



## School to Farm Competencies & Learning Outcomes

On-farm experiences can expose dietetic interns to food production practices, processing, distribution, and access points including retail operations that other classroom and internship rotation sites cannot provide. Dietetic interns and students can gain a nuanced understanding of food and water systems from the soil to the table and back to the soil by learning from farmer preceptors. *Regardless of the area of practice, a dietitian can integrate an understanding of sustainable, resilient, and health food and water systems into their practice* (Tagtow A. et al., 2014).

This document outlines on-farm activities and projects that align with competencies for Registered Dietitians to fulfill requirements of an ACEND accredited internship.

CRD#	Competency – Upon completion of rotation the intern will be able to:	Activity selected to meet competency at on-farm rotation site
1.1	Select of program quality and/or customer service and measure achievement of objectives.	<ul style="list-style-type: none"> <li>Intern will evaluate productivity outcome measures (yield, ecosystem benefits, economic output or other) and/or quality measures (grading of agricultural products or value added products), associated with the farm land or farm products that the farmer uses to measure success of the operation.</li> </ul>
1.2	Apply evidence-based guidelines, systematic reviews and scientific literature (such as the Academy's Evidence Analysis Library, and Evidence-based Nutrition Practice Guidelines, Cochrane Database of Systematic Reviews and the U.S. Department of Health and Human Services, Agency for Healthcare Research and Quality, National Guideline Clearinghouse Web sites) in the nutrition care process and model and other areas of dietetics practice.	<ul style="list-style-type: none"> <li>Facilitate a sustainable food systems (SFS) issue discussion and create a resource handout for the group to emphasize main critical thinking points about the issue.</li> <li>Write a white paper (or other report) based on guidelines, reviews, literature, and best practices about recommending a more sustainable diet or the role of local food purchasing in increasing healthy eating behaviors. Cite the food system outcomes demonstrated in research as a result of production practices, distribution and processing, purchasing habits, and eating behaviors.                             <ul style="list-style-type: none"> <li>Suggested resources: Dietary Guidelines Advisory Committee publication</li> </ul> </li> </ul>
1.3	Justify programs, products, services and care using appropriate evidence or data.	<ul style="list-style-type: none"> <li>Develop evaluation tools for one of the production methods on the farm and collect data to justify the project. i.e. Hoop garden, rotational grazing, orchard production</li> <li>Based on needs of the farm, write a grant proposal using individual and community health data and natural resources conservation literature to justify growth of farm operations to an additional production method, value added product, storage facilities, additional retail space, or to address additional unique needs of the farm.</li> </ul>
1.4	Evaluate emerging research for application in dietetics practice.	<ul style="list-style-type: none"> <li>Facilitate a sustainable food systems (SFS) issue discussion and create a resource handout for the group to emphasize main critical thinking points about the issue.</li> </ul>

