissance, preliminary and final survey)
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Module 3: Traffic Studies and Analysis

- Traffic volume studies
 - Speed, delay, and O-D studies
 - Axle load survey and Vehicle Damage Factor (VDF)
 - Data analysis and applications
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Module 4: Feasibility Study and DPR Preparation

- Feasibility analysis of highway projects
 - Economic evaluation and cost analysis
 - Components of Detailed Project Report (DPR)
 - Case study approach
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Module 5: Geometric Design of Highways

- Cross-sectional elements (carriageway, shoulder, camber, ROW)
 - Sight distances (SSD, OSD, ISD, HSD)
 - Horizontal and vertical alignment
 - Curves, gradients, super elevation
 - Intersections and grade separators
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Module 6: Pavement Design

Flexible Pavement (IRC:37)

- Design principles and factors
- Traffic and material considerations
- IITPAVE-based design

Rigid Pavement (IRC:58)

- Stress analysis and design parameters
 - Joint design and load transfer
 - Practical design examples
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Module 7: Highway Materials

- Soil and subgrade properties (CBR)
 - Aggregates: properties and tests
 - Bitumen: types, tests, and applications
 - Material selection in pavement construction
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Module 8: Construction of Highways

- Earthwork and subgrade preparation
- Sub-base and base layers (GSB, WMM, WBM, CTB)
- Bituminous construction techniques
- Quality control and field practices



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Duration	One Month (30 Contact hours)
Registration	22 nd August 2026
Commencement of Course	22 nd August 2026

Criteria for Course Completion

- The course includes three quizzes (comprising MCQs; One quiz after completion of each module) and three assignments. Mandatory for all enrolled candidates.
- Each quiz and assignment shall be of 20 grades and a Minimum of 50% marks shall be required as eligibility criteria for completing the course and receiving the certificates.

Resource Person

Mr Parvez Ahmad Khan, Former CE(NH) UPPWD Govt of UP
Adjunct Professo, Department of Civil Engineering.

Course Coordinator

Mr Mohd Kashif Khan
Associate Professor
Integral University, Lucknow
Email: mkkhan@iul.ac.in
Mobile No: 9412392586

Registration Details: Interested candidates may register at the course coordinator's office personally. A valid student ID card is a must for registration.

Address of the office of Course Coordinator:

Room Number E012, Ground Floor, E-Block, Department of Civil Engineering Integral University, Lucknow