

To: Maryland FFA Advisors
From: Mrs. Ann Platou, Superintendent
Ref: 2022 Maryland FFA Food Science CDE

Advisors,

I look forward to working with your students at the Maryland FFA Food Science CDE on Saturday, April 2, 2022 at Westminster High School.

We will try to run the event as close to the National FFA Food Science CDE as possible. I have included in the information below the outline for individual practicums students will be doing as well as the team activity. There many resources for this event along with past exams and practicums posted on the National FFA CDE site.

Team makeup — The team will consist of four members with all four members' scores being totaled for the team score. Participants are expected to wear FFA Official Dress for this event. Scantron Form 713-3 will be used for this event.

Teams and/or individuals will not be permitted to use electronic media during the event, unless provided by Maryland FFA. This includes, but is not limited to, cell phones, mp3 players, cameras, etc. *Any participant in possession of an unauthorized electronic device, except a calculator, in the event area is subject to disqualification.*

Allergy Information: Food products used in this event may contain or meet potential allergens. Advisors must submit a special needs request form for participants with any allergies with team certification. This request must be completed in accordance to the special needs process by March 1st. The event committee will make all reasonable efforts to accommodate students with food allergies.

Each participant must provide these items: A clipboard that is clean and free of notes. Two sharpened No. 2 pencils. Electronic calculator — Calculators used in this event must 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 can be used during the event including cell phones.

Team Product Development Project (400 points possible per team) Each team will receive a product development scenario describing the need for a **new shelf-stable, non-nut, retail snack** that appeals to a potential market segment. The team's task will be to design a new food product or reformulate an existing product based on information contained within the product development scenario. Each team will be provided with packaging materials, ingredients and necessary ingredient information to develop, label and package a product. The team will have 60 minutes to respond to the product development scenario and reformulate or develop a product, calculate a nutritional label, develop the ingredient statement and information panel, and develop the front or principle display panel to reflect the new product.

Food Safety/Sanitation Team activity (100 points possible per team) Each team will be given a situation (e.g., photos, videos, written scenarios, live demonstrations or a combination). The team will work together to evaluate the situation and complete a safety/sanitation report evaluation that will include observations, degree of concern and recommendations/corrective actions. (80 points) Students will be evaluated on teamwork as well as their safety/sanitation report. (20 points) Scoring criteria can be found on the Team Activity Preparation Rubric at www.ffa.org/cde/foodscience.

INDIVIDUAL ACTIVITIES

OBJECTIVE TEST (150 points possible per individual)

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 created using the textbooks and websites specified in the reference section. 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 three points, for a total of 150 points.

PRACTICUMS

1. Problem Solving/Math Practicum (25 points possible per individual)

Participants will answer a series of five mathematical calculations based on common food science themes. Questions may include nutrition calculations, ingredient quantity, cost benefit analysis, estimation of cost/margin of goods sold, conversions, processing conditions, etc.

2. Food Safety and Quality Practicums (50 points)

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 (two points per scenario) and determine if it is a biological, chemical or physical concern or hazard (three points per scenario). This is for a total of 25 points.

PRODUCT SPECIFICATION COMPLIANCE

Students will be given sample sets (actual products and/or data sets) and will be responsible for determining compliance with the provided specification requirements. This may include, but is not limited to, determining if the products are within the net weight standards, product sizing requirements, pH, color analysis, viscosity measurement, fill level tolerances, packaging specification compliance, etc. Participants will be asked five questions regarding potential compliance violations presented within the sample set. (25 points)

3. SENSORY EVALUATION PRACTICUMS (40 POINTS)

Triangle Tests

Four 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 five points. (20 points)

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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|---------------------|-------------------|
| 10.Apple | 26.Maple |
| 11.Banana | 27.Molasses |
| 12.Basil | 28.Nutmeg |
| 13.Butter | 29.Onion |
| 14.Cherry | 30.Orange |
| 15.Chocolate | 31.Oregano |
| 16.Cinnamon | 32.Peach |
| 17.Clove | 33.Peppermint |
| 18.Coconut | 34.Raspberry |
| 19.Coffee | 35.Sage |
| 20.Garlic | 36.Smoke (liquid) |
| 21.Ginger | 37.Strawberry |
| 22.Grape | 38.Vanilla |
| 23.Lemon | 39.Watermelon |
| 24.Licorice (anise) | 40.Wintergreen |
| 25.Lime | |