

Associate Degree Program Title: Associate of Science in Civil Engineering Technology Formerly (If Applicable include Program Title):

College: Trades and Professional Services **Division:** Academic Affairs Division

Date Submitted to CRC: 3/21/2022

Date Reviewed by CRC: 3/30/2022

Author 1: Gil T. Yanger Author 2 (optional):

APPROVED

EFFECTIVE CATALOG: AY2022-2023

DATE APPROVED: 05/20/2022

EFFECTIVE BANNER TERM: 202280

APPROVED BY	NAME	SIGNATURE	DATE
DEAN	Pilar P. Williams	Plan Well's	5.2.2022
VP for ACADEMIC AFFAIRS	Virginia C. Tudela, Ph.D.	Monde	05.20.22
PRESIDENT	Mary A.Y. Okada, Ed.D.		

Type of Action: Substantive Revision

RE-INSTITUTION (attach a copy of the most recently approved course curriculum and update the following information). Justification for course re institution:

Type of Substantive Action(s) - Please specify the type(s) of substantive change(s) requested

- 1. Substantive Change 1: Update of Student Learning Outcomes
- 2. Substantive Change 2: Update Major Requirements
- 3. Substantive Change 3: Update General Education Requirements
- 4. Substantive Change 4: Update Program Credits
- 5. Substantive Change 5:
- 6. Substantive Change 6:
- 7. Other (Describe SR changes if not listed above):

Type of Non-Substantive Action(s) - Please specify the type(s) of nonsubstantive change(s) requested

- 1. Non-Substantive Change 1:
- 2. Non-Substantive Change 2:
- 3. Non-Substantive Change 3:
- 4. Non-Substantive Change 4:
- 5. Other (Describe NSR changes if not listed above):

INTRODUCTION

Contextual Framework for Adoption or Re Institution:

This is a CTE program and is aligned with following Career Cluster: Science, Technology, Engineering, and Mathematics

And is aligned with the following Career Pathway: Engineering and Technology

Implementation Term: Summer 2022 or Fall 2022 RATIONALE FOR PROPOSAL

Reason this proposal should be adopted in light of the College's mission statement and educational goals (adoptions only):

Guam Community College is a leader in career and technical workforce development, providing the highest quality, student-centered education and job training for Micronesia. This means that Guam Community College must provide the necessary courses required by the Civil Engineering marketplace. This program develops the knowledge, skills, and expertise of those interested in working with construction or engineering firms, or the Guam Department of Public Works.

Long-term employment outlook for this program area, including the number of available positions in the service area for graduates and expected salary level (update for currency).:

With the military buildup on the island, Guam is experiencing an increase in demand for training and workforce development to support the increase in population and growth in infrastructure. The AS in Civil Engineering program was made to support and meet this demand. Students completing the program may choose to enter the workforce or continue to pursue a Bachelor's degree in Civil Engineering.

Students who complete the program may qualify in a wide range of employment opportunities that involve drafting, the maintenance and installation of equipment, surveying, materials testing, estimating, specification writing, and purchasing.

Conformity of this program to legal and other external requirements. Include Guam State CTE requirements, accrediting agency standards, State Board regulations, and professional certification or licensing requirements if applicable.:

This program is in compliance with the Accrediting Commission for Community and Junior Colleges Accreditation Standards and Requirements.

Results of program assessment:

Guam will require the services of surveying, mapping, and GIS technicians during the design, construction, and maintenance of the military buildup. The Guam Society of Professional Land Surveyors recognizes the need to train the local workforce in surveying and mapping and is fully supportive of this program. In addition, the path towards licensure as a Professional Land Surveyor and Civil Engineer requires successful completion of many of the courses, or their equivalent, outlined here. Completion of this program will partially fulfill the academic portion of professional licensure.

Target Population:

High school graduates, individuals interested in the Associates in Civil Engineering program, or adults seeking retraining in new fields/careers.

RESOURCE REQUIREMENTS AND ESTIMATED COSTS

Resources (materials, media, equipment) and costs (only add if new for the program): n/a

Facility requirements (only add if new for the program): n/a

Does the proposed curriculum meet the requirements for Title IV Federal Student Aid?: Yes.

