



FOOD SCIENCE



Instructors: Mrs. McKinnies & Mrs. Gross

Length: Semester

Credit: 1/2

ADVANCED FOOD SCIENCE COURSE DESCRIPTION: Discover the science behind your favorite foods! How is root beer made? Are all additives bad? Will you get sick if you eat mold? These questions and more will be answered as you investigate principles of food processing and food science. Topics to be covered include food safety and regulations, processing and preservation, product development, and nutritional content of various foods. The course places emphasis on hands-on lab activities and discussion.

Course Description (ISBE ID:18305A001): This course provides learning experiences in food science and safety which allow students to apply scientific knowledge and processes to practices used in the development and preservation of food products. Issues of food science and safety are examined from a scientific and technological perspective. Students critically analyze information to evaluate and draw conclusions on the appropriate use of technology to implement food science and safety practices. Units of instruction include: principles of food preservation, food processing, biochemistry of foods, and food selection and consumer health. Careers to be examined include meat inspector, quality control technician, food processor, and sanitation supervisor. Students will use scientific and technological information about food science and safety as a part of developing career plans and personal viewpoints on societal issues concerning the development and preservation of food products. Improving computer and workplace skills will be a focus. Participation in FFA student organization activities and Supervised Agricultural Experience (SAE) projects is an integral course component for leadership development, career exploration and reinforcement of academic concepts.

Required Supplies:

- 1" or 2" binder
- Sheet protectors
- Set of measuring spoons
- Set of measuring cups

Student Expectations

It is important that students in this class keep an open mind and respect the differences in student ability, backgrounds and beliefs. All students are expected to come to class on time, be prepared, and participate on a daily basis. Students will be expected to follow all rules listed and described in the Steeleville High School Student Handbook. It is expected that students wear appropriate attire (safety glasses, closed-toe shoes, protective clothing, etc.) during shop work. All students enrolled in Food Science are **strongly** encouraged to keep an updated SAE (Supervised Agricultural Experience). Students will be expected to arrive daily with a writing utensil, notepad, and measuring spoons.

Online Learning Expectations for Students Choosing to Remote Learn

- Students are required to sign in daily and participate in classes from 8:13 – 2:30 p.m.
- Teachers will be engaging with in-person students as well as remote learners throughout the day.
- Daily/hourly attendance will be taken and if a student does not sign in and participate he/she will be counted absent and fall under attendance guidelines as outlined in the handbook.
- Parents must be available to communicate with administration and teachers via email or telephone; this is on an as-needed basis.
- Teachers are expected to use Google Meets to livestream their classes with the camera not facing students

Students Quarantined

- Students will participate in remote learning if medically able
- Paper copies will be sent home as needed

Teaching Methods

Agricultural Communications and Leadership is a course taught through a wide variety of

teaching methods, but with a dominant focus through hands-on learning. Students will learn

through class lecture, small group discussion, class debate, laboratory exercises, video, readings, independent study, games, guest speakers, and individual/group projects.

Assessments

Students will be assessed through regular completion of homework, projects, class participation, labs, and Supervised Agriculture Experiences. Quizzes will assess students

throughout each unit and a test will be given upon completion of each unit.

Grading Policy

The school's standard grading scale will be used in the class:

A 89.5% - 100%

B 79.5 – 89.4%

C 69.5% - 79.4%

D 59.5% - 69.4%

F <59.4%

Missed/Late Work

Late homework assignments will automatically be dropped 20% per day, unless prior arrangements have been made or the missed assignment was due to an excused absence. Missed quizzes or tests due to an unexcused absence will result in a zero. Make-up dates will be allowed for all quizzes and tests missed due to an excused absence.

Academic Honesty

Academic integrity is a vital component for individual success within Steeleville's Agriculture Department. Plagiarism and cheating by any student will result in a zero for the grade of the assignment and will follow punishment described in the student handbook.

Text

There is not a textbook for this class. A variety of text material will be given in this course. The primary text material will be MyCaert Agriculture Education State Curriculum readings. Text material will also include, but is not limited to, various

textbook chapters, newspaper clippings, pamphlets, Internet articles, news articles, and short narrative briefs.

FOOD LAB SAFETY: Students are expected to behave in a responsible manner when in the lab.

- Student will wash hands before entering food science lab
- Horseplay will NOT be tolerated
- No student is allowed to use equipment without instructor's approval
- Report all injuries and broken equipment to instructor immediately
- Long hair MUST be pulled back when doing labs

Any violation of these rules can result in removal from the food science lab and alternative arrangements will be made.

**This syllabus and outline is subject to change at the discretion of the instructors.*



Food Science

This outline is subject to change and reorganization.

Week	Unit	Lesson
1	Classroom Procedures	Get to Know You Activity Syllabus/Procedures Google Classroom Food Journal/ Log
2	Food Safety And Lab Protocols	Proper Handwashing Handling Sharps Proper Machine usage
3	Food Measurements/Equipment	Measuring tools How to measure liquids, solids, etc... How to read a recipe/Doubling a recipe Following instructions activity
4	Lab Book	Your binder will serve as a future reference tool! Recipes Conversion Charts Notes Organization
5	Food Science CDE	Objective Test Food Safety and Quality Practicum: Customer Inquiry/Safety and Sanitation Sensory Evaluation
6	Food Science CDE	Team Event Review/Check for Understanding Go over CDE interest/date/time
7	Dairy	Review Breeds/Products/Processing
8	Dairy Foods CDE	Milk Flavors and Scoring Cheese Sample Identification Milk/Milk Products Test Review California Mastitis Test
9	Dairy Foods CDE	Natural vs. Imitation Dairy Products Team Event: sanitation, marketing and distribution, and current issues in dairy health or industry

10	Meats	History/Review: beef, pork, lamb "The Jungle" Reading (???)
11	Meats CDE	Grading/Identification: beef, pork, lamb
12	Meats CDE	Ground Meat Formulation Problem Cookout!
13	Food Processing	Meat: Explain the relationship between quality grades, inspections, and brand names in the meat industry.
14	Food Processing	Identify meat retail and wholesale cuts and location List the products and by-products from meat animals. (4) Describe the processing of meat animals. Dehydrate Meat—Jerky
15	Career Exploration	Ag Explorer Food Science Careers Visit local business, restaurants, grocery stores
16	Etiquette	Become familiar with proper table etiquette. Demonstrate proper table setting using current publications. Demonstrate proper table manners.
17	Sugar!	Sweet Baking Active Ingredients Jobs of Ingredients
18	FINAL EXAM	Review for Exam