


## 2019 Career Development Event Rules and Regulations

### *Food Science*

		
Maximum Number of Team Members	4	
Number of Team Members Scored	4	
Maximum Number of Team Members (middle school)	4	
Number of Team Members Scored (middle school)	4	
Scantron	Horticulture – CDE# 105482	
<b>Committee:</b> Kelsey Flinn Charity Marstiller John Kessel Mary Phillips Carol Webb		

#### **Purpose**

The food science and technology career development event is designed to promote learning activities in food science and technology related to the food industry and to assist students in developing practical knowledge of principles used in a team decision-making process.

#### **Objectives**

- a. To encourage FFA members to gain an awareness of career and professional opportunities in the field of food science and technology.
- b. To provide FFA members with the opportunity to experience group participation and leadership responsibilities in a competitive food science and technology program.
- c. To help FFA members develop technical competence and personal initiative in a food science and technology occupation.

#### **Event Rules**

- a. Team make-up- The team will consist of four members with all four members' scores being totaled for the team score.

#### **Event Format**

- A. The food science and technology career development event will consist of three activities: an objective test, a food safety and quality practicum and a sensory evaluation practicum.
- B. All team members will participate in all of the activities.
- C. Allergy Information: Food products used in this event may contain or come in contact with potential allergens. Advisors must submit a special needs request form for participants with any allergies with certification. The event committee will make all reasonable efforts to accommodate students with food allergies.
- D. Each participant must provide:
  - i. A clipboard that is clean and free of notes.

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- ii. Two sharpened No. 2 pencils.
  - iii. Electronic calculator- Calculators used in this event should be non-programmable and non-graphing. Calculators should have only basic functions such as addition, subtraction, multiplication, division, equals, percent, square root, +/- key. No other calculators are allowed to be used during the event including cell phones.
2. Individual Activities
- a. Objective Test  
The objective questions administered during the food science and technology examination will be designed to determine each team member's understanding of the basic principles of food science and technology. The test will be primarily based on the list of references at the end of this chapter.
    - ii. Team members will work individually to answer each of the 50 questions. Each person will have 60 minutes to complete the examination. Each question will be worth 3 points, for a total of 150 points.
    - iii. Middle school team members will work individually to answer each of the 25 questions. Each person will have 60 minutes to complete the examination. Each question will be worth 3 point, for a total of 75 points.
3. Practicums—Each team member will complete all parts of both practicums.
- a. Food Safety and Quality Practicum- 50 points
    - i. Customer Inquiry- Each participant will be given five scenarios representing general consumer inquiries. Participants must determine if the consumer inquiry reflects a quality or safety issue and determine if it is a biological, chemical or physical concern or hazard. (25 points)
    - ii. Food Safety/Sanitation- Each participant will be given ten situations (e.g., photos, videos, written scenarios, live demonstrations or a combination). A numbered list of problems will be provided at the beginning of this practicum segment. The list will contain concepts such as good manufacturing practices (GMP), sanitation, food handling/storage and other pre-requisite programs. Participants will identify if there is a violation presented in the situation. If participants decide that there is a violation, they will indicate the number of the violation from the list of problems provided. (25 points)
4. Sensory Evaluation Practicum- 50 points
- a. Triangle Tests- Three different triangle tests will be conducted. Participants are expected to identify the different samples through flavor, aroma, visual cues and/or textural differences. Answers will be given on the sheet provided. No list will be provided for this segment of the practicum. Each test is worth 5 points. (15 points)
  - b. Aromas- Each participant will be asked to identify four different aromas from vials provided at each station and record the answer on the sheet provided. A list of potential aromas will be provided to each person. Each sample is worth 5 points. (20 points)

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### Aromas

Cinnamon	Orange	Menthol	Molasses
Chocolate	Vanilla	Grape	Wintergreen
Maple	Smoke (liquid)	Garlic	Banana
Oregano	Cherry	Peppermint	Coconut
Basil	Pine	Clove	Lilac
Lemon	Onion	Nutmeg	Raspberry
Lime	Butter	Ginger	Strawberry
			Licorice (anise)

