SYLLABUS FOR BAR BENDING &
STEEL FIXING TRADE

CONTENTS

1. Introduction to L&T - ECCG
2. Introduction to the Trade
3. Introduction to Trade Glossary
4. Introduction to Tools & Equipment
5. Documentation
6. Materials
7. Testing
8. Safety
9. Practice Modules
10. Introduction to Trade on Job Site
11. Overall Revision
12. Final Testing
SYLLABUS FOR BAR BENDING & STEEL FIXING TRADE

Duration at Skills Training Institute: 600 Hrs
(Spread in three months)

1. Introduction to L&T / ECCG: 3 Hrs
2. Introduction to the Trade: 3 Hrs
3. Introduction to Trade Glossary: 6 Hrs
4. Introduction to Tools & Equipment: 12 Hrs
   - Hand tools of the trade
   - Working table
   - Bar bending machine
   - Bar cutters
   - Pins for manual bending
   - Bench Grinder
   - Drilling machine
   - Slings & strong back
5. **Documentation**
   - Cutting List
   - Shapes & Codes schedule
   - Bar schedules
   - Time sheets
   - Log books
   - Store requisition
   - Working manual
   - Plans & detailed RC drawings

6. **Materials**
   - Tying wire
   - Types of steel
   - Spacers
   - Mesh fabric reinforcement
   - Markers
   - Tags
   - Timber Battens

7. **Testing**
   - Stability
   - Rigidity
   - Setting out
   - Sequence of erection
   - Flat plane
   - All ties test
   - Check verticality
   - Diagonal cheek
   - Spacers
   - Anchorage
8. Safety

- Health & Safety
- Eye protection
- Hand & Foot protection
- Overall personal safety
- Moving
- Lifting
- Carrying
- Stacking
- Working at heights
- Electricity

9. Practice Modules

- **F1. Ties**
  - Practice rack of ties
  - Use of cutting list
  - Basic measurement
  - Marking out
  - Identification of steel
  - Correct size formers

- **F2. Selection Steel**
  - Types of Steel
  - Use of cutting list
  - Basic measurement
  - Marking out
  - Identification of steel
  - Correct size formers
  - Awareness of tolerance
F3. Straightening : 14 Hrs
- Use of straightening tools
- Use of straight edge
- Classification before stacking
- Straightening bars with bends
- Straightening bars in coils

F4. Bending Links / Hooks : 14 Hrs
- Basic marking out
- Use of formulae
- Use of hand tools
- Selection of formers
- Setup bar bender
- Awareness of tolerance

F5. Bending Cranks / Shear Bars & Chair : 14 Hrs
- Basic marking out
- Use of formulae, schedules
- Use of hand tools
- Sequence of constructions
- Selection of formers
- Setup bar bender
- Awareness of tolerance

F6. Prefabricate precast elements (Slab) : 14 Hrs
- Read & understand precast drawing & schedule
- Interpret number of repetitions, mirror images
- Form mats with end hooks
- Understand tolerance
- Safety
- Site tidiness
• **F7.** Prefabricate cage for beam : 28 Hrs
  - Read & understand drawing & schedule
  - Basic marking out
  - Use of hand tools
  - Selection of formers
  - Using closed four sided stirrups
  - Awareness of tolerance
  - Safety
  - Site tidiness

• **F8.** Prefabricate Cage for Beam with Shear Bars : 32 Hrs
  - Read & understand drawing & schedule
  - Basic marking out
  - Use of hand tools
  - Selection of formers
  - Using closed four sided stirrups
  - Form cage for beam
  - Using additional crank bars
  - Awareness of tolerance
  - Safety
  - Site tidiness

• **F9.** Prefabricate Cage for Column & Base & Set in to position : 32 Hrs
  - Read & understand drawing & schedule
  - Basic marking out
  - Use of hand tools
  - Selection of formers
  - Using closed four sided stirrups
  - Form cage for column
  - Using base & starter bars
  - Awareness of tolerance
  - Safety
  - Site tidiness
• **F10. Prefabricate Cage for Column incorporating Corbels**
  - Read & understand drawing & schedule
  - Basic marking out
  - Use of hand tools
  - Selection of formers
  - Using closed four sided stirrups
  - Form cage for column
  - Using bracket bars
  - Awareness of tolerance
  - Safety
  - Site tidiness
  - 32 Hrs

• **F11. Prefabricate Cage for Column incorporating Crank Bars**
  - Read & understand drawing & schedule
  - Basic marking out
  - Use of hand tools
  - Selection of formers
  - Using closed four sided stirrups
  - Form cage for column
  - Using crank bars
  - Awareness of tolerance
  - Safety
  - Site tidiness
  - 32 Hrs

• **F12. Prefabricate Cage for Beam with Alteration in Section Along Length**
  - Read & understand drawing & schedule
  - Basic marking out
  - Use of hand tools
  - Selection of formers
  - Using closed four sided stirrups
  - Introducing new bars
  - Understanding size alterations
  - 32 Hrs
• Using crank bars
• Awareness of tolerance
• Safety
• Site tidiness

• F13. Lap length to fabricate weld : 14 Hrs
  • Read & understand drawing & schedule
  • Basic marking out
  • Use of hand tools
  • Selection of formers
  • Introducing new bars
  • Understanding requirement of laps
  • Measure and cut lap length
  • Awareness of tolerance
  • Safety
  • Site tidiness

• F14. Prefabricate & set in-situ
  Cage for Staircase : 28 Hrs
  • Read & understand drawing & schedule
  • Basic marking out
  • Use of hand tools
  • Selection of formers
  • Introducing new bars
  • Understanding requirement of laps
  • Understand required angle and slope
  • Understand base and starter bars
  • Measure and cut lap length
  • Awareness of tolerance
  • Safety
  • Site tidiness
F15. Prefabricate Cage for Beam with Stub Column

- Read & understand drawing & schedule
- Basic marking out
- Use of hand tools
- Selection of formers
- Using closed four sided stirrups
- Form cage for column
- Understand base and starter bars for stub column
- Awareness of tolerance
- Safety
- Site tidiness

10. Introduction to Trade on Job Site : 64 Hrs

11. Revision : 60 Hrs

12. Final Testing & Evaluation : 24 Hrs