

**Course Information Sheet****Course Name: Agricultural Structures Design and Fabrication****Instructional Material: iCEV****First Semester:**

Week	Topic/Unit
1	Introduction to Ag Structures Design & Fabrication
2	Safety & Tool Identification for Construction
3	Reading & Interpreting Blueprints & Plans
4	Surveying & Site Preparation
5	Foundation & Concrete Work
6	Wood Framing: Walls, Floors, & Ceilings
7	Truss & Roof Construction
8	Sheathing & Roofing Materials
9	Structural Materials: Wood, Metal, & Concrete
10	Metal Framing & Cold-Formed Steel Construction
11	Welding for Structural Fabrication
12	Fasteners & Connections for Metal Structures
13	Building Codes & Regulations
14	Fence Construction: Wood, Wire, & Metal
15	Building a Simple Shed or Storage Structure
16	Electrical Systems for Agricultural Buildings
17	Plumbing Systems for Agricultural Buildings
18	Final Review & Fall Semester Wrap-up

**Second Semester:**

Week	Topic/Unit
19	Design Principles for Livestock Facilities
20	Ventilation Systems for Animal & Plant Housing
21	Design & Construction of a Greenhouse
22	Design & Construction of a Hay Barn
23	Design & Construction of a Shop or Storage Building
24	Building Maintenance & Repair
25	Cost Estimation & Project Bidding
26	Computer-Aided Design (CAD) for Ag Structures
27	Landscaping & Site Planning
28	Supervised Agricultural Experience (SAE) in Ag Structures
29	Careers in Ag Engineering & Construction
30	Research Project on Sustainable Building Materials
31	Hands-on Project: Framing a Small Structure
32	Hands-on Project: Pouring a Concrete Pad
33	Advanced Joinery & Fabrication Techniques
34	Final Project: Designing & Costing a Small Ag Building
35	Legal & Safety Aspects of Construction
36	Final Review & Spring Semester Wrap-up