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VI. Scoring			
Section	Time Allowed	Section Points	Total Points
Individual Activities			
Objective Test	60 minutes		150
Food Safety and Quality Practicum			50
Customer Inquiry		25	
Food Safety/Sanitation		25	
Sensory Evaluation			35
Triangle Tests		15	
Aromas		20	
Total Individual Points			235
Individual Points (150 pts x 4 members)			940

### Tiebreakers

- A. Team: Should a tie occur in the overall team placing, the tie will be broken by the highest number of total points earned from the objective test (adding all four team member scores) will break the tie. If a second tiebreaker is needed, the total points earned by the team in the food safety and quality practicum will be used.
- B. Individual: To identify the high individual for this event in case of a tie, the highest objective test score will be used as the first tiebreaker, followed by the highest food safety and quality practicum score as the second tiebreaker.

### References

This list of references is not intended to be all-inclusive. Other sources may be utilized, and teachers are encouraged to make use of the very best instructional materials available. The following list contains references that may prove helpful during event preparation.

National FFA Core Catalog—CDE Questions and Answers <http://shop.ffa.org/cde-qas-c1413.aspx>

Mehas and Rodgers, 5th Edition, 2006. Kay Yockey Mehas and Sharon Lesley Rodgers, Glencoe/McGraw, New York.

Food Science and Safety, 2nd Edition, 2004, George J. Seperich, Pearson Publishers  
Principles of Food Sanitation, 5th Edition, 2006, Norman G. Marriott and Robert B. Gravani, Springer Science + Business Media, Inc.

Institute of Food Technology website, <http://www.ift.org>

USDA Food Safety and Inspection Service website, <http://www.fsis.usda.gov>

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Penn State Kitchen Chemistry: Experiments, resources and materials for educators and students,  
<http://foodscience.psu.edu/public/kitchen-chemistry>

Food Safety Education, [http://www.fsis.usda.gov/food\\_safety\\_education/for\\_kids\\_&\\_teens/index.asp](http://www.fsis.usda.gov/food_safety_education/for_kids_&_teens/index.asp)

Partnership for Food Safety Education, <http://www.fightbac.org>

FoodSafety.gov, <http://www.foodsafety.gov>



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**HORTICULTURE**  
CDE# 105482

Team Name

This sheet is for demonstration and practice only. You must use a real scan sheet for actual competition.

Incorrect Marks:  Correct Mark: 

Team Number	State	Last Name	First Name
0 0 0 0			
1 1 1 1	A	A A A A A A A A A A A A	A A A A A A A A
2 2 2 2	B	B B B B B B B B B B B B	B B B B B B B B
3 3 3 3	C	C C C C C C C C C C C C	C C C C C C C C
4 4 4 4	D	D D D D D D D D D D D D	D D D D D D D D
5 5 5 5	E	E E E E E E E E E E E E	E E E E E E E E
6 6 6 6	F	F F F F F F F F F F F F	F F F F F F F F
7 7 7 7	G	G G G G G G G G G G G G	G G G G G G G G
8 8 8 8	H	H H H H H H H H H H H H	H H H H H H H H
9 9 9 9	I	I I I I I I I I I I I I	I I I I I I I I
	J	J J J J J J J J J J J J	J J J J J J J J
	K	K K K K K K K K K K K K	K K K K K K K K
	L	L L L L L L L L L L L L	L L L L L L L L
	M	M M M M M M M M M M M M	M M M M M M M M
	N	N N N N N N N N N N N N	N N N N N N N N
	O	O O O O O O O O O O O O	O O O O O O O O
	P	P P P P P P P P P P P P	P P P P P P P P
	Q	Q Q Q Q Q Q Q Q Q Q Q Q	Q Q Q Q Q Q Q Q
	R	R R R R R R R R R R R R	R R R R R R R R
	S	S S S S S S S S S S S S	S S S S S S S S
	T	T T T T T T T T T T T T	T T T T T T T T
	U	U U U U U U U U U U U U	U U U U U U U U
	V	V V V V V V V V V V V V	V V V V V V V V
	W	W W W W W W W W W W W W	W W W W W W W W
	X	X X X X X X X X X X X X	X X X X X X X X
	Y	Y Y Y Y Y Y Y Y Y Y Y Y	Y Y Y Y Y Y Y Y
	Z	Z Z Z Z Z Z Z Z Z Z Z Z	Z Z Z Z Z Z Z Z

