Indian Institute of Technology Kanpur

Dept. of Civil Engg.

Proposal for a New Course

1. **Course no**.: CEXXXX
2. **Course title**: Pavement Engineering Laboratory
3. **Per week schedule**: Lecture:1 [L]; Tutorial: 0 [T]; Laboratory 1 [P] [3 hrs. each]
4. **Credits**: 5
5. **Duration of the course**: Half semester
6. **Proposing department/IDP**: Civil Engg.

   Other departments/IDPs which may be interested in the proposed course: None
7. **Proposing instructor(s):** Dr. Prabin Kumar Ashish

   Any faculty with expertise on pavement engg. can take up this course.
8. **Course description**

   - **Objective**: Currently, the Undergraduate Level (UG) students in the Dept. of Civil Engg. heavily lacks exposure on the experimental part of Transportation Engg. Therefore, this course is designed to provide them with the necessary exposure on the key experimental part of transportation engineering with particular orientation towards pavement engineering part as per the state-of-the-art practice.
   - **Content with additional detail**

Name of the exp.	Req. no. of labs	Req. no. of lab hrs.
Viscosity of asphalt binder	2	6
Rheological characterization of asphalt binder	3	9
Compaction characteristics of asphalt mixture	1	3
Functional characteristics of asphalt pavement structure	2	6
Total	**8 nos.**	**24 hrs.**

9. **Pre-requisites**: This course is designed for UG students of the Dept. of Civil Engg. Student must have cleared/secured a passing grade in CE381/CE382A.
10. **Registration policy**
    - ✓ Maximum cap on registered students: 15 nos.
    - ✓ In case of more than 15 registrations, students will be shortlisted based on the Cumulative Performance Index (CPI) value secured at the time of registration.

Recommended study material

- ✓ Wineman, A. S., & Rajagopal, K. R. (2000). *Mechanical response of polymers: an introduction*. Cambridge university press.
- ✓ Various IRC/IRC:SP/ASTM/AASHTO codes/research papers relevant to this course.
- ✓ Nikolaides, A. (2014). *Highway engineering: Pavements, materials and control of quality*. CRC Press.

- ✓ Manual Series, part-II, Asphalt Institute, Revised version 7, 2007.
- ✓ Specifications for road and bridge work, MoRTH, 5th revision, 2013.
- ✓ Advanced Asphalt Technologies, LLC. (2011). *A manual for design of hot mix asphalt with commentary* (vol. 673). Transportation Research Board.

P. K. Ashish

Dated: 28/07/2025 **Proposer:** Dr. Prabin Kumar Ashish, Dept. of Civil Engg., IIT Kanpur

Dated: _____ DUGC/DPGC Convener: _____

The course is approved / not approved

Chairman, SUGC/SPGC

Dated: _____