



American Meat Science Association

## FOOD SAFETY & SCIENCE CERTIFICATION



### CERTIFICATION EXAM

The certification exam, tested for on the iCEV platform, consists of 100 questions and assesses knowledge and skills from the following weighted industry standards:



20%

Food Chemistry Principles



15%

Food Handling, Packaging & Storage Procedures



15%

Food Safety & Sanitation Methods



50%

Hazard Analysis Critical Control Point (HACCP) Systems

### MEETING THE INDUSTRY NEED

- ✓ Assesses Competencies Based on Weighted Industry-Valued & Industry-Accepted Standards
- ✓ Validates Knowledge & Skills
- ✓ Allows Employers to Identify & Connect with Skilled Candidates
- ✓ Jump-Starts Individuals' Careers

The American Meat Science Association (AMSA) Food Safety & Science Certification verifies individuals possess an in-depth knowledge of food safety procedures and standards necessary to thrive in the food industry.

### INDUSTRY STANDARDS BREAKDOWN

#### Food Chemistry Principles

- Chemical Properties of Food
- Chemical Changes Related to Cooking & Food Processing
- Food Production Processes (fermentation, leavening, retrogradation, syneresis, gelatinization, gelation, pickling)

#### Food Handling, Packaging & Storage Procedures

- Sanitary Food Handling Practices
- Food Packaging Regulations
- Cold Food Storage Methods
- Food Additives
- Food Preservation Techniques (irradiation, dehydration, canning, pasteurization, freezing)
- Food Packaging & Labeling Guidelines

#### Food Safety & Sanitation Methods

- Workplace Safety Procedures
- Food Industry Inspections
- Foodborne Illness Prevention Strategies
- Sanitation Procedures
- Sanitation Laws & Regulations

#### Hazard Analysis Critical Control Point (HACCP) Systems

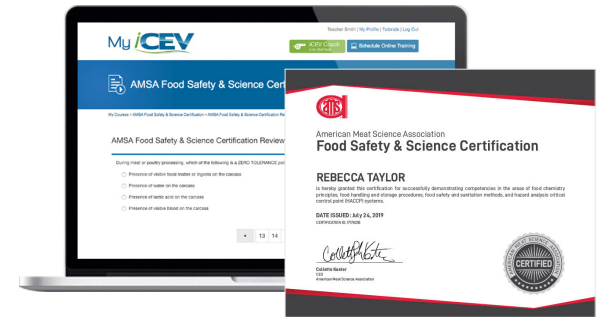
- Hazards in Food Processing
- Hazard Analysis Process
- Critical Control Points Identification
- Establishing Critical Limits
- Monitoring of Critical Limits
- Methods for Taking Corrective Actions
- Establishing Verification Procedures
- Recordkeeping Procedures

## EXAMPLE ASSESSMENT QUESTIONS

- Which of the following bacteria can grow at refrigeration temperatures and the USDA has a ZERO TOLERANCE policy for it in Ready to Eat Foods?
  - Salmonella
  - Listeria monocytogenes
  - Campylobacter
  - Staphylococcus
- A gallon of milk expired and has soured because the milk enzyme lactase turned the milk protein lactose into lactic acid. Which of the following types of spoilage could have occurred?
  - Microbial growth
  - Putrefaction
  - Rancidity
  - Fermentation
- An employee is wearing rings while stirring a vat of soup. If the ring fell into the soup, which type of hazard would it be considered?
  - Biological
  - Chemical
  - Physical
  - Emotional
- Match the potential hazard to its corresponding category.

Physical	Chemical	Biological
1. _____	_____	_____
2. _____	_____	_____
3. _____	_____	_____
4. _____	_____	_____
5. _____	_____	_____

  - Hand sanitizer spills onto raw pork
  - Metal shavings from a can opener drop into the soup
  - The chicken and fruit become cross-contaminated
  - Nail polish remover rubs off into the salad
  - Small bugs are not washed from the fruit before serving
- A normal temperature for a certain enzyme reaction is 140°F (60°C). If the temperature was increased to 212°F (100°C), which of the following could happen due to the increase in temperature?
  - No reaction would occur
  - The reaction would occur more slowly
  - The reaction would occur more quickly
  - The reaction would occur at the same speed



## TESTING PLATFORM

The American Meat Science Association utilizes iCEV, a division of CEV Multimedia, as the testing platform for this certification.

iCEV fulfills the following responsibilities:

- Provides secure testing technology for certification exams
- Regulates testing environments
- Works with secondary and post-secondary academic institutions, workforce development associations and the public at large to offer certification options for career advancement
- Provides certification verification to employers for potential job applicants
- Offers optional certification exam preparation materials

## ABOUT THE AMERICAN MEAT SCIENCE ASSOCIATION

The American Meat Science Association is a broad-reaching organization of individuals that discovers, develops and disseminates its collective meat science knowledge to provide leadership, education and professional development. Their passion is to help meat science professionals achieve previously unimaginable levels of performance and reach even higher goals. They accomplish this by fostering a learning community of meat scientists, industry partners, outside thought leaders and other stakeholders who embrace this vision. Its members conduct basic and applied research and education programs in muscle growth and development, meat quality, food safety, processing technology and consumer and marketing issues relevant to the international meat industry.

“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.”

**Deidra Mabry, M.S.**  
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American Meat Science Association