

***AGRICULTURAL CONSTRUCTION  
AND MAINTENANCE***

***CAREER DEVELOPMENT EVENT***

*RULES AND REGULATIONS*

*TEAM COMPETITION*



***ALABAMA FFA ASSOCIATION***

# TABLE OF CONTENTS

<b>Purpose .....</b>	<b>3</b>
<b>Eligibility and Regulations .....</b>	<b>3</b>
<b>Disclaimer .....</b>	<b>3</b>
<b>Dress Code.....</b>	<b>3</b>
<b>Alternate Policy.....</b>	<b>4</b>
<b>State Awards/Sponsors .....</b>	<b>4</b>
<b>Instructional Area... ..</b>	<b>4</b>
<b>District Event .....</b>	<b>4</b>
<b>State Event .....</b>	<b>5</b>
<b>Event Scoring .....</b>	<b>6</b>
<b>Tools Needed .....</b>	<b>6</b>
<b>Subject Matter content.....</b>	<b>6</b>
<b>References .....</b>	<b>7</b>
<b>Tabulation Sheet.....</b>	<b>9</b>

Alabama State Department of Education, Dr. Eric G. Mackey, State Superintendent of Education

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**Revised: December 2023**  
**Agricultural Construction and Maintenance CDE**

# AGRICULTURAL CONSTRUCTION AND MAINTENANCE CAREER DEVELOPMENT EVENT

## PURPOSE

This event is designed to provide students of Agriscience Education and members of the FFA an opportunity to compete and demonstrate their skills, abilities and competencies in Agricultural Construction and Maintenance.

## ELIGIBILITY AND REGULATIONS

- For specific Eligibility Rules and Regulations, refer to the Contests and Awards Booklet.
- Only district eliminations will be held prior to the state event.
- The top four winners in the North, Central and South districts will compete in the state finals.
- If a cell phone or smart watch is seen or heard in the possession of a competitor, that individual student will be disqualified from competition and receive a score of zero.
- Competitors must enter their **first and last name** as well as their **chapter number and name** on the scorecard or they will receive a score of zero. Judges will not attempt to figure out who the card belongs to.
- The team will consist of a maximum of four FFA members, grades 7-12. The team's total written test score will be based on the sum of the points earned by the three highest scoring participants on the team.

## DISCLAIMER

In the event that contests (CDE, LDE, TDE's) cannot be held in person, a virtual option may be conducted. Contest rules and guidelines are subject to change to meet the needs of a virtual experience.

## DRESS CODE

Participants must wear closed toed shoes/boots (no sandals, crocs or slides) and long pants (jeans with no holes/ khakis/dress pants) or skirts that cover the knees if not in official dress. Leggings, jogging pants, yoga, lycra, are not permitted. Shirts should be long enough to be tucked in (no crop tops or midriff showing) and not contain vulgar or suggestive material or language. Contest where oral reasons are given should respect the professionalism of the event, and dress aligning with the profession is preferred. Official FFA Dress is an allowable form of dress for all events. Consequences for not being in dress code will be a 25 % deduction in scores

## ALTERNATE POLICY

For district level events, if a chapter brings alternates there will be no more than two alternates allowed per team. Alternates will use a copy of the scan form (not an original) for those events

scored via judgingcard.com. If more than four official scan forms are turned in for a chapter in one event, the highest score(s) for that team will be disqualified and deleted until the chapter only has four team members in the scoring system. Alternates must not be in groups with official team members.

For state level events, alternates are not allowed.

## AWARDS/SPONSOR(S)

Refer to Alabama FFA Contests and Awards Booklet at:  
[http://www.alabamaffa.org/forms\\_applications.htm](http://www.alabamaffa.org/forms_applications.htm)

## INSTRUCTIONAL AREA

The event will be based on the subject matter found in the state approved Course of Study and the Course Outline for Agricultural Construction and Maintenance.

Each participant will compete in all phases of the event.

## DISTRICT EVENT

1. Will be held at regular district eliminations.
2. Event will consist of two (2) phases and will be conducted by qualified personnel.

Written Examination - This phase will consist of 75 multiple choice questions. [One (1) point per question, for a possible 75 points.]

Problem Solving - This phase will consist of identifying materials or solving problems. Each participant will solve 25 problems. [Three (3) points per problem, for a possible 75 points.]

