

Certification Lessons

Lesson 1: Scientific Principles:
Chemical Properties

Lesson 2: Acids & Bases in
Food Science

Lesson 3: Scientific Principles:
Solutions & Emulsions

Lesson 4: Scientific Principles:
Enzymes

Lesson 5: Chemical Processes in
Food Science

Lesson 6: The Science in Food
Handling & Storage

Lesson 7: The Science in Food
Preservation

Lesson 8: Food Packaging Options
& Guidelines

Lesson 9: Food Industry Safety

Lesson 10: It's Alive!: Foodborne
Illnesses

Lesson 11: Sanitation & Safety
Procedures in Food Production

Lesson 12: Principles of HACCP:
Introduction

Lesson 13: Principles of HACCP:
Identifying Hazards in Food
Processing

Lesson 14: Principles of HACCP:
Conducting a Hazard Analysis

Lesson 15: Principles of HACCP:
Identifying Critical Control Points

Lesson 16: Principles of HACCP:
Establishing & Monitoring Critical
Limits & Taking Corrective Actions

Lesson 17: Principles of HACCP:
Establishing Verification Procedures

Lesson 18: Principles of HACCP:
Recordkeeping



Certification Overview

The **Food Safety & Science Certification endorsed by American Meat Science Association** provides students with an in-depth knowledge of food safety procedures and standards in the food industry.

In addition, concepts such as **chemical properties and processes, food handling and storage, foodborne illnesses, and principles of HACCP** are covered. The certification consists of **18 modules** and a **100-question final certification exam**.

Learning Objectives

- **Gain knowledge and understanding of physical and chemical changes** which occur in cooking and storage of foods.
- **Identify acids and bases** and explain how they relate to food science and production.
- **Analyze different chemical processes in food science** such as fermentation, leavening, retrogradation, syneresis and gelatinization.
- **Gain in-depth knowledge of food microbiology**, safe handling practices and proper storage techniques.
- **Understand the importance of food preservation**, and gain knowledge of food packaging and its importance in the food industry.
- **Examine food industry safety standards and practices**, and identify causes of foodborne illnesses and methods of prevention.
- **Introduce principles of HACCP**, and examine methods of HACCP implementation in the food industry.
- **Identify hazards and critical control points** in food processing, and demonstrate the process of establishing and monitoring critical limits.
- **Demonstrate the processes of establishing verification**, recordkeeping and documentation procedures for a HACCP program.

Certification vouchers may be purchased for \$30 each.

“Our partnership with CEV is a strategic part of the American Meat Science Association’s efforts to recruit and equip the next generation of meat scientists. Our member scientists have worked closely with CEV to ensure high quality, accurate, science based training materials for the food safety certification.”

Thomas Powell
Executive Director
American Meat Science Association

Learn more at: www.icevonline.com/foodsafety

Frequently Asked Questions



Can the certification be integrated in existing classes?

Yes, the certification is meant to be integrated with existing courses. In order to achieve a certification, a student must complete certain lessons which are prerequisites to unlocking the final certification exam. Typically these lessons are already part of the normal coursework a student must do in the iCEV system.

Is the certification a stand-alone course that students take at school or home?

The certification can actually be both. Our certifications are designed to integrate with classroom instruction since each lesson required for the certification includes lesson plans for the instructor as well as optional in-class activities. However, we do have some districts that prefer to utilize independent study for students to achieve a certification. This model can be utilized as well since each student login gives the student access to view the lessons, content and assessments needed to complete a certification.

Is the certification 100% online?

The materials are 100% online, but there are elements, such as lesson plans and other resources that accompany each lesson, which provide teachers the opportunity to use the certification lessons in their daily instruction. The Food Safety & Science Certification is most effective to students when offered in a blended learning capacity, as teachers interact with students for in-class activities and projects and students utilize the online materials for content and assessment.

Is the certification exam timed?

The certification exam is not timed. However, the student must complete the certification exam in one sitting.

How long is each session?

Each lesson has a different suggested time span for completion. Most lessons require one or two hours for a student to successfully complete (if they are just viewing the content and taking the final lesson assessment to obtain certification). However, due to our desire to make the certification fit with classroom instruction, we provide a wealth of activities, projects and in-class instruction materials to enhance the quality of the certification. If all pieces of the certification lessons are utilized, each lesson can take approximately one week to complete.

Can you start the test and go back to it later?

For the final certification exam, no, you cannot start the exam and go back to it later. You also cannot start, exit and begin again. Once you start, you must finish.

What type of credential do you get?

The credential is the Food Safety & Science Certification issued by American Meat Science Association. After completing all lessons/modules (scoring at least 70% on the final assessment of each lesson/module), the student will “unlock” the final certification exam. After scoring above 70% on the final certification exam, the certification has been achieved and the student will receive a mailed copy of the certification (via school address). In addition, we are also working to implement digital badges for certification completion (estimated availability TBD) where students earn a digital badge they can then display via digital portfolios, social networking sites and other sites that accommodate the digital badge system.

What is the cost? Is there a license involved?

Teacher and student licenses are involved as well as a certification voucher. The teacher license gives the teacher access to ALL the courses and lessons for a particular subject area, such as Agricultural Science, Business & Marketing, Career Exploration or Family & Consumer Sciences. We also have student licenses which allow students to login and complete the lessons/modules related to the certification and the courses they are currently taking. There is also a certification voucher which can be used to access any of our final certification exams. Pricing for all licenses and certification vouchers can be found at www.icevonline.com.

What software and hardware are required?

Software and hardware requirements are minimal since all of the materials are cloud-based. We do recommend testing your bandwidth by using our free trial to ensure you are able to stream the materials. Also, a few website domains may need to be white listed in order to get the videos and assessments to work properly. iCEV works on both PCs and Macs as well as several devices such as iPads, iPhones and other tablets.

What age student would benefit most from this credential?

Students enrolled in grades 9-12 would most benefit from this credential.