

AGRICULTURE BUILDING CONSTRUCTION

DATE:

INDUSTRY SECTOR: Agriculture and Natural Resources Sector

PATHWAY: Agricultural Mechanics

CALPADS TITLE: Intermediate Agricultural Mechanics (Concentrator)

CALPADS CODE: 7121

HOURS:

Total	Classroom	Laboratory/CC/CVE
180	80	100

JOB TITLE	O*NET CODE	JOB TITLE	O*NET CODE
Agricultural Technicians	19-4011.01	Farm and Ranch Managers	11-9013.02
Farmers, Ranchers, and Other Agricultural Managers	11-9013.00	Precision Agriculture Technicians	19-4099.02

COURSE DESCRIPTION:

This is a two semester course that introduces students to hand and machine woodworking equipment, methods, and materials while constructing a variety of wood projects. Casework, door and drawer construction are explored during the second semester. Students will also learn to design, develop, or select approved projects that require working plans, a plan of procedure and a bill of materials. This class is 40% lecture and 60% activity.

A-G APPROVAL: No

ARTICULATION: None

DUAL ENROLLMENT: None

PREREQUISITES:

Prerequisite
none

METHODS OF INSTRUCTION

- Direct instruction
- Group and individual applied projects
- Multimedia
- Demonstration
- Field trips
- Guest speakers

STUDENT EVALUATION:

- Student projects
- Written work
- Exams
- Observation record of student performance
- Completion of assignment

INDUSTRY CERTIFICATION:

- building construction

RECOMMENDED TEXTS:

- Modern Carpentry

PROGRAM OF STUDY

Grade	Fall	Spring	Year	Course Type	Course Name
9, 10, 11, 12				Concentrator	Agriculture Building Construction
10, 11, 12				Capstone	Furniture Construction

I.	TOOL USE AND MAINTENANCE AND SHOP SAFETY UNIT DIRECTORY	CR	Lab/ CC	Standards
	<p>A. Shop Cleaning and Tool Storage</p> <p>B. Shop Safety Practices</p> <p>100. Tool Identification, Safety, and Use</p> <p>D. Tool Selection for the Ag. Mechanics Shop</p> <p>E. Sharpening Hand Tools and Grinder Safety</p> <p>F. Grinder and Wheel Selection</p> <p>G. Tool Sharpening Procedures</p> <p>H. Tool Handle Fitting</p> <p>I. Cutting Tool Construction and Repair</p> <p>J. Unit Exam</p>	15	6	<p>Academic:</p> <p>RLST: 11-12.4, 9-10.3, 9-10.4</p> <p>WS: 9-10.4</p> <p>G-MG: 2</p> <p>G-SRT: 8, 8.1</p> <p>SEP: 1, 2, 3, 4, 5, 6</p> <p>CC: 1, 3, 6</p> <p>ETS: ETS1.A, ETS1.B, ETS1, ETS1.C</p> <p>PE: 12.1.1, 12.1.2, 12.1, 12.2, 12.2.1</p> <p>CTE Anchor:</p> <p>Communications: 2.2, 2.3, 2.6</p> <p>Career Planning and Management: 3.1, 3.2</p> <p>Problem Solving and Critical Thinking: 5.1, 5.2, 5.3, 5.4</p> <p>Health and Safety: 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7</p> <p>Responsibility and Flexibility: 7.3, 7.4, 7.5</p> <p>Ethics and Legal Responsibilities: 8.1</p> <p>Leadership and Teamwork: 9.1, 9.3, 9.9</p> <p>Technical Knowledge and Skills: 10.6, 10.7</p> <p>Demonstration and Application: 11.2</p> <p>CTE Pathway:</p> <p>B1.1, B1.2, B1.3, B2.1, B3.1</p>
II.	MEASUREMENTS	CR	Lab/ CC	Standards
	<p>A. Measurement Systems</p> <p>2. Reading Measuring Tools</p> <p>3. Calipers and Micrometers</p> <p>4. Linear Measurements</p> <p>5. Square Measurements</p> <p>6. Cubic Measurements</p> <p>7. Weights and Measures</p> <p>8. Unit Exam</p>	6	10	<p>Academic:</p> <p>RLST: 11-12.3, 9-10.3, 9-10.4, 9-10.5</p> <p>A-CED: 1</p> <p>A-REI: 3, 3.1</p> <p>F-IF: 4</p> <p>G-CO: 12</p> <p>G-MD: 3</p>

