Interactive Virtual Tour Instructor Guide

Kansas State University Food Science Lab

To implement this tour, you will need:

The tour link: https://my.matterport.com/show/?m=gUretWGz7gU

A way for your students to view/interact with the tour:

- Option 1: smartphones with Google Cardboard or other viewers
- Option 2: students view the tours via personal computers or tablets with individual headphones
- Option 3: project the tour on a screen at the front of the room for students to view together

Background Information

The Kansas State University Food Science Lab provides research opportunities in several different disciplines and product areas. Within the food microbiology program, researchers address issues with quality and safety of food products from farm-to-fork. Processing technologies such as irradiation, thermal treatments, chemical washing, and Steam Pasteurization are investigated for food decontamination purposes. These developments are transferred to the food industry.

Purpose Statement and Learning Objectives

The purpose of this iVisit tour is to connect learners with interactive experiences in the Kansas State University (KSU) Food Science Lab. It will also provide insight regarding food safety and quality assurance, career pathways, and research opportunities within the food science sector.

Learning Objectives:

After completing this tour, students will be able to:

- Identify key equipment used in a food science laboratory
- Explore career opportunities in the food science industry

This material is based upon work supported by the National Institute of Food and Agriculture and the U.S. Department of Agriculture, under award number 2021-70003-35432. Created 2025.

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Key Terms

Incubation	*Sterilization*	*Wet Lab*
Inoculation	*Enumeration*	*Homogenizer*
-80° C Freezer	*Biosafety Cabinet*	*Autoclave*
Polymerase Chain Reaction (PCR)	*Immunomagnetic Separation*	

What You and Your Students Will See in the Tour

The tour includes a detailed view of the Kansas State University (KSU) Food Science Laboratory. You can click the white circles along the ground to move through the tour. You may also use the arrow at the top of the screen to click through the tags in numeric order. (This will show up after you click on a tag.) The following outline can be used to help guide students through the tour in numerical order based on utilizing the arrows at the top of the screen. Various information points throughout the tour can be selected by clicking on floating icons. Each icon provides additional information and media around the area. Refer to the following outline to guide students through the tour. You can navigate the tour using different options:

1. By navigating to the first stop, the arrows will be used to progress to upcoming stops throughout the laboratory from beginning to end.
2. Using the floorplan view button near the bottom left corner of the screen.
3. Use the mouse to simply move and look around at leisure. You can click the white circles along the floor to move throughout the tour.

Welcome to The KSU Food Science Lab

Starting point- Front door of KSU Food Science Lab located in Call Hall. Begin by clicking the yellow circle with the arrow.

- Read the introduction and welcome points. Click the link included for supplemental information about the food science laboratory.
- Move inside the door to the red briefcase with the plus icon (Personal Protective Equipment – Stop #2).
    - Take note of all the safety precautions individuals must adhere to upon entering to keep the environment safe and clean.
- Slide over to the Biosafety Cabinets. View the attached media to learn more about biosafety from Dr. Sara Gragg, an Associate Professor of Food Safety and Microbiology at KSU at the time of this tour.
- Pivot to the right to the Eyewash Station.
    - Key Safety Feature.

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- Pivot 180° around to the Biohazardous Bags located on the countertop.
- Move over to the Incubator (Stop #6) to hear Dr. Sara Gragg explain the functions of the incubator in the research process.
- See the Fire Extinguisher located to the right of the Incubator.
- Navigate around the counter to learn more about Student Research Projects from Kellen Marcum.
- Maneuver over to the blue worker icon to hear from Dr. Randy Phebus to learn about his background and involvement within food science.
- Navigate forward to the Microcentrifuge.
    - Spin Samples.
- Navigate slightly over to the KingFisher mL Purification stop and view the media (Stop #11).
    - Dr. Sara Gragg will explain how an antibody purification system works.
- Slide over to the left to the Smasher.
    - View the media to gain more knowledge relating to the homogenizer.
- Move slightly left and view part one of Food Safety Collaboration media discussed by Dr. Randy Phebus.
- Advance to the next stop, to continue learning about Food Safety Collaboration with Dr. Randy Phebus.
- Move to Stop #15 to locate a First Aid Kit in case of an emergency.
- Turn right and advance to the next room to hear Dr. Sara Gragg highlight the uses of the -80° C Freezer.
- Pivot to the left corner of the room to hear firsthand experience from a student worker, Jimeng Bai.
- Slide along the counter left to view media regarding careers in the food science industry.
- Continue left to view the dry block heater.
    - The dry block heater consists of two aluminum blocks that provide a precise temperature for experimentations.
- Advance to the last stop of the tour to hear Dr. Sara Gragg describe the functions of the autoclave machine.

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