Code
0 0
1 1
2 2
3 3
4 4
5 5
6 6
7 7
8 8
9 9

Team Activity	
Team	Ind.
0 0 0 0 0 0 0	
1 1 1 1 1 1 1	
2 2 2 2 2 2 2	
3 3 3 3 3 3 3	
4 4 4 4 4 4 4	
5 5 5 5 5 5 5	
6 6 6 6 6 6 6	
7 7 7 7 7 7 7	
8 8 8 8 8 8 8	
9 9 9 9 9 9 9	

Practiours (Judges)					
1	2	3	4	5	6
0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0					
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1					
2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2					
3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3					
4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4					
5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5					
6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6					
7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7					
8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8					
9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9					

Assessment and Solution									
1 A B C D	6 A B C D	11 A B C D	16 A B C D	21 A B C D					
2 A B C D	7 A B C D	12 A B C D	17 A B C D	22 A B C D					
3 A B C D	8 A B C D	13 A B C D	18 A B C D	23 A B C D					
4 A B C D	9 A B C D	14 A B C D	19 A B C D	24 A B C D					
5 A B C D	10 A B C D	15 A B C D	20 A B C D	25 A B C D					

Placing Classes												
Place	Class	Class									Place	
		1	2	3	4	5	6	7	8	9		
1	1234										1234	1
2	1243										1243	2
3	1324										1324	3
4	1342										1342	4
5	1423										1423	5
6	1432										1432	6
7	2134										2134	7
8	2143										2143	8
9	2314										2314	9
10	2341										2341	10
11	2413										2413	11
12	2431										2431	12
13	3124										3124	13
14	3142										3142	14
15	3214										3214	15
16	3241										3241	16
17	3412										3412	17
18	3421										3421	18
19	4123										4123	19
20	4132										4132	20
21	4213										4213	21
22	4231										4231	22
23	4312										4312	23
24	4321										4321	24

Exam		Exam 2/Team	
1	A B C D 26	A B C D	1 A B C D
2	A B C D 27	A B C D	2 A B C D
3	A B C D 28	A B C D	3 A B C D
4	A B C D 29	A B C D	4 A B C D
5	A B C D 30	A B C D	5 A B C D
6	A B C D 31	A B C D	6 A B C D
7	A B C D 32	A B C D	7 A B C D
8	A B C D 33	A B C D	8 A B C D
9	A B C D 34	A B C D	9 A B C D
10	A B C D 35	A B C D	10 A B C D
11	A B C D 36	A B C D	11 A B C D
12	A B C D 37	A B C D	12 A B C D
13	A B C D 38	A B C D	13 A B C D
14	A B C D 39	A B C D	14 A B C D
15	A B C D 40	A B C D	15 A B C D
16	A B C D 41	A B C D	16 A B C D
17	A B C D 42	A B C D	17 A B C D
18	A B C D 43	A B C D	18 A B C D
19	A B C D 44	A B C D	19 A B C D
20	A B C D 45	A B C D	20 A B C D
21	A B C D 46	A B C D	21 A B C D
22	A B C D 47	A B C D	22 A B C D
23	A B C D 48	A B C D	23 A B C D
24	A B C D 49	A B C D	24 A B C D
25	A B C D 50	A B C D	25 A B C D

Identification A																									
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Number of Specimen	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
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	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	
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6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	
7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	
8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	
9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	
26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	

Identification B																									
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Number of Specimen	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
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	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	
	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	
	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	
	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	
	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	
	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	
26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
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4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	
5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	
6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	
7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	
8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	
9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	
26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	

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### Food Science and Technology CDE- Customer Inquiry Scorecard