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		<ul style="list-style-type: none"> <li>● Research a production practice or a farm product in the scientific literature to identify connections between sustainability and individual health, community health and environmental health. Write a synopsis of the research. Consider the role of dietitians in identifying connections between soil, land, and human health as healthcare providers, as supported by the research.</li> <li>● Conduct a literature review of a target population served by an institution (e.g. school, university, hospital, prison) or community organization in the area. Literature review includes identifying research articles related to the topic, reviewing articles for evidence, compiling results, and synthesizing and summarizing findings. Consider how the farm could increase healthy eating behaviors of the population and the potential health and environmental benefits of procuring from the farm. Consider the national and federal policies or institutional or community organization missions that could support the purchase of local foods.</li> </ul>
1.5/4.4	<p>Conduct projects using appropriate research methods, ethical procedures and statistical analysis.</p> <p>Conduct clinical and customer service quality management activities.</p>	<ul style="list-style-type: none"> <li>● Conduct sales and accounting at a community supported agriculture (CSA), farm stand, and/or community produce food truck.</li> <li>● Conduct the "Local Food System Investigation Activity."</li> <li>● Determine quality standards for a farm product and design a study and data collection form to monitor and collect data on the quality of the product. Compile data and prepare a report on findings along with recommendations for quality improvements.</li> </ul>
2.1	<p>Practice in compliance with current federal regulations and state statutes and rules, as applicable and in accordance with accreditation standards and the Scope of Dietetics Practice and Code of Ethics for the Profession of Dietetics.</p>	<ul style="list-style-type: none"> <li>● Review on-site processes and procedures.</li> <li>● Orient to facility and programs.</li> <li>● Describe the USDA requirements for wholesomeness of products sold from the farm, learn and articulate to customers any FDA labels or third-party certifications that the farm holds and the evidence-base that supports these practices for human, community, environmental, and animal health.</li> </ul>
2.2	<p>Demonstrate professional writing skills in preparing professional communications.</p>	<ul style="list-style-type: none"> <li>● Facilitate a sustainable food systems (SFS) issue discussion and create a resource handout for the group to emphasize main critical thinking points about the issue.</li> <li>● Prepare all written materials in a professional manner with American Psychological Association or American Medical Association citation.</li> <li>● Prepare a document for a school board, hospital administration, or institution review board review that appeals to the specific needs and questions of the decision makers, as needed for the farmer preceptor.</li> <li>● Create an article, newsletter, blog entry, social media outreach (Twitter, Facebook, Tumblr, or Instagram) or annual announcement about a farm event, farm product or farm production practice, as needed by the farmer preceptor.</li> </ul>
2.3/2.4	<p>Design, implement and evaluate presentations for a target audience.</p> <p>Use effective education and counseling skills to facilitate behavior change.</p>	<ul style="list-style-type: none"> <li>● Prepare a meal or tasting featuring local food or farm products. Demonstrate ability to prepare fresh and local fruits, vegetables, meat, grains, seafood, and other wild harvest in quantity production for the farm or a local organization.</li> <li>● Provide nutrition education to a group including sustainability in the diet at a farm event or field trip to a targeted audience.</li> <li>● Utilize pre/posttest mechanism for outcome assessment of learning.</li> </ul>
2.5/2.10	<p>Demonstrate active participation, teamwork and contributions in group settings.</p>	<ul style="list-style-type: none"> <li>● Conduct sales and accounting at a community supported agriculture (CSA), farm stand, and/or community produce food truck with the resident sales teams.</li> <li>● Assist preceptors/farmers in preparing for educational sessions</li> </ul>

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	Establish collaborative relationships with other health professionals and support personnel to deliver effective nutrition services.	<p>and farm events.</p> <ul style="list-style-type: none"> <li>Identify one way to build and sustain community connections with the farm to strengthen the farm business and community reach.</li> <li>Work with the farmer to create competencies that act as a framework for farm tours of different grade levels. Develop farm activities and discussions to elucidate the concepts from the students in the farm environment.</li> </ul>
2.8	Apply leadership skills to achieve desired outcomes.	<ul style="list-style-type: none"> <li>Ask questions after proactively seeking solutions independently!</li> <li><a href="#">Local Food System Investigation Activity</a> Volunteer to assist with tasks at hand.</li> <li>Explore and initiate improvements at dietetic internship host sites. Suggest improvements for interns and for the communities served by the farm and assist in their execution, as indicated. Consider how the farm could reach an interested audience or serve a need of the community.</li> </ul>
2.9	Participate in professional and community organizations.	<ul style="list-style-type: none"> <li>Prepare a meal featuring local food or farm products as a group. Demonstrate ability to prepare fresh and local fruits, vegetables, meat, grains, seafood, and other wild harvest in quantity production for the farm or a local organization.</li> <li>Volunteer at a farmers market, farmer to farmer network event, or other community organization that supports local farms and/or farm to healthcare connections.</li> </ul>
2.10	Establish collaborative relationships with other health professionals and support personnel to deliver effective nutrition services	<ul style="list-style-type: none"> <li>Participate in team meetings.</li> </ul>
2.11	Demonstrate professional attributes within various organizational cultures.	<ul style="list-style-type: none"> <li>Facilitate a sustainable food systems (SFS) issue discussion and create a resource handout for the group to emphasize main critical thinking points about the issue.</li> <li><a href="#">Local Food System Investigation Activity</a> Prepare a meal featuring local food or farm products as a group. Demonstrate ability to prepare fresh and local fruits, vegetables, meat, grains, seafood, and other wild harvest in quantity production for the farm or a local organization.</li> </ul>
2.12	Perform self-assessment, develop goals and objectives and prepare a draft portfolio for professional development as defined by the Commission on Dietetics Registration.	<ul style="list-style-type: none"> <li>Develop goals based on food systems concepts and integrate the Standards of Professional Performance (SOPP) for RDNs in Sustainable, Resilient and Health (SRH) Food and Water Systems into professional practice. Keep a professional development portfolio of projects, written materials, scientific article summaries, and competencies completed that track development as a competent SRH food and water systems RDN according to the SOPPs.</li> </ul>
3.2	Demonstrate effective communications skills for clinical and customer services in a variety of formats.	<ul style="list-style-type: none"> <li>Conduct sales and accounting at a community supported agriculture (CSA), farm stand, and/or community produce food truck.</li> <li>Develop a locally-sourced seasonal HACCP-style recipe for a quantity of 25-50 servings</li> <li><a href="#">Local Food System Investigation Activity</a> Teach cooking, gardening, or food preservation classes.</li> <li>Create local food marketing resources targeted to specific audiences that market farm products and feature sustainable farming practices. Target institutions (e.g. school, hospital, prison, and university) that could purchase farm products, community organizations whose programming could benefit from interaction with the farm environment and farm products, and/or farmer-to-farmer networks in need of sustainable agriculture education materials.</li> </ul>

