

# Build FCS Baking STEAM: Home to Careers

July 31, 2025 | 8:30 AM - 4 PM

University of Wisconsin- Stevens Point

College of Professional Studies, Room 211, Parking in Lot Y or R  
1901 4<sup>th</sup> Ave., Stevens Point, WI

UW-Stevens Point Family & Consumer Sciences and the Home Baking Association will provide baking professional development to build baking best practices, teaching strategies to bridge family, career and community connections, address short lab times and gain hands-on experience to teach baking in secondary FCS/CTE classrooms. Resources and labs are aligned with FCS national standards and CTE career clusters and feature/include

- STEAM includes sensory, ingredient functions and innovation substitution sciences, farm to oven technology and engineering connections, baking arts, and baking math.
- Resources for baking food safety SERVE SAFE supplements
- Culinary baking terms and techniques with support resources
- Baking career industry connections from farm to mill to oven

## Sponsors:

- UW-Stevens Point School of Health and Wellness
- Home Baking Association
- Lesaffre Yeast Corporation

## Speakers and lab instructors will include

- Sharon Davis, Home Baking Association, FCS Teacher/HBA Baking STEAM Instructor
- Linda Nelsen, Team Lead, Marketing- Lesaffre Corporation, Red Star Yeast

## Agenda

8:30 AM- Sensory analysis: Carrot Streusel Coffee Cake

8:45 AM- Welcome, Orientation - Susan Turgeson, Ed. D., CFCS

9:00 AM- **Baking Ingredient Functions** (Sharon)

*Sensory analysis; baking innovation and ingredient substitutions for wellness, innovation and marketing*

Teaching strategies/activities (5-15 minutes)

- *Flour is NOT Just Flour baking science activity*
- *Yeast Science @ redstaryeast.com; Appendix*
- *Sweet! Is sugar a natural ingredient?*

**Baking Best Practices- Home to Career- mis en place, scaling vs volume, portioning** (Sharon Davis)

- Learning strategies: Scoop Spoon Scale
- Temperatures for Quality Outcomes (process temps- yeast; creaming/cutting in; internal temps- food safety)
- LAB CHALLENGE: Flour Science Baking Science (Lab 3)

## FCS Nat'l Standards 3.0

[nasafacs.org](https://nasafacs.org)

### Career Community and Family Connections

1.2 Demonstrate Transferable knowledge, attitudes, and technical and employability skills in school, community and workplace settings.

1.3.2 Demonstrate skills individuals and families can utilize to support civic engagement in community activities

### Consumer and Family Resources

2.1.3 Analyze decisions about providing safe and nutrition food for individuals and families.

2.2.3 Demonstrate behaviors that conserve, reuse, and recycle resources to maintain the environment.

### Food Production and Services

8.2.5 Practice standard personal hygiene and wellness procedures

8.2.7 Demonstrate safe food handling and preparation techniques that prevent cross contamination from potentially hazardous foods and food groups

8.4.7 Apply principles of measurement, portion control, conversions, food cost analysis

8.5.2 Demonstrate professional skill for a variety of cooking methods including...baking using professional equipment and current technologies.

8.5.14 Demonstrate cooking methods that increase nutritional value, lower calorie content, utilize herbs, spices

### Food Science, Dietetics and Nutrition

9.5.6 Conduct sensory evaluations of food products

### Hospitality, Tourism and Recreation

10.4.4 Apply basic food preparation and service skills in catering operations

### Workshop STEAM References:

**A Bakers Dozen Labs, 2023 USB-**

HomeBaking.org

**ADM- RodelleKitchens.com**

**Baking Food Safety 101, 2025**

**Dough Sculpting 101, HomeBaking.org**

**50, 5-Minute Baking Activities.**

**Baker's National Education Foundation, Futureinbaking.org**

**BakerBettie.com Tutorials**

**BiggerBolderBaking.com**

**Baking Glossary, HomeBaking.org**

**Baking Educator Guide, Lessons, Visuals, HomeBaking.org**

**Wheat Commissions**

**RedStarYeast.com**

**Sugar STEM Field to Table, sugar.org**

**The Essential Cookie Companion. Bake for Good- KingArthurBaking.com**

**Quality Baking Temperatures.**

Thermoworks.com, HomeBaking.org

**Baking Smart Snacks- Nutrition guidelines for WI Schools**

<https://dpi.wi.gov/school-nutrition/program-requirements/smart-snacks>

<https://www.homebaking.org/smart-snacks/>



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## Speed Break- Prep for labs; teams of two

10:30- **Baking Labs-** Sharon, Demo details for each dough  
**Master doughs and strategies** for short or long lab times

- **Conduct Flour Substitution Science Lab (Lab 3)**
  1. Apply test kitchen science- ingredient variable
  2. Form hypotheses on outcomes based on team's ingredient substitution;
  3. Bake, cool, plate to evaluate
- **EACH team prepares two master yeast doughs**  
*Focaccia and Pita (quick fermentation- Bake for lunch)*  
*Potato Refrigerator Dough (refrigerate; afternoon- value-added baking for local marketing)*
- **EACH prepares a 3-2-1 Galette Pastry, refrigerate dough for afternoon**

Flour is NOT Just Flour Baking Science

English Muffin Yeast Bread (Lab 3)

Teams of 2— replicate each variable

1. Control- Unbleached AP Flour
2. Bread flour
3. Cake flour
4. Pastry/Soft Wheat
5. Whole Wheat
6. Whole White Wheat flour
7. Rye
8. Spelt
9. Corn flour

12:00- **LUNCH-** Cater in protein, veggies, fruit to accompany the Flat Breads baked in morning lab.

**Speaker: Q & A with Linda Nelsen**, Team Lead, Marketing- Lesaffre Corporation, Red Star Yeast

- Online Baking Resources, Career Connections, Test Kitchens, Bloggers

## AFTERNOON- Speed break

1:15-1:30 PM- **Demonstrations-** Sharon

- Portion, shape, master refrigerator yeast dough
- Summer Fruit Galette

1:30-2:45 PM- **Baking Labs-** portion, shape, create, bake-off-

- Potato Dough (each person, ½ dough- braids, rolls) proof, bake;
- Fruit Galette, bake off, take home 😊
- **Clean labs**

2:45-3:45 PM- **How to Conduct a Chocolate or Single Source Vanilla Tasting** (Sharon)

- *ADM Rodelle Kitchens Vanilla Sensory Science resource*
- *Conduct a Chocolate Tasting (PPT available on-line) (Lab 11)*

3:45-4:00 PM: **Evaluation with Susan Turgeson**

- Chris Kirby, HBA Executive Director via ZOOM- HomeBaking.org support resources, E-news, Baking Calendar, Members
- Graduation Baking Totes (Sharon)

**Participants will work in teams of two in the labs. Please bring your own apron or chef coat. Please wear close-toed non-slip shoes, hair restraints and no jewelry.**

**Each participant will receive a Baking STEAM Tote (\$150 value) including:**

- Baking tools, ingredients, teaching guides
- A Baker's Dozen Labs manual (USB) – A 250-page, online resources-linked lab manual with 13 ingredient specific labs with ingredient history, teacher resource links, computer lab, three proficiency levels of baking formulas, 100+ terms and techniques with on-line live-linked glossary, Baking Science Experiments, Community Connections, Appendix and teaching resources, FCS standards aligned.
- Baking and Milling Careers Resource Guide; Baking Education Resource Guide



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