CE5831 - Transportation Engg. Studio

Credit Distribution: C:9 L:3 T:0 P:0 E:0 O:6 TH:0

Course Type: Lab

Description: The course will teach students transportation engineering design principles and methodologies using state-of-the-art software and computing tools.

Course Content: Use of pavement design and optimization software for mechanistic-empirical pavement design methods; dynamic mechanical analysis of bitumen and generation of master curve. Traffic field studies i.e., volume, speed, delay, arrival pattern, headway, and parking surveys; Use of automated sensor devices in data collection. Modeling, simulation, and analysis of traffic facilities using traffic engineering software Design of road alignment using geometric design software Application of 4-step urban transportation planning model with transportation planning software.

Text Books

- Yang Huang, Pavement Analysis and Design, Pearson, 2004.
- AASHTO (2011), "A Policy on Geometric Design of Highways and Streets," American Association of State Highway and Transportation Officials, Washington, D. C.
- TRB (2010), "Highway Capacity Manual," Transportation Research Board, Washington, D. C.
- Indian Roads Congress (IRC) Codes 66, 73, 86, 92 and related publications.
- Roger P. Roess, William R. McShane and Elena S. Prassas, Traffic Engineering, Prentice Hall, New Jersey, USA.
- Papacostas, C. S., and Prevedouros, P. D., Transportation Engineering and Planning, Prentice Hall, 3rd Edition, 2000.
- Ortuzar, J. D., and Willumsen, L. G., Modeling Transport., John Wiley and Sons, 3rd Edition, 1996

Reference Books: NIL

Prerequisite: NIL