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<p>4.7/3.3/ 4.9/4.10</p>	<p>Propose and use procedures as appropriate to the practice setting to reduce waste and protect the environment.</p> <p>Develop and deliver products, programs or services that promote consumer health, wellness and lifestyle management.</p> <p>Analyze financial data to assess utilization of resources.</p> <p>Develop a plan to provide or develop a product, program or service that includes a budget, staffing needs, equipment and supplies.</p>	<ul style="list-style-type: none"> <li>● Conduct sales and accounting at a community supported agriculture (CSA), farm stand, and/or community produce food truck.</li> <li>● Create local food marketing resources targeted to specific audiences that market farm products and feature sustainable farming practices. Target institutions (e.g. school, hospital, prison, and university) that could purchase farm products, community organizations whose programming could benefit from interaction with the farm environment and farm products, and/or farmer-to-farmer networks in need of sustainable agriculture education materials.</li> </ul>
<p>3.4</p>	<p>Deliver respectful, science-based answers to consumer questions concerning emerging trends.</p>	<ul style="list-style-type: none"> <li>● Conduct sales and accounting at a community supported agriculture (CSA), farm stand, and/or community produce food truck.</li> <li>● Develop evidence-based handouts for farmers to use at points of sale and interaction with customers to answer frequently asked nutrition and food systems questions posed by customers and community members as requested by farmer preceptor.</li> </ul>
<p>3.5</p>	<p>Coordinate procurement, production, distribution &amp; service of goods and services.</p>	<ul style="list-style-type: none"> <li>● Prepare a meal featuring local food or farm products as a group. Demonstrate ability to prepare fresh and local fruits, vegetables, meat, grains, seafood, and other wild harvest in quantity production for the farm or a local organization.</li> <li>● Conduct a cost analysis from an institutional food service perspective and a farmer's perspective to compare farm products to non-local food items by season. Discuss the significance of the two assessments with the farmer preceptor.</li> </ul>
<p>3.6</p>	<p>Develop and evaluate recipes, formulas and menus for acceptability and affordability that accommodate the cultural diversity and health needs of various populations, groups and individuals.</p>	<ul style="list-style-type: none"> <li>● Share garden knowledge, recipes, and menus to various on-site personnel, staff, and consumers as indicated. Especially applicable if the farm/garden is one department of a larger entity.</li> <li>● Reach out to an institutional food service that the farm has a relationship with. Identify an existing recipe where a farm product could replace a non-local food item. Prepare the recipe and conduct a taste-test, and evaluate the recipe with the taste test population. Evaluate the recipe for acceptability and affordability.</li> </ul>
<p>4.1</p>	<p>Participate in management of human resources.</p>	<ul style="list-style-type: none"> <li>● Conduct sales and accounting at a community supported agriculture (CSA), farm stand, and/or community produce food truck.</li> <li>● Coordinate and manage volunteers for a farm event.</li> </ul>
<p>4.3</p>	<p>Participate in public policy activities, including both legislative and regulatory initiatives.</p>	<ul style="list-style-type: none"> <li>● Research and review national and state policies related to Farm to School, geographical preference, cottage food laws, Good Agricultural Practices and Good Handling Practices, Farm Bill, Child Nutrition Reauthorization, National Organic Program, National Resource and Conservation Service, and Food Safety and Modernization Act as they apply to the farm location and activities.</li> <li>● Investigate food policy councils and attend a food policy council meeting in the area.</li> </ul>
<p>4.8</p>	<p>Conduct feasibility studies for products, programs or services with consideration of costs and benefits.</p>	<ul style="list-style-type: none"> <li>● Conduct a feasibility study for varietal testing for a new farm product, processing equipment or product development for a value-added farm product, or an additional unique need of the</li> </ul>

