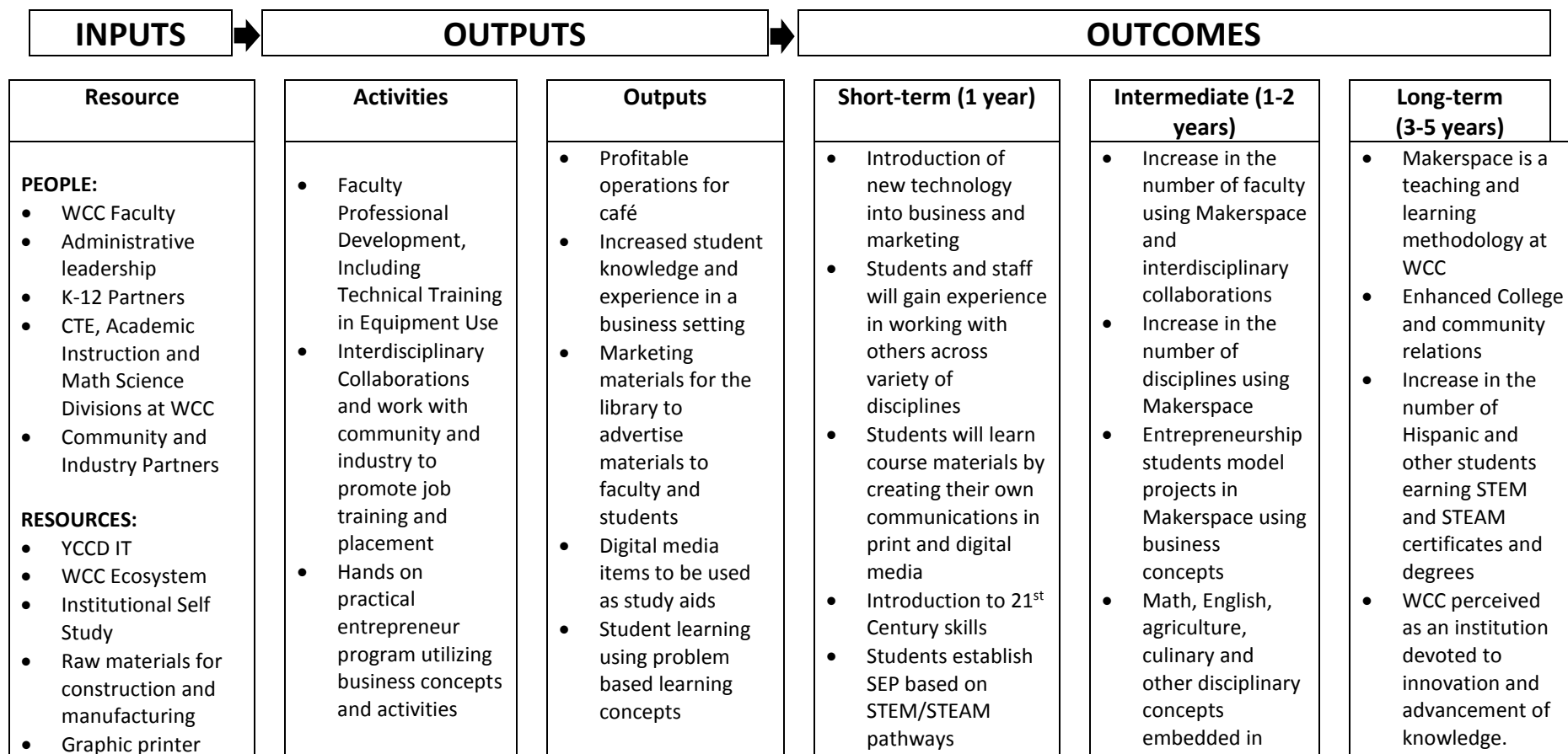


WCC Grant Logic Model

Situation or issue: Woodland Community College is a Hispanic Serving Institution with 49% Hispanic Enrollment, but low enrollment and completion rates in STEM/STEAM disciplines.

