# HIGHWAY GEOMETRIC DESIGN CIVIL 3D WORKSHOP
November 18 – 20, 2024
NUST Institute of Civil Engineering (NICE)
School of Civil and Environmental Engineering (SCEE)
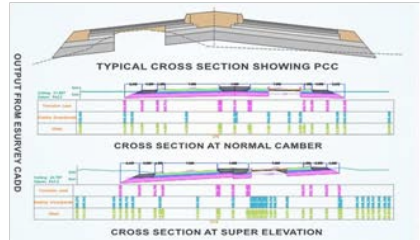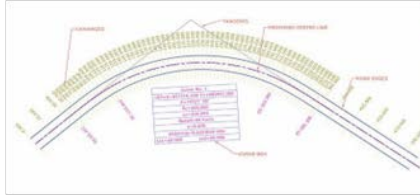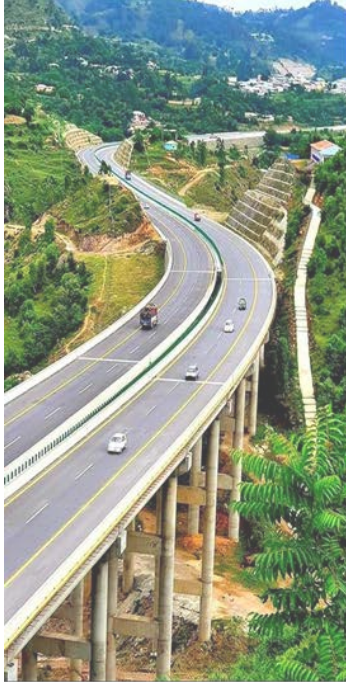
Instructor:
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(Highway Engineer)

Workshop Coordinators:
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Workshop Schedule & Activities

Date	Time	Activities
Monday, November 18, 2024	1700 – 2100	▪ AASHTO Geometric Design Criteria ▪ Getting to Know Civil 3D User Interface ▪ Surface Modelling ▪ Horizontal Alignment Design
Tuesday, November 19, 2024		▪ Horizontal Alignment Reports ▪ Vertical Alignment Design (Profile)
Wednesday, November 20, 2024		▪ Corridor & Sections ▪ Sheet Setting and Data Management

How to Register:
Please email your name to the coordinator with the receipt for the workshop fee payment.
Workshop Fee: UG Students (1500 Rs.), PG Students (2000 Rs.) & Others (3000 Rs.).
Please deposit the workshop fee to the Account:
Account Title: NICE/SEM/WSHP, Account No: 22927000447901, Bank: HBL.

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Workshop Content (Day 1)

Time	Content
1700	• Introduction & registration of participants
1715 - 1800	• AASHTO Design criteria for geometric design of roads • Getting to Know Civil-3D user Interface
1800	Prayer Break
1815 - 1930	**Surface Modelling from** • Importing survey points • Assign point styles and point label styles • Modify survey point appearance and properties • Create and use a point group to control the point display • Creating surfaces from survey points & identifying key characteristics • Identifying examples of surface analysis • Getting the concept of DEM & DTM
1930 - 2100	**Horizontal Alignment Design** • Create Alignment from objects & creation tools • Create offset alignment • Edit alignment constraints • Add lines, curves, and spirals to alignment • Reverse Alignment direction • Apply widening for a specific length of road
2100	**Day 1 Wrap-up**

Workshop Content (Day 2)

Time	Content
1700 - 1800	**Horizontal Alignment Reports** • Alignment station coordinates at specific Interval • Setting out/Curve data of proposed alignment **Superelevation Calculations** • Understanding the concept of superelevation attainment • Assigning design speed to alignment • Exporting Superelevation to Excel format • Adding Superelevation to Profile Bands
1800	Prayer Break
1815 -1930	**Vertical Alignment Design (Profile)** • Understanding the concept of different profile types • Create Surface & Design profile • Edit Design Profile parameters • Explain how and when to add a vertical curve in the profile • Import/Create Profile Bands
1930 -2100	**Profile Details and Presentation** • Describe the purposes, features, and functions of the profile grid view • Creating & editing profile labels • How to apply section tracker • How to Superimpose Profile profiles • How to check profile elevation at any point • Applying AASHTO standards design checks
2100	**Day 2 Wrap-up**

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Workshop Content (Day 3)

Time	Content
1700 - 1800	**Corridor & Sections** • Create and assign basic assemblies & subassemblies • Create a corridor • Add multiple baselines to a corridor • Add and edit targets (Horizontal & Vertical) • Understanding concept clearing corridor bowties • Rebuilt Corridors
1800	Prayer Break
1815 -1930	**Corridor & Sections** • Create objects from corridor • Create sample lines group • Editing sample line group • Creating section views • Editing section view group properties • Computing material • Earthwork volume report
1930 -2100	**Sheet Setting and Data Management** • Create a drawing template • Create view frames and sheets • Create plan & profile sheets • Understanding the concept of data shortcut • Identify when to use data and external reference
2100	**Day 3 Wrap-up**

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