**\*NOTE\*: Members of the same team may not sit next to each other during the written exam or problem-solving phases. Talking is not allowed unless you have a question that needs to be answered by the person in charge.**

3. The participant will have 40 minutes to complete the written exam and 40 minutes to complete the problem solving.
4. Electronic calculators are allowed. **Calculators that can store data are not allowed.**
5. District awards for the Agricultural Construction and Maintenance Event will be the same as other team events.
6. In the event of a tie, the team with the highest combined score in the problem-solving phase will be placed highest. If still tied, the team with the largest number of perfect or most nearly perfect scores in the problem-solving phase will be the winner.
7. High scoring individual will be determined by the combined scores of the written exam and problem-solving phases. In the event of a tie, the individual with the highest score in the problem-solving phase will be the winner. If a tie is still present, then the individual on highest placing team will be the winner.
8. District Tie Breaker: (1<sup>st</sup>) High Individual Total Score; (2<sup>nd</sup>) Highest Problem Solving Score; (3<sup>rd</sup>) Highest Written Exam Score

## STATE EVENT

1. The state event will be held during the State FFA Convention. The team will consist of a maximum of 4 members in all phases of the contest. Only the top three individual scores of each team on the written exam and problem-solving phases will be added to the team's mechanical skills score for the final team score.
2. State event will consist of three (2) phases and will be conducted by qualified personnel.

Problem Solving – This phase will consist of identifying materials or solving problems. Each participant will solve 25 problems. [Three (3) points per problem, for a possible 75 points.] Participants will be given 40 minutes to complete this part of the test.

\*NOTE\*: Members of the same team may not sit next to each other during the written exam or problem-solving phases. Talking is not allowed unless you have a question that needs to be answered by the person in charge.

Mechanical Skills - will be tested as a team activity consisting of all four (4) individuals. System areas/skills that will be needed for the state project will be announced after all District eliminations have been completed so that State Teams can prepare appropriately. The team activity will begin after everyone has finished the written exam and problem-solving phases. All teams will start this activity at the same time. All judges must meet and agree on the top four placings before leaving the contest site. **The skills level portion will not exceed four hours in length.**

\*GRADING SYSTEM FOR MECHANICAL SKILLS PHASE\*-

Option 1: Judges will divide up the building phases among themselves so that the same judges grade the same phase of construction for all teams competing.

Option 2: All judges will work together on all phases, one team at a time, if they choose to do so

3. Electronic calculators are allowed. **Calculators that can store data are not allowed.**
4. **In the event of a tie, the team with the highest combined score in the problem-solving phase will be placed highest. The second tie breaker will be the team that has the highest score in the team activity.**
5. All individual safety equipment will be furnished by the participant for the state event. Hard hat, safety glasses, and closed toe shoes will be required at all times during the Mechanical Skills phase.
6. Most materials will be furnished for the event. Participants may be asked to bring tools and equipment.

7. Teams must have their work area clean before they leave the contest site. Leaving an uncleaned area may result in disqualification. Please check with the contest official to avoid disqualification.

## EVENT SCORING (State Event)

The following is an outline of the event scoring for each individual team member and team activity:

1. Problem Solving  
25 questions @ 3 points per question  
75 points
2. Mechanical Skills will be judged as a group activity. Points possible will be determined by the extent of the activities required.

## TOOLS NEEDED

The list of tools that will be needed to be brought to the STATE event, will be emailed to you after all district contests have been held. Email communications will be sent to advisors prior to the state competition.

## SUBJECT MATTER CONTENT

The following is a list of the subject matter areas along with specific skills, abilities, understandings, and suggested references. The skills noted with the asterisks (\*) indicate specific activities that are suitable for skills or “hands-on” activities of the event. References listed are suggested guides for study in preparation for the event. Examination questions and problem-solving activities will be selected from the references listed and Agribusiness Performance Based Curriculum Guides.

## REFERENCES

The most current edition of the following references will be used.

### CARPENTRY

*Modern Carpentry,*  
Goodheart-Willcox Company  
123 West Taft Drive  
South Holland, Illinois 60473

*Carpentry and Building Construction*  
Glencoe/McGraw-Hill  
6510 Jimmy Carter Boulevard  
Norcross, Georgia 35071