Priorities: Establish and implement STEM/STEAM pathways through interdisciplinary collaboration that leverages Makerspace and problem based learning activities. Meets:

- **WCC 2016-2019 Educational Master Plan Completion Phase Objectives** (Students complete course of study through certificate/degrees with labor market value): Design, Execute and Assess California Community College Curriculum Gap Analysis and Enhancement Plan;
- **Aspen Institute College Excellence Program (2016):** Establish Clear Student Success Goals, Building on the Completion by Design Framework



WCC Grant Logic Model

<ul style="list-style-type: none"> • Project Team • WCC President's Cabinet • Student Success Center • Academic Senate • TAPs and DSNs • Equipment • MESA Space • Digital Media Lab • Makerspace • Curriculum Committee • Counseling Department • Local Makerspaces • FBLA Entrepreneurship Club • Dual Enrollment Program • Strong Workforce/Doing What Matters Initiative • Business and Industry Partnerships • CWEE Program <p>PLANNING</p> <ul style="list-style-type: none"> • Identify STEM Pathways • Incorporate Makerspace in EMP Activities • Recruit Multi-disciplinary Faculty for Interdisciplinary Collaboration 	<p>related to Makerspace</p> <ul style="list-style-type: none"> • STEM/STEAM Pathways Development and Intentional Scheduling • Participate in Regional Collaborations • Design Makerspace as Part of Student Success Center • Reactivate Digital Media Curriculum • Implement Completion by Design Phases in Matriculation and Student Advising • STUDENT CONNECTION PHASE: Early Outreach to Secondary Schools • STUDENT ENTRY PHASE: Comprehensive Student Education Plans with FYE and "ME first" • Administer SENSE Survey to entering students • Integrate Makerspace in Curriculum Development 	<ul style="list-style-type: none"> • Develop WCC Makerspace • Introduce students to STEM/STEAM careers and entrepreneurship • Retooling curriculum to reflect interdisciplinary or contextualized learning • Internships 	<ul style="list-style-type: none"> • Increase in level of faculty engagement with students • SENSE and CCCSE data results are used in program reviews and evaluation of EMP • Establish baseline benchmarks for student completion • Increase industry relations • Increase secondary school relations • Increase in number of students reached through CbD methodology 	<p>Makerspace activities</p> <ul style="list-style-type: none"> • Makerspace activities linked to Institutional Learning Outcomes in terms of technology awareness and communication • Biology, chemistry and math/science disciplines engage students in the process of supporting academic achievement and scientific research • Engage WCC Foundation and industry to foster partnerships that lead to sustainable Makerspace. • Leverage Community of Practice 	<ul style="list-style-type: none"> • Interdisciplinary and contextualized learning is a core of WCC curriculum development and scheduling • Makerspace is institutionalized at WCC • Completion rates increase as a result of comprehensive portfolio of CTE and STEM/STEAM programming that support labor market success and 21st Century Skills • Last year of EMP evaluation – Makerspace concepts integrated in 2019-2021 EMP planning • Student entrepreneurs identify projects that can be marketed.
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WCC Grant Logic Model

- Work with Counseling Department
- Purchase Equipment and Design Space
- 3-D Printer
- Die-cut Machines
- Digital drawing boards
- Multi page scanner
- Establish Sustainability Plans
- Integrate Results from CCSSE and SENSE in completion by Design and Problem Based Learning
- Drive Program Selection Based on Labor Market Value
- Student run café modeling entrepreneurship

- Introduce Students to STEM/STEAM Activities and Entrepreneurship
- **STUDENT PROGRESS PHASE**
- Continue to Emphasize Program Based Learning
- Administer CCSSE Student Surveys to Continuing Students
- Organize and Participate in Maker Events
- Increase Intrusive Student Supports
- Include Parents and Community in WCC Maker Showcases
- **STUDENT COMPLETION PHASE:**
- Plan Student Internships
- Work with Business and Industry
- Improve Student Career Exploration and Job Placement

WCC Grant Logic Model

Assumptions: Research-based student engagement practices (active and collaborative learning, problem based learning, student internship, curriculum innovation and faculty engagement) applied to students to support STEM/STEAM completion among Hispanic students utilizing Makerspace activities.

External Factors:

- Business, Industry and College collaborations
- Resource development to sustain Makerspace
- State and District budgets
- Student preparation for STEM/STEAM fields

EVALUATION: Focus (decide what to evaluate) → Collect Data → Analyze and interpret → Completion/Report/Follow-up

- Student Retention (term to term) in STEM/STEAM courses
- Student completion rates in STEM/STEAM courses
- SENSE/CCSSE and WCC Student Services survey results
- Increase in student success and enrollment using CbD
- Increase in the number of internships in 21st century skills
- Increase in the number of STEM/STEAM certificates and degrees