

Agricultural Entrepreneurship - Certificate of Achievement

JUSTIFICATION: The creation of this program will increase local workforce development for sustainable urban agriculture and for the creation of local small agricultural enterprises. This is needed to address local inequities in access to nutritional foods and fresh fruits and vegetables while leveraging the need to create local jobs that will improve climate resilience of the region. This program will allow students to build skills in sustainable practices in the field of plant sciences while also gaining critical entrepreneurial skills that will allow them to start their own local urban agricultural enterprises.

Top code: 0103.00

**Program Goals & Objectives**

The primary goal of this program is to increase local workforce development for sustainable urban agriculture and for the creation of local small agricultural enterprises.

Program Outcomes

* Develop small business management skills to create sustainable urban agriculture businesses.
* Apply principles of environmental horticulture to design and manage landscapes that are environmentally responsible.
* Apply skills acquired to address local and global sustainability challenges

These outcomes will equip students for careers in diverse areas of the plant sciences with an emphasis on building entrepreneurial skills. This will allow students that complete the program to start their own business or work in local enterprises that utilize sustainable urban agricultural practices.

**Catalog Description**

The Agricultural Entrepreneurship program is designed to provide students with a comprehensive understanding of the principles and practices of sustainable food and plant production in an urban environment. To become an agripreneur, students will learn a broad range of skills in plant biology, soil science, horticulture, pest management, sustainability, and food systems as well as vital business and entrepreneurial skills. The program emphasizes the importance of social and environmental justice in food systems, while equipping students with the skills to address issues related to food insecurity and climate change. Upon completion of the program, students will be prepared for a variety of career paths, including starting their own agripreneurship enterprises in environmental horticulture or sustainable urban agriculture. This program provides students with a strong foundation for success in the growing field of urban agriculture and prepares them to make positive contributions to their communities and the environment.

Employment opportunities include positions in: Urban agriculture, urban agriculture enterprise management, fruit and vegetable landscape design/construction/maintenance, small farm management, small farm sales

A Certificate of Achievement is awarded upon completion of all required courses with a grade of C or better.

**Program Requirements**

**Certificate of Achievement:**

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| --- | --- | --- | --- | --- |
| **Requirements** | **Dept. Name/#** | **Name** | **Units** | **Sequence** |
| Required Core (13 units) | AGPS 120  AGPS 144  AGPS 006  AGPS 012 | Entomology and Integrated Pest Management  Irrigation  Environmental Horticulture  Soil Science | 4  3  3  3 | Yr 1, Spring  Yr 1, Fall  Yr 1, Fall  Yr 1, Spring |
| Science and Sustainability - Pick from the following – minimum 3 units required (3-6 Units) | AGPS 004  BIOL 004  BIOL 005B  BIOL 005C  ENVS 001  ENVS 002  ENVS 003  CHEM 022 | Plant Science  Botany/ Plant Diversity and Ecology  Topics in applied botany: Plant Biology in Demonstration Gardens  Topics in applied biology: Medicinal Plants  Introduction to Environmental Science  Human Impact on the Environment  Chemistry and the Environment  Introductory Chemistry | 3  4  1  1  4  3  4  4 | Yr 1, Spring |
| Small Business Management - Pick two of the following – (6-9 units) | ACCT 104A  ACCT 010  BUS 116  BUS 160  BUS 009  SPAN 001 | Computerized Accounting - Quickbooks  Bookkeeping Accounting  Entrepreneurship  Sales and Customer Service  Introduction to Business  Elementary Spanish – Level 1 | 3  4  3  3  3  5 | Yr 1, Fall  Yr, 1, Spring |
| Marketing and Food Production - Pick one of the following – (3 Units) | MRKT 123  MRKT 150  MRKT 020  HOSP 003  HOSP 014 | Promotions and Marketing Communication  Social Media Marketing for Business  Principles of Marketing  Survey of Hospitality Management and Manager Sanitation and Safety  Culinary Principles | 3  3  3  3  3 | Yr 1, Fall |

Required Core Total: 25-31 units

TOTAL UNITS: 25-31 units

Proposed Sequence:

Year 1, Fall = 12-14 units

Year 1, Spring = 13- 21 units

TOTAL UNITS: 25 – 31 units

**Master Planning**

The Pasadena College District region faces a unique set of environmental, social, and economic challenges related to food and sustainability. Adding local agricultural enterprises will increase food security and provide access to locally sustainably produced food for all people. The Agripreneurship program will empower local residents with the knowledge and skills to start their own agricultural enterprises and make positive changes in their own neighborhoods. This program will give students skill in cutting-edge agricultural techniques and technologies that will prepare the workforce for emerging job opportunities in sustainable agriculture, urban farming, and related fields.

