

GUJARAT TECHNOLOGICAL UNIVERSITY

ME Civil (Construction Engineering & Management)
Building Information Systems
SUBJECT CODE: 3711414

Type of Course: Elective Subject

Prerequisite: NIL

Teaching and Examination Scheme:

| Teaching Scheme | | | Credits | Examination Marks | | | | Total Marks |
|-----------------|---|---|---------|-------------------|------|-----------------|----|-------------|
| L | T | P | | Theory Marks | | Practical Marks | | |
| | | | ESE | PA(M) | Viva | PA (I) | | |
| 3 | 0 | 2 | 4 | 70 | 30 | 30 | 20 | 150 |

Course Contents:

| Sr.No. | Topics | Hrs. | % Weightage |
|--------|--|------|-------------|
| 1 | Building Information System: <ul style="list-style-type: none">• In-depth work with Software: Massing models, assembly models, more editing tools, texturing• The ins and outs of Software Platform: Import/export, creating animations, working with Google Earth and 3D Warehouse• 3D BIM modeling with Software: Walls, floors, doors, windows, stairs, Using components, creating new types and new families• How to work with BIM content: Plans, DWF Models (3D for the web), schedules, materials takeoff• Use of Software models for analysis: Solar analysis, energy performance, etc. | 24 | 67 |
| 2 | Infrastructure Asset Management: Infrastructure assets through: asset inventory compilation, maintenance, condition assessment, life-cycle analysis and optimization, and communicating the results to decision-makers, infrastructure management policy, maintenance, refurbishment and replacement of strategic assets | 12 | 33 |

Reference Book(s):

1. Architectural Design with SketchUp / Schreyer / John Wiley & Sons
2. Commercial Design Using Autodesk Revit 2014 / Daniel John Stine / SDC Publications
3. BIM and Construction Management: Proven Tools, Methods, and Workflows / Hardin / Sybex
4. BIM and Integrated Design – Strategies for Architectural Practice / Deutsch / John Wiley & Sons
5. Green BIM / Krygiel, Nies / Sybex
6. BIM Handbook / Eastman, Teicholz, Sacks, Liston / John Wiley & Sons
7. Architectural Graphic Standards Student Edition / Ramsey, Sleeper / John Wiley & Sons
8. Architectural Graphics / Ching / John Wiley & Sons
9. Architectural Drafting and Design / Jefferis, Madsen / Thomson, Delmar Learning