## KNOWLEDGE AND SKILLS AREAS

1. Communications through Drawings\*
2. Sketching and Drawing\*
3. Setting Up and Adjusting the Builder's Level\*
4. Setting Up and Adjusting the Transit Level\*
5. Boring and Cutting Holes\*
6. Driving and Setting Nails\*
7. Hand Tools, Their Uses and Care
8. Power Woodworking Tools, Their Uses and Care
9. Safety Rules (In All Areas)
10. Laying Out Building Site with Builder's Level\*
11. Laying Out Building Site with Transit Level\*
12. Footings and Foundations\*
13. Using Plot Plan Data
14. Identifying and Constructing Framing Components\*
15. Roof Framing\*
16. Scaffolds and Ladders
17. Floor Framing and Subfloors\*
18. Roofing Materials\*
19. Exterior Wall Finishes
20. Thermal and Sound Insulation\*
21. Stair Construction\*
22. Interior Walls and Ceiling Finish\*
23. Interior Doors and Window Trim\*
24. Built-ins and Cabinets\*
25. Chimneys and Fire Places\*
26. Laying Out and Installing Roofs
27. Installing Prefabricated Siding
28. Use Architectural Engineers Scale
29. Wiring Circuits
30. Using Simple Circuit Schematics
31. Drawing Electrical Diagrams
32. Estimating Cost of Labor and Materials
33. Planning and Installing Conduit
34. Masonry Construction\*
35. Estimating Masonry Materials and Labor Costs\*
36. Heating and Cooling\*
37. Painting and Wood Finishing\*
38. Employability Skills

Roof Framing, Floor Framing, Wall Framing, and Ceiling Framing

American Association for Vocational  
Instructional Materials (AAVIM)  
745 Gaines School Road  
Athens, Georgia 30605

**CABINETMAKING**

Cabinetmaking and Millwork

Glencoe/McGraw-Hill  
6510 Jimmy Carter Boulevard  
Norcross, Georgia 35071

**BLUEPRINT READING**

Residential Print Reading

American Technical Publications and Print

1155 West 175th Street  
Homewood, Illinois 60430

**ELECTRICITY**

Modern Residential Wiring

Goodheart-Willcox Company  
123 West Taft Drive  
South Holland, Illinois 60473

Electrical Wiring

American Association for Vocational  
Instructional Materials (AAVIM)  
745 Gaines School Road  
Birmingham, Alabama 35291-0630

**SURVEYING**

Elementary Surveying

Agriscience Education  
3410 Skyway Drive  
Auburn, Alabama 36830-6444

**MASONRY**

Masonry Skills, 1990 Edition

Delmar Publishers Inc.  
Marketing Services  
2 Computer Drive, West  
Box 15051  
Albany, New York 12214-5015

Concrete Transparency Masters

Agriscience Education  
3410 Skyway Drive  
Auburn, Alabama 36830-6444

*Modern Masonry*

Goodheart-Willcox Company  
123 West Taft Drive  
South Holland, Illinois 60473

*Mechanics in Agriculture*

The Interstate Printers and Publishers  
19-27 North Jackson Street  
Danville, Illinois 61832



# TEAM TABULATION SHEET (District)

## AGRICULTURAL CONSTRUCTION & MAINTENANCE CAREER DEVELOPMENT EVENT

CHAPTER \_\_\_\_\_

Participant	Participant Number	Event Phase	Participant Score	Participant Total
Name of Participant # 1		Written Exam (75 points)		
		Problem Solving (75 points)		
		<b>Participant # 1's Total</b> (Maximum score possible is 150 points.)		
Name of Participant # 2		Written Exam (75 points)		
		Problem Solving (75 points)		
		<b>Participant # 2's Total</b> (Maximum score possible is 150 points.)		
Name of Participant # 3		Written Exam (75 points)		
		Problem Solving (75 points)		
		<b>Participant # 3's Total</b> (Maximum score possible is 150 points.)		
Name of Participant # 4		Written Exam (75 points)		
		Problem Solving (75 points)		
		<b>Participant # 4's Total</b> (Maximum score possible is 150 points.)		
<b>TEAM RANKING</b>		<b>TOTAL TEAM SCORE</b> (The three highest individual participant scores will make up the team score. Maximum score possible is 450 points.)		

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# TEAM TABULATION SHEET (State)

## AGRICULTURAL CONSTRUCTION & MAINTENANCE CAREER DEVELOPMENT EVENT

CHAPTER \_\_\_\_\_

Participant	Participant Number	Event Phase	Participant Score	Participant Total
Name of Participant # 1		<b>Problem Solving</b> (75 points)		
		<b>Participant # 1's Total</b> (Maximum score possible is 150 points.)		
Name of Participant # 2		<b>Problem Solving</b> (75 points)		
		<b>Participant # 2's Total</b> (Maximum score possible is 150 points.)		
Name of Participant # 3		<b>Problem Solving</b> (75 points)		
		<b>Participant # 3's Total</b> (Maximum score possible is 150 points.)		
Name of Participant # 4		<b>Problem Solving</b> (75 points)		
		<b>Participant # 4's Total</b> (Maximum score possible is 150 points.)		
Team Event		<b>Points to be determined based on activity</b>		
<b>TEAM RANKING</b>		<b>TOTAL TEAM SCORE</b> (The three highest individual participant scores will make up the team score. Maximum score possible is 450 points.)		

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