This program will help students gain skills to address the needs of the local community:

Addressing Food Security: Sustainable urban agriculture can contribute to local food production, reducing reliance on food imports and improving food security. Increased access to fresh, locally grown produce, can improve the overall health and nutrition of the community, particularly in underserved areas where access to fresh food is limited. This is especially important in regions like Southern California, where there is a heavy dependence on imported produce.

Environmental Sustainability: Sustainable urban agriculture practices can help mitigate the environmental impacts of traditional agriculture, such as reducing greenhouse gas emissions associated with transportation and promoting eco-friendly farming methods. This is crucial in a PCC district, a region known for its environmental concerns.

Water Conservation and Climate Resilience: California faces chronic water shortages, and sustainable urban agriculture can focus on efficient water usage through techniques like aeroponic growing, drip irrigation, food-forest farming, and soil regeneration. More climate-resilient farming practices, such as diversifying crop varieties and implementing weather-resilient infrastructure are needed to increase local food production in the future.

Community Engagement: This program can engage the local community by providing resources, education, and support for individuals and community groups interested in urban farming. It can foster community gardens, farmers' markets, and other initiatives that promote healthy, sustainable food systems.

Economic Development: Agripreneurship can stimulate local economic growth by creating opportunities for small-scale farming businesses, selling locally produced goods, and attracting green technology investments.

Research and Innovation: The program can support research and innovation in sustainable agriculture practices, potentially leading to breakthroughs in crop production, pest control, and soil health that are tailored to the region's unique climate and conditions.

As identified in the Plant Science Advisory Committee meeting minutes from 4/13/23, the need for hands-on courses in irrigation, integrated pest management, plant production, and soils are needed as core. Beyond that the advisory committee identified a combination of science course work, business, marketing, accounting, Spanish, and food safety as skills as needed for students to be successful in jobs/ entrepreneurial enterprises in this area.

This program is in alignment with the PCC’s Educational Master Plan – as it will provide a certificate program in alignment with an identified local need and will help students gain important employable skills.

**Enrollment and Completer Projections**

**Projected Annual Program Completers:** 20 (with room for growth)

**Place of Program in Curriculum/Similar Programs**

This program does not duplicate any existing or previously existing program at PCC. It includes some courses in common with PCC’s existing AS-T degree for Plant Science. This program will be complimentary with the existing Plant Science program and allow student a CTE option in this area of study.

**Similar Programs at Other Colleges in Service Area**

The nearest similar program is located at Mt. San Antonio College (with LA Pierce College also having a similar program). These programs both offer similar course work in horticulture and soil science, but are more focused on horticulture overall and don’t offer the focus on development of entrepreneurial skills. Mt. San Antonio College and LA Pierce College are both 30 miles away from PCC, and would not typically be an easy commute for students. The nearest colleges to PCC do not have similar programs. The addition of this program to PCC would allow students from this geographic service area access.

Cal Poly Pomona offer both BS and MS degrees in these areas. Both the current Plant and Soil Science Chair and the Chair emeritus sit on the PCC Advisory Committee and have been involved directly in the development of this program. The Department Chairs from both the LA Pierce and Mt. San Antonio College programs have been contacted and informed of this proposal and have no objections (in fact the faculty form Mt. San Antonio College are very supportive of this addition ).

Summary of LA Pierce College Programs

The most similar program is the certificate in Horticulture. The LA Pierce College certificate requires 18 units of course work. The Horticulture certificate is more centered on turf grass/park management, and flowering plant production. It also does not contain specific outcomes linked to sustainability or any outcomes related to entrepreneurship. Additionally, LA Pierce college offers an AS degree in Horticulture, which again is more focused on flowering plant production.

Summary of Mt. San Antionio College Programs

The most similar program at Mt. Sac is a certificate in Horticulture Science. This program requires 18 units of coursework. The program outcomes do not have any reference to entrepreneurial skills. Some course work is similar, but the Mt. Sac program includes a course in turf grass management and does not include any course work in entrepreneurial skills – such as business, marketing, and accounting. Additionally, the Mt. Sac program does not requires the science and sustainability course outlined in the PCC program.

The addition of the Agripreneurship Program at PCC will provide student in the San Gabriel valley a much closer alternative that is tailored directly to the needs of our local community. The combination of Plant Science and Entrepreneurship (Agripreneurship ) of the PCC program is unique for this region (similar programs exist in other states) and in alignment with initiatives from the city of Pasadena and surrounding communities.