



## **CIFT Industry Credentials: Associate and Specialist Steps for Student Participation**

Students can gain a **CIFT Food Industry Associate** credential upon successful completion of **120** hours of Food Science training and **100** hours of hands on experience demonstrating competency in Food Science.

A **CIFT Food Industry Specialist** credential can be obtained upon successful completion of **480** hours of training and **500** hours of hands on experience.

Each of these credentials includes successful scores on teacher administered WebXams for the courses. The required courses for the Associate and Specialist credentials are listed here. To successfully accomplish both CIFT Food Industry Credentials all students must take Science & Technology of Food – available in the A3 and A0 Pathways.

### **The Application Process:**

- 1) An interested student enrolls in a Science & Technology of Food course. WebXam will be arranged at the completion of the course through the local teacher.
- 2) The research and/or work experience will be captured in a journal, via AET or similar reporting.
- 3) Student will upload their request for credential review along with the completed WebXam scores and report of research and/or work experience at <https://goo.gl/forms/An9H3US2lKp1DGR2>
- 4) CIFT receives application information through the google form, reviews for accuracy, and determines if application meets parameters of the credential.
- 5) CIFT presents a certificate, if deemed appropriate.
- 6) CIFT maintains the listing of students and coordinates with business and industry contacts searching for quality individuals for employment.

If applying for the Specialist level of the Food Science Credential – students will complete the WebXams for 3 of the 5 courses, in addition to Science and Technology of Food. The Application process remains the same.

Note: There is no cost associated with this credential; benefiting schools, students, and families.

### **Project Examples & Ideas for Hands On Experiences**

- Minimizing Bacteria (The project was testing two different types of meat for bacteria before and after cooking. Processing by cutting, freezing, thawing (by two different ways in fridge or at room temp) and cooking and determining bacteria count)
- Fruit sale activities - delivery, promotion, packaging (Business coursework applicable)
- Texture analysis and fat content for donuts fried in high oleic soybean oil vs. convention soybean oil
- Cooking rice to sustain the most proteins
- Home preservation methods to sustain the most nutrition in green beans
- Testing Herbs for antibiotic properties
- Testing peppermint for improved focus
- Testing whether food bias is applied when comparing locally grown food to other regional product
- Testing animal/pet treats for healthy nutrition

**Need more information? See our website!**

<http://ciftinnovation.org/cift-food-industry-credentials-for-students/>

Contact CIFT directly at 419.535.6000, x106. Ask for the Credentialing Administrator, or email [emurawski@ciftinnovation.org](mailto:emurawski@ciftinnovation.org).

## **Required Course Work**

### **Science & Technology of Food // Subject Code: 011010**

Students will examine the research, marketing, processing and packaging techniques applied to the development of food products. Learners will examine nutrient content and their chemical makeup, while applying principles of chemistry to the development of food products. They will examine and implement food safety, sanitation, and quality assurance protocols. Government regulations and food legislation will be examined and the implications to food science and technology will be identified.

### **SPECIALIST Required Course Work (choose 3 of the 5)**

#### **Agriculture, Food and Natural Resources // Subject Code: 010105**

This first course in the career field is an introduction to Agricultural and Environmental Systems. Students will be introduced to the scope of the Agricultural and Environmental Systems career field. They will examine principles of food science, natural resource management, animal science & management, plant & horticultural science, power technology and bioscience. Students will examine the FFA organization and Supervised Agricultural Experience programs. Throughout the course, students will develop communication, leadership and business skills essential to the agriculture industry.

#### **Food Marketing and Research // Subject Code: 011015**

Learners will focus on the stages of the research process from research planning to gathering, analysis, and interpretation of data as it relates to food marketing management. Learners will apply knowledge of food additives, nutrition, mixes and solutions to enhance existing food products and to create new processed foods. Learners will identify and describe the impact that technological advances have on food production and availability. Cultural trends and preferences affecting product development will be examined.

#### **Principles and Practices of Bioscience // Subject Code: 012015**

Students will use concepts, procedures, and equipment common to a professional laboratory for agricultural product development and research. Students conduct problem-based studies, and apply scientific methodology. Students will follow procedures and protocols for handling, transporting, storing, and preparing plant and animal specimens. Further, students will perform techniques including chemical separations, centrifugation, distillation and filtration. Emphasis is given to demonstrating safe, professional and ethical behavior associated with the field.

#### **Applications of Food Science and Safety // Subject Code: 011030**

Learners demonstrate principles and practices of food safety, processing and packaging to develop solutions for problems in food production, handling and storage. Learners will examine a full range of food processing techniques. Learners will examine the process of food product development and techniques used to measure food sensory aspects, shelf life and food stability. Learners will examine government regulation impact on labeling, new packaging technologies, harvesting, transportation, and the environment. Food laws, regulations and regulatory and commercial grading standards will be examined.

#### **Bioresearch // Subject Code: 012025**

Learners in this course will apply knowledge of bioinformatics, plant and animal microbiology, and chemistry to data mining and laboratory techniques. Students will perform procedures of developing bio-products to solve issues facing agriculture. In this course, students will also be introduced to bioinformatics related to genome analysis for research and present their overall findings.