

Station #1 – Rationale/Purpose

Grant application is requesting \$1000.00 for incorporating STEM into your FCS classroom/community setting.

Sample A

Food Science and Technology is a convenient name used to describe the application of scientific principles to create and maintain a wholesome food supply. Food Science has given us frozen foods, canned foods, microwave meals, milk which keeps, snacks, nutritious new foods, more easily prepared traditional foods and, above all, VARIETY in our diets. The food scientist helps supply this bounty by learning to apply a wide range of scientific knowledge to maintain a high quality, abundant food supply. Food Science allows us to make the best use of our food resources and minimize waste.

Food scientists and technologists (both 2-year and 4-year degree programs in Wisconsin) apply the principles learned in the basic sciences such as food chemistry, biochemistry, genetics, microbiology, food engineering and nutrition to provide consumers with safe, wholesome and attractive food products that contribute to their health and wellbeing. (Texas A&M University).

The addition of a food science class in our high school would increase student's opportunities to experience STEM learning activities.

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Sample B

The ever-expanding field of food science encompasses a wide range of careers in food-related work, which is the nation's largest occupational sector (Washington State University). Food science careers:

- develop and/or improve food products like granola bars, freeze-dried coffee, low-fat yogurt, lean hamburgers, the list is endless.
- improve consumer food products on the grocery shelves.
- discover new food sources and preservation methods to feed the world.

According to the Bureau of Labor Statistics the need for trained food scientists has grown steadily in pace with consumer demands for convenient, safe, and nutritious food and beverages. The Bureau identifies 49 different job descriptions for the career of food science. Wisconsin is among the top 5 states with the highest concentration of food science jobs per capita – with many vacancies left unfilled. The Milwaukee-Waukesha area is among the top 3 paying metro areas nationally for food scientists.

The mission statement of our school district supports actively pursuing STEM educational learning opportunities for all k-12 students. Teaching a certified food science class in our high school will connect students with STEM concepts and serve as a catalyst for students to pursue this field of study plus related careers. A food science class will further develop skills required by the profession: communication, critical-thinking, data-analysis, decision-making, and observation (UW Stout).

Food scientists and technologists, completing a 2-year or 4-year degree will improve the state economy by providing a pool of skilled new professionals to fill the current vacancies. These skilled positions earned an hourly wage of \$30.84 with a mean annual salary of \$64,140.00 (Bureau of Labor Statistics, 2012). Providing food science in high schools serves as a catalyst for students to pursue food science and related careers.

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Sample C

Why ought a school district invest resources in a food science course and support STEM learning activities? Food scientists and technologists are in high demand. What do they do?

- “Create new food products and develop new and better ways to process, package and deliver them.” (Bureau of Labor Statistics, 2012)
- “Pull knowledge from biology, chemistry, engineering, and food technology to develop safe, nutritious foods and innovative packaging that line supermarket shelves everywhere.” (IFT)

For those working in the science of food they continue to have a positive perspective on their professional lives. Levels of job satisfaction identified in a 2015 survey reported 38% of employees were highly satisfied and 48% were somewhat satisfied with their jobs (as per “Food Science Salaries in the Spotlight” by Mary Ellen Kuhn, February 2016). This type of career field does not lead to dead end jobs or no employment upon post-secondary graduation.

It would be in the best interest of our students to offer a food science course that will meet state certification standards to count as a science credit towards high school graduation. Will this career pathway be here today and gone tomorrow? “People will always need to eat, and as our population grows and market expectations change, companies will need food scientists to stay relevant and meaningful.” (as per “Food Science Salaries in the Spotlight” by Mary Ellen Kuhn, February 2016)

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Sample D

The number of Wisconsin school districts offering a high school food science course that has been approved for a science credit, is increasing. With the educational priority of STEM learning activities a food science class would increase our student's options. An interest survey of grade 8 and 9 students in our district was conducted and here are some of the results.

- 92% not familiar with what food scientists and/or food technologists do at their jobs
- 47% have some experience with STEM learning activities
- 67% likely be interested in creating a new food product
- 22% likely be interest in solving customer complaints regarding food products and/or packaging
- 34% likely be interested in improving food packaging techniques
- 18% concerned about quality of our country's food supply
- 39% concerned about acts of terrorism negating the quality of our food supply
- 33% believe there will be a food shortage in the future on our planet
- 46% likely take food science class for a science credit, if available.

To remain competitive with other high schools we believe the addition of a food science class is vital.

Source: Julie Martin, School District of New Glarus, and Catherine Lader, WAFCS Protégé Plus, January 2016, updated February 2016