



## Seeding Success Curriculum

### Sustainable Agri-Food Systems & Circular Economy

#### Curriculum Overview for Pilot & Partnerships

### *Seeding Success — Where Science Grows Solutions and Innovation Meets Sustainability*

Course created for High School teaching by the University of California, Riverside Department of Microbiology and Plant Pathology

**Course Title:** Sustainable Agri-Food Systems and Circular Economy

**Grade Levels:** 11–12

**Duration:** 1 year (2 semesters) or equivalent block schedule

### Preparing the Next Generation of Sustainability Leaders

#### At a Glance

- ❖ Pilot curriculum for high school juniors and seniors.
- ❖ Designed with UC A-G “D” Lab Science and CTE Agriculture pathways alignment in mind, and as a supplemental preparation for AP alignment in science/Biology.
- ❖ Combines science, systems thinking, and career exploration.
- ❖ Hands-on, inquiry-based, and community-connected learning experience.
- ❖ Development and launch funded by the U.S. Department of Agriculture (USDA) under the **California Department of Food and Agriculture (CDFA) Specialty Crop Block Grant Program (SCBGP)**.

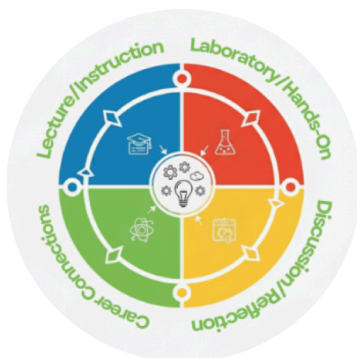
### What is the Seeding Success Curriculum

The Seeding Success Curriculum introduces students to sustainable agri-food systems through the lens of the Circular Economy. Students explore how to redesign food systems to reduce waste, protect natural resources, and inspire innovation. Modules integrate lectures, hands-on labs, classroom discussions, site tours, and career connections. The course can be offered flexibly as either a semester program (4–6 modules) or a full-year course (8–10 modules).

### Why It Matters

- The global population is expected to reach 9.7 billion by 2050, necessitating sustainable food solutions in the face of increasing pressure on agriculture from climate change and resource scarcity.
- Students gain real-world skills in data analysis, problem-solving, and scientific reasoning through a targeted focus on hands-on activities for each curriculum module.
- The curriculum aligns with state and national priorities in climate resilience, sustainable agriculture, and workforce development.
- Students explore pathways to higher education and careers in agri-science, biotechnology, and sustainability.

**The Curriculum Integrates 4 Core Elements:** Each module combines four interconnected instructional elements that together create a balanced and applied learning experience.



#### Lecture/Instruction

- Presentations with guided notes and the instructor’s speaker notes

#### Discussion/Reflection

- Think-Pair-Share (TPS) activities, reflection prompts, polling, and exit tickets

#### Laboratory/Hands-On-Activity (HOA)

- Experiments, field trips, design projects, data collection, and group-based activities

#### Career Connections

- Guest speakers with bio info cards, after-speaker reflection prompts, and exploration of potential career paths

## **Pilot & Partnerships**

The curriculum is currently in its pilot phase (2025–2026), with the goal of refinement and formal approval for UC A-G and CTE alignment by 2026–2027. Teacher and student feedback will guide improvements. ***We welcome collaboration with schools, school districts, industry partners, community organizations, and policymakers.***

## **Opportunities for Stakeholders**

- ★ Support student learning as guest speakers or mentors.
- ★ Provide feedback to strengthen alignment with sustainability and workforce goals.
- ★ Partner on field trips, hands-on activities (HOAs), or case studies.
- ★ Help expand our network of schools and districts to broaden SSC's reach and impact.
- ★ Advance STEM equity, farm workforce readiness, and sustainability education.

## **Contact & Next Steps**

1. **For partnership inquiries or curriculum samples, please contact (and kindly CC both):**
  - a. Dr. Deborah Pagliaccia, [deborahp@ucr.edu](mailto:deborahp@ucr.edu)
  - b. Dr. Arunabha Mitra, [arunabhm@ucr.edu](mailto:arunabhm@ucr.edu)
2. **Curriculum materials:** Samples are available upon request.

**Join Us in Preparing Students to be Agents of Change in Agriculture and Sustainability!**