Name: \_\_\_\_\_ Participant #: \_\_\_\_\_

		Points Possible	Points Earned
Scenario # 1 This issue represented in this scenario is a:	(Check only one)	2	
Food Quality Issue	_____		
Food Safety Issue	_____		
Is the concern or hazard primarily:	(Check only one)	3	
Biological	_____		
Chemical	_____		
Physical	_____		
Scenario # 2 This issue represented in this scenario is a:	(Check only one)	2	
Food Quality Issue	_____		
Food Safety Issue	_____		
Is the concern or hazard primarily:	(Check only one)	3	
Biological	_____		
Chemical	_____		
Physical	_____		
Scenario # 3 This issue represented in this scenario is a:	(Check only one)	2	
Food Quality Issue	_____		
Food Safety Issue	_____		
Is the concern or hazard primarily:	(Check only one)	3	
Biological	_____		
Chemical	_____		
Physical	_____		
Scenario # 4 This issue represented in this scenario is a:	(Check only one)	2	
Food Quality Issue	_____		
Food Safety Issue	_____		
Is the concern or hazard primarily:	(Check only one)	3	
Biological	_____		
Chemical	_____		
Physical	_____		
Scenario # 5 This issue represented in this scenario is a:	(Check only one)	2	
Food Quality Issue	_____		
Food Safety Issue	_____		
Is the concern or hazard primarily: (Check only one)	(Check only one)	3	
Biological	_____		
Chemical	_____		
Physical	_____		
<b>TOTAL</b>		<b>25</b>	



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Food Science and Technology CDE  
Food Safety and Sanitation Scorecard

Name: \_\_\_\_\_ Participant #: \_\_\_\_\_

Situation # 1 – The situation depicts a violation of GMP, sanitation and/or food handling/storage (1 point). 1a) Yes _____ 1b) No _____ If yes, list the item number that would best apply from the list of guidelines provided (1.5 points): 1c) _____
Situation # 2 – The situation depicts a violation of GMP, sanitation and/or food handling/storage (1 point). 2a) Yes _____ 2b) No _____ If yes, list the item number that would best apply from the list of guidelines provided (1.5 points): 2c) _____
Situation # 3 – The situation depicts a violation of GMP, sanitation and/or food handling/storage (1 point). 3a) Yes _____ 3b) No _____ If yes, list the item number that would best apply from the list of guidelines provided (1.5 points): 3c) _____
Situation # 4 – The situation depicts a violation of GMP, sanitation and/or food handling/storage (1 point). 4a) Yes _____ 4b) No _____ If yes, list the item number that would best apply from the list of guidelines provided (1.5 points): 4c) _____
Situation # 5 – The situation depicts a violation of GMP, sanitation and/or food handling/storage (1 point). 5a) Yes _____ 5b) No _____ If yes, list the item number that would best apply from the list of guidelines provided (1.5 points): 5c) _____
Situation # 6 – The situation depicts a violation of GMP, sanitation and/or food handling/storage (1 point). 6a) Yes _____ 6b) No _____ If yes, list the item number that would best apply from the list of guidelines provided (1.5 points): 6c) _____
Situation # 7 – The situation depicts a violation of GMP, sanitation and/or food handling/storage (1 point). 7a) Yes _____ 7b) No _____ If yes, list the item number that would best apply from the list of guidelines provided (1.5 points): 7c) _____
Situation # 8 – The situation depicts a violation of GMP, sanitation and/or food handling/storage (1 point). 8a) Yes _____ 8b) No _____ If yes, list the item number that would best apply from the list of guidelines provided (1.5 points): 8c) _____
Situation # 9 – The situation depicts a violation of GMP, sanitation and/or food handling/storage (1 point). 9a) Yes _____ 9b) No _____ If yes, list the item number that would best apply from the list of guidelines provided (1.5 points): 9c) _____
Situation # 10 – The situation depicts a violation of GMP, sanitation and/or food handling/storage (1 point). 10a) Yes _____ 10b) No _____ If yes, list the item number that would best apply from the list of guidelines provided (1.5 points): 10c) _____
TOTAL: _____ / 25 Possible