				<p>G-SRT: 8, 8.1 S-IC: 5 S-ID: 1 SEP: 1, 2, 3, 4, 5, 6 CC: 1, 3, 6 ETS: ETS1.B, ETS1, ETS1.C PE: 12.1.2, 12.1, 12.2, 12.2.2, 12.2.3</p> <p>CTE Anchor: Communications: 2.6 Career Planning and Management: 3.1 Technology: 4.1, 4.2, 4.3 Problem Solving and Critical Thinking: 5.1 Leadership and Teamwork: 9.3, 9.9 Technical Knowledge and Skills: 10.1, 10.3, 10.8 Demonstration and Application: 11.2, 11.3</p> <p>CTE Pathway: B2.2</p>
III.	FASTENERS	CR	Lab/ CC	Standards
	<p>A. Types and Uses of Fasteners</p> <p>2. Selecting Fasteners</p>	5	2	<p>Academic: RLST: 9-10.4 WS: 9-10.9 A-CED: 1, 1.1 A-REI: 3 SEP: 1, 2, 3, 4, 5 CC: 1, 2, 6, 7 PS: PS1, PS2, PS2.B, PS3.B, PS3.C, PS3 ETS: ETS1, ETS1.A, ETS1.C</p> <p>CTE Anchor: Communications: 2.2 Technology: 4.1, 4.2, 4.7 Problem Solving and Critical Thinking: 5.4 Health and Safety: 6.6 Responsibility and</p>

				Flexibility: 7.1, 7.3, 7.4 Leadership and Teamwork: 9.7, 9.10 Demonstration and Application: 11.4 CTE Pathway: B1.3, B1.1
IV.	WOODWORKING	CR	Lab/CC	Standards
	A. Selecting Wood & Lumber B. Measuring & Marking Wood C. Woodworking Hand Tools D. Woodworking Power Tools E. Fastening Wood Joints F. Unit Exam	15	40	Academic: RLST: 11-12.3, 11-12.4, 9-10.7 WS: 11-12.4, 9-10.9 A-CED: 1, 1.1 A-APR: 1 A-REI: 3 G-MD: 3 G-SRT: 8, 8.1 SEP: 1, 2, 3, 5, 6 CC: 2, 3, 6 CTE Anchor: Communications: 2.4, 2.5, 2.6 Career Planning and Management: 3.1 Health and Safety: 6.2, 6.4, 6.6, 6.7 Responsibility and Flexibility: 7.5, 7.6 Leadership and Teamwork: 9.1, 9.9, 9.13 Technical Knowledge and Skills: 10.2, 10.3, 10.7 CTE Pathway: B1.1, B2.1, B2.2, B2.3, B2.4
V.	PROJECT DESIGN	CR	Lab/CC	Standards
	A. Preparing a Working Drawing 2. Project Planning & Construction	12	12	Academic: RLST: 11-12.3, 9-10.3, 9-10.4 WS: 9-10.4, 9-10.8, 9-10.9 A-CED: 1, 1.1 A-REI: 3.1, 3 G-CO: 12 G-MD: 3 G-SRT: 8, 8.1 SEP: 1, 2, 3, 5, 6 CC: 1, 2, 3

				PE: 12.1.1, 12.1.2, 12.1, 12.2, 12.2.4, 12.2.6, 12.2.2 CTE Anchor: Health and Safety: 6.4, 6.6 Leadership and Teamwork: 9.7, 9.9 Technical Knowledge and Skills: 10.2, 10.3, 10.6, 10.8 Demonstration and Application: 11.2, 11.3, 11.4 CTE Pathway: B3.5, B12.1, B12.2, B12.3, B12.4, B12.5, B12.6
VI.	CONCRETE/MASONRY	CR	Lab/CC	Standards
	A. Concrete Proportions B. Estimating Concrete Material C. Form Preparation And Reinforcement D. Placing, finishing, and curing Concrete E. Laying Masonry Units F. UNIT EXAM	5	15	Academic: RLST: 11-12.3, 9-10.4, 9-10.5 WS: 11-12.4, 9-10.8, 9-10.9 A-APR: 1 G-CO: 12 G-SRT: 8, 8.1 S-ID: 2 SEP: 1, 2, 3, 5, 6 CC: 1, 2, 6 PE: 12.1.2 CTE Anchor: Career Planning and Management: 3.9 Technology: 4.2, 4.7 Health and Safety: 6.1, 6.2, 6.3, 6.4, 6.5, 6.6 Responsibility and Flexibility: 7.2, 7.3, 7.4 Ethics and Legal Responsibilities: 8.1, 8.4 Leadership and Teamwork: 9.7, 9.10, 9.13 Technical Knowledge and Skills: 10.2, 10.3, 10.6 Demonstration and Application: 11.1,