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<p><b>Sustainable Food Systems Competencies</b> Alison Harmon, PhD, RD developed the competencies below to be used by the Montana Dietetic Internship to describe internship activities that relate to the emphasis in Sustainable Food Systems (SFS). The SFS codes provide a framework for competencies that aim to develop entry-level dietitians with a baseline knowledge in this emerging area of dietetic practice. The SFS codes describe the "competent" level of dietetic practitioner as outlined by the Standards of Professional Performance (SOPP) for Registered Dietitian Nutritionists in Sustainable, Resilient, and Healthy Food and Water Systems.</p>		
SK 5.1	An understanding of food science and food systems principles, techniques of food preparation and application to the development, modification and evaluation of recipes, menus and food products acceptable to diverse groups.	<ul style="list-style-type: none"> <li>• Develop a locally-sourced seasonal HACCP-style recipe for a quantity of 25-50 servings</li> <li>• Prepare a meal featuring local food or farm products as a group. Demonstrate ability to prepare fresh and local fruits, vegetables, meat, grains, seafood, and other wild harvest in quantity production for the farm or a local organization.</li> </ul>
SFS 1	Demonstrate understanding of terminology related to sustainable food systems, components, inputs, influences, and outcomes	<ul style="list-style-type: none"> <li>• Conduct sales and accounting at a community supported agriculture (CSA), farm stand, and/or community produce food truck.</li> <li>• <a href="#">Local Food System Investigation Activity</a></li> </ul>
SFS 2	Demonstrate understanding and critical thinking regarding differing viewpoints on sustainable food systems issues.	<ul style="list-style-type: none"> <li>• Conduct sales and accounting at a community supported agriculture (CSA), farm stand, and/or community produce food truck.</li> <li>• Facilitate a sustainable food systems (SFS) issue discussion and create a resource handout for the group to emphasize main critical thinking points about the issue.</li> <li>• <a href="#">Local Food System Investigation Activity</a></li> </ul>
SFS 3	Work effectively in groups to accomplish tasks related to the production, distribution, and marketing of fresh produce.	<ul style="list-style-type: none"> <li>• Conduct sales and accounting at a community supported agriculture (CSA), farm stand, and/or community produce food truck.</li> </ul>
SFS 4	Evaluate needs of community members to access and/ or utilize fresh, local produce and develop an intervention to meet needs	<ul style="list-style-type: none"> <li>• Develop a locally-sourced seasonal HACCP-style recipe for a quantity of 25-50 servings</li> <li>• Conduct sales and accounting at a community supported agriculture (CSA), farm stand, and/or community produce food truck.</li> <li>• Prepare a meal featuring local food or farm products as a group. Demonstrate ability to prepare fresh and local fruits, vegetables, meat, grains, seafood, and other wild harvest in quantity production for the farm or a local organization.</li> <li>• Perform a cooking demonstration and local food outlet including farmers' market, farm stand, roadside stand, food co-op, food truck, or community supported agriculture (CSA) pick-up location.</li> <li>• Prepare food safe taste testing to target exposure of audience to food groups lacking in standard American diet (SAD).</li> </ul>
SFS 5	Use the concepts of sustainable food systems to market and sell fresh, local vegetables. Use appropriate accounting procedures.	<ul style="list-style-type: none"> <li>• Conduct sales and accounting at a community supported agriculture (CSA), farm stand, and/or community produce food truck.</li> <li>• Offer evidence based messages about the benefits of fresh, local food.</li> <li>• Create a business plan that markets fresh, local food in a unique way and implement a pilot.</li> <li>• Make a plan to increase sales at a farm marketing outlet.</li> </ul>

### Reference

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- Tagtow A., et al. Academy of Nutrition and Dietetics: Standards of professional performance for registered dietitian nutritionists (competent, proficient, and expert) in sustainable, resilient, and healthy food and water systems. *J Acad Nutr Diet.* 2014;114(3):475-488. <http://dx.doi.org/10.1016/j.jand.2013.11.011>. Accessed July 13, 2015.