

# Graduate Certificate in Food Safety and Defense

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By providing a distance education Food Safety and Defense Graduate Certificate program, we serve the needs of industry and agencies that must protect the human food supply from accidental or deliberate contamination with pathogenic microbes and/or toxicants. In an era of terrorism and global food systems, effective control of foodborne hazards requires advanced education. There is a need for online education for food industry personnel who, while working full time, would like to pursue more in-depth specialized training in food safety and defense that is pertinent to their job.

Kansas State University, Iowa State University, University of Nebraska-Lincoln and the University of Missouri have developed pertinent food safety and defense distance education courses and have established a multi-state consortium to develop and deliver high-priority collaborative distance education programs in the food and agricultural sciences.

## Learning Outcomes

1. Synthesize a current and multi-faceted picture of key food safety and security issues.
2. Apply, in real-world situations, the scientific principles of microbial and chemical risk assessment and analysis related to food safety and defense issues.
3. Analyze and apply the concepts of HACCP (Hazard Analysis and Critical Control Point) programs, as well as other safety and defense approaches, in the management of food safety and defense in food systems.
4. Evaluate food safety and defense issues in the food industry using the perspectives of sound science, critical thinking and ethical reasoning.

## Requirements

The certificate program, available online, includes a minimum of 12 credits, 8-9 credits in core courses and at least 3 elective credits, on topics including food microbiology, foodborne toxicants, HACCP, food safety and security overview, food laws, risk assessment, food biotechnology, rapid food microbiological methods, and food fermentations, with each participating university offering at least one course on a regular basis, and each university cross-listing all courses.

Courses required for the Food Safety and Defense Graduate Certificate belong to Kansas State University, Iowa State University, University of Nebraska and the University of Missouri. For more information refer to the Food Safety and Defense Graduate Certificate website: <https://online.missouri.edu/degreeprograms/cafnr/food-safety-defense/grad-cert/admissions.aspx>

## Admission standards and prerequisites

Students must meet admissions requirements as outlined for this program: <https://online.missouri.edu/degrees-programs/mu/cafnr/food-safety-and-defense/grad-cert#howtoapply> (<https://online.missouri.edu/degrees-programs/mu/cafnr/food-safety-and-defense/grad-cert/#howtoapply>) or equivalent degree at their respective universities. A tuition disbursement framework as in operation for the Great Plains

Interactive Distance Education Alliance (IDEA) consortium will be used. Certificate enrollments of 20-25 students per year are anticipated, with time to completion of 2-3 years (1-2 courses per semester). See the Great Plains IDEA (<https://www.gpidea.org/>) for further information.

Successful applicants must be a graduate of an accredited institution and must rank in the upper quartile (3.0 grade point average) of their class to gain admission. Undergraduate preparation should include emphasis in chemistry and biology or food science.

## For additional information contact:

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