				11.2, 11.3 CTE Pathway: B1.3, B1.2, B1.1, B6.1, B6.2, B6.3, B12.1, B12.2, B12.3
VII.	PLUMBING	CR	Lab/ CC	Standards
	A. Plumbing Materials B. Plumbing Fittings C. Plumbing Tools D. Installation of a Plumbing Project 5. Unit Exam	7	5	Academic: RLST: 9-10.3, 9-10.4 WS: 9-10.7 A-REI: 3, 3.1 G-MD: 3 G-SRT: 8, 8.1 SEP: 1, 2, 3, 4 CC: 2, 3 CTE Anchor: Career Planning and Management: 3.3, 3.4 Problem Solving and Critical Thinking: 5.1, 5.2, 5.3 Health and Safety: 6.6 Leadership and Teamwork: 9.7, 9.8, 9.11, 9.12 CTE Pathway: B1.2, B4.1, B4.2, B4.3, B12.2, B12.1
VIII.	ELECTRICITY	CR	Lab/ CC	Standards
	1. Principles of Electricity B. Electrical Safety C. Conductors & Overcurrent Protection D. Wire Splices E. Electrical Cord Repair F. Simple Circuit Installation G. Testing Electric Circuits H. Unit Exam	10	5	Academic: RLST: 9-10.3, 9-10.4 WS: 9-10.9 F-IF: 4 SEP: 1, 2, 3, 5, 6 CC: 2, 4, 6, 7 PS: PS3, PS3.A, PS3.B, PS3.C CTE Anchor: Communications: 2.4, 2.5 Career Planning and Management: 3.3, 3.4 Problem Solving and Critical Thinking: 5.2, 5.4 Health and Safety: 6.2, 6.5, 6.6, 6.7 Responsibility and Flexibility: 7.4, 7.7 Ethics and Legal

				Responsibilities: 8.1 Leadership and Teamwork: 9.3 Technical Knowledge and Skills: 10.3, 10.4, 10.6 CTE Pathway: B1.1, B3.1, B3.2, B3.3, B3.4, B3.5, B3.6
IX.	SURVEYING	CR	Lab/CC	Standards
	A. Surveying in Agriculture B. Surveying Equipment C. Land Area Measurements D. Differential Leveling	5	5	Academic: RLST: 11-12.3, 9-10.3 WS: 11-12.4, 9-10.4, 9-10.8, 9-10.9 A-CED: 1, 1.1 A-REI: 3.1, 3 F-IF: 4 G-CO: 12 G-SRT: 8, 8.1 SEP: 1, 3, 4, 5, 6 CC: 1, 3 ETS: ETS1.A, ETS1.B, ETS1.C, ETS1, ETS2, ETS2.A, ETS2.B CTE Anchor: Communications: 2.1, 2.3 Technology: 4.1, 4.7 Problem Solving and Critical Thinking: 5.1, 5.2, 5.3, 5.4 Health and Safety: 6.1, 6.2, 6.3, 6.5 Responsibility and Flexibility: 7.1, 7.3, 7.4 Ethics and Legal Responsibilities: 8.1, 8.4 Leadership and Teamwork: 9.10 Technical Knowledge and Skills: 10.3 CTE Pathway: B1.1, B12.1, B12.2, B12.5, B12.6

Entered by:

District: Santa Maria Joint Union High School District
Contact: Guillermo Guerra, Agriculture Science
Phone: (805) 9372051 x2431
Email: gguerra@smjuhsd.org