

GUJARAT TECHNOLOGICAL UNIVERSITY

Diploma in Fabrication Technology

Semester: 3

Subject Code

Subject Name FABRICATION TECHNOLOGY-1

Sr. No.	Course content
1.	INTRODUCTION TO STRUCTURAL FABRICATION : 1.1 Need, Scope & importance of structural fabrication industries 1.2 List of major structural fabrication industries in GUJARAT . 1.3 Need of attitude, Knowledge & skill required for shop floor supervisor in structural fabrication industries 1.4 Introduction to Fabrication 1.5 Types of structure 1.6 Fabrication Operations 1.7 Drawing room operations 1.8 Shop floor operations 1.9 Fastening method/joining methods 1.10 Finishing & Machining operations 1.11 Application of structural fabrication work like transmission tower, factory shade, bridges, ships, railway coaches, metro rail coach, factory building, Dom etc.
2.	STRUCTURAL DRAWING : 2.1 Introduction 2.2 Preparation of drawing 2.3 Field of application of structural members 2.4 Structural set-up & fit-up
3.	MATERIAL OF CONSTRUCTION : 3.1 Introduction 3.2 Advantage of steel over other material 3.3 Various profile section (commercial forms of metal) 3.4 Shape, size and weight of rolled products 3.5 Indian structural steel 3.6 Storing & handling of material 3.7 Stacking & color coding
4.	STRUCTURAL JOINING PROCESS : 4.1 Introduction 4.2 Selection of joining process

	4.3 Classification of joining process 4.4 Comparison of joining process 4.5 Mechanical fastening process 4.6 Adhesive bonding 4.7 Welding 4.8 Brazing 4.9 Soldering process
5.	MARKING & MEASURING TOOLS : 5.1 Introduction 5.2 Work holding tools 5.3 Measuring tools 5.4 cutting tools 5.5 Finishing tools 5.6 Miscellaneous tools 5.7 Fitting operation 5.8 Power tools 5.9 Numbering & measuring operations 5.10 Safe & correct work practice
6.	CODES & STANDARDS USED IN STRUCTURAL FABRICATION : 6.1 Scope , need & importance of coded structural fabrication. 6.2 Specific requirement of various codes & standards 6.3 Types of codes-IS-800, AWS-D1.1
7.	INSPECTION, TESTING & QUALITY CONTROL OF STRUCTURE : 7.1 Introduction 7.2 Stages of inspection 7.3 Types of inspection 7.4 Role of Q.C department 7.5 Inspection documentation 7.6 Standards 7.7 Codes & Specification 7.8 Tolerance & deviations
8.	FABRICATION CALCULATION & MENSURATION : 8.1 Geometric problem solving 8.2 Mensuration
9.	ERECTION PROCEDURE & TECHNIQUES : 9.1 Introduction 9.2 Erection of tackles and false work 9.3 Preparatory work and important consideration 9.4 Leveling and alignment 9.5 Method of erection leveling and alignment 9.6 Precaution at erection site

	9.7 Erection with the help of cranes 9.8 Setting out the structure 9.9 Erection tolerance 9.10 Lining, leveling and plumbing 9.11 Erection of steel structure 9.12 Protection of structure against corrosion
10.	CUTTING METHODS Equipment, process, advantages & limitation of <ul style="list-style-type: none"> - mechanical cutting process - thermal cutting process

REFERENCE BOOKS:

- | | |
|--|--|
| 1. Welding & Welding Technology | Richard L Little |
| 2. Welding Sills and Practices | Giachino-Weeks- Brune |
| 3. Welding Technology | O.P.Khanna |
| 4. Welding engineering & Technology | R.S. Parmar |
| 5. Basic Welding & Fabrication | W Kenyon |
| 6. Fabrication and Erection Structural Steel | S.K. Saxena & R.B. Asthana |
| 7. Sheet Metal Work and Welding | Basic Engineering Instructional
Objective |
| 8. Welders/Fitters Guide | John P Stewart |
| 9. Westermen table | |
| 10. Metal table | |