

**Food Science and Technology**  
**Tuesday, April 30, 2024**  
**K-State Union Ballroom**  
**Time of check-in: 7:15 – 8:00 a.m.**  
**8:00 a.m.**  
**Dr. Kelly Getty (kgetty@ksu.edu)**  
**Dan Moser (dmoser@ksu.edu)**  
**National Revised: March 2022**

MAKE SURE TO PUT THE 4-DIGIT NUMBER BESIDE KS ON YOUR SCORE CARD AS THE  
TEAM NUMBER (#)

EXAMPLE: KS0143

TEAM NUMBER IS 0143

### **General Information**

Team information (The team will consist of 4 members with all 4 team members' scores being totaled.)

Is official dress required for your event: No

Equipment needed – Each participant must provide:

- 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 are allowed to be used during the event including cell phones.

Other general announcements (updates, changes, phone rules, etc)

Teams and/or individuals will not be permitted to use electronic media during the event.

- This includes but is not limited to cell phones, mp3 players, cameras, etc.
- Any participant in possession of an electronic device, except a calculator, in the event area is subject to disqualification.

- Allergy Information: Food products used in this event may contain or come in contact with potential allergens. Advisors must contact Dr. Getty for names of participants that have allergens with supporting documentation from medical personnel. The committee will make all reasonable efforts to accommodate students with food allergies.

### **Sections/points for each section**

This event will have 6 activities:

#### **A. Objective Test (150 points)**

a. 50 multiple-choice questions covering the basic principles of food science and technology. Each question will be worth 3 points. Each person will have 60 minutes to complete the examination.

#### **B. Problem Solving/Math Practicum (25 points. Each question will be worth 5 points).**

a. 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.

#### **C. Food Safety and Quality Practicums (50 points)**

##### **a. 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). Participants will be given 2 minutes per scenario. This is for a total of 25 points.

##### **b. 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 product(s) is 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. Participants will be given 2 minutes per scenario. This is for a total of 25 points.

#### **D. Sensory Evaluation – Two Practicums (40 points)**

a. Each participant will be asked to identify 4 different aromas from vials. A list of potential aromas will be provided to each person. Samples will be worth 5 points each.

List of Potential Aromas:

Apple, Banana, Basil, Butter, Cherry, Chocolate, Cinnamon, Clove, Coconut, Coffee, Garlic, Ginger, Grape, Lemon, Licorice (anise), Lime, Maple, Molasses, Nutmeg, Onion, Orange, Oregano, Peach, Peppermint, Raspberry, Sage, Smoke (liquid), Strawberry, Vanilla, Watermelon, and Wintergreen

b. A triangle test will be conducted. Participants are expected to identify the different sample through aroma, visual cues, or textural differences. Sample will be worth 20 points.

### **Tiebreakers**

Team and individual tie scores in Food Science and Technology will be broken using the examination score (for teams, all four team member scores will be added) for the first tiebreaker, followed by the highest math practicum score as the second tiebreaker. The third tiebreaker is the customer inquiry score, followed by the product specification compliance practicum as the fourth tiebreaker. The fifth tie breaker will be the aromas score.

Resources: Go to: <https://www.ffa.org/participate/cdes/food-science-and-technology/> to access the National Food Science & Technology CDE information. Only selected portions of the events conducted at the National contest are included in the State event. National FFA has a CDE Questions & Answers kit available that provides practicums, tests and answer keys to most national FFA career development events.