Comments (optional):

PROGRAM DESCRIPTION & STUDENT LEARNING OUTCOMES -PROGRAM LEVEL

This program description will appear in the College Catalog followed by the Student Learning Outcomes – Program Level. *Refer to Student Learning Outcomes (SLO) Handbook in developing SLO's (available on the Worklife tab on MyGCC).

Program Description:

The Associate of Science in Civil Engineering Technology is a course of study that prepares students to analyze construction sites, use and maintain equipment, draft plans, and write reports. Technical requirement classes are designed to provide students with fundamentals in surveying, analyzing material strength, and structural drafting and design. This course of study will provide students with an overview of technical drawing, construction management and procedures, planning, and estimating. The student learning outcomes meet the professional standards of technicians in this field.

Program Learning Outcomes 1:

Properly use surveying equipment and tools and perform applications accordingly.

Program Learning Outcomes 2:

Create a construction drawing set consisting of at least six sheets from a design.

Program Learning Outcomes 3:

Perform basic techniques and skills using modern engineering tools in the current civil engineering industry.

Program Learning Outcomes 4:

Sequence the steps related to the construction process in chronological order.

Program Learning Outcomes 5:

These PLOs can be measured and learning is demonstrated.: These PLOs can be measured and learning is demonstrated.

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PROGRAM DESCRIPTION & CONTENT

Program Title: Associate of Science in Civil Engineering Technology

General Education Requirements (19 is the minimum number of credits):	20-22
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Total Number of Credits for Associates:	63-65
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English (EN 110 and EN 110A are equivalents):EN110Freshman Composition

EN110A	Freshman Composition with Instructional Lab	<mark>4</mark>
Mathemati	cs:	
MA161A	College Algebra & Trigonometry I	<mark>4</mark>
Literacy fo	r Life:	
CO110	Critical Thinking for Civic Engagement	<mark>3</mark>
Humanities	s & Fine Arts:	
(Choose on	e course from the following to meet the required 3-4 credits)*	
ASL100	American Sign Language I	4
CH110	CHamoru I	4
CO125	Introduction to Human Communication and Speech	3
ED265	Culture & Education in Guam	3
EN210	Introduction to Literature	3
HI121	World Civilization (Pre-historic Time to 1500)	3
HI122	World Civilization (1500 to Present Time)	3
HI176	Guam History	3
HM110	Introduction to Community Services	3
HM201	Social Welfare & Development	3
HU120	Pacific Cultures	3
HU220	Guam Cultures & Legends	3
JA110	Japanese I	4
KE110	Korean I	4
PI101	Introduction to Philosophy	3
TH101	Introduction to the Theater	3
VC101	Introduction to Visual Communications	3

*Any foreign language, humanities, or fine arts course will be considered for the completion of this category

Natural & Pl	hysical Sciences (All options are 4 credits):	
<mark>SI141</mark>	Applied Physics I	4
Social & Be	havioral Sciences:	
(Choose one	e course from the following to meet the required 3 credits)	
CJ100	Introduction to Criminal Justice	3
EC110	Principles of Economics	3
PS140	American Government	3
PY100	Personal Adjustment	3
PY120	General Psychology	3
PY125	Interpersonal Relations	3
SO130	Introduction to Sociology	3
WG101	Introduction to Women and Gender Studies	3
*Any social a	and behavioral science course will be considered for the con	npletion of this category

List Major Requirements (alpha/number/title/credits) this includes any General Education courses in addition to what is required under General Education Requirements. Include total number of credits:

AE103	Basic Blueprint Reading	3
AE121	Technical Engineering Drawing I	3
AE122	Technical Engineering Drawing II	3
AE138	Building Codes, Specifications & Construction Management	3
AE150	Comp Aided Design & Draft I	3
AE160	Comp Aided Design & Draft II	3
CE210	Statics	3
CE211	Plane Surveying I	3
CE215	Construction Procedures	3
CE225	Construction Planning & Estimating	3
CT100	Introduction to Construction Trades	3 OR
SU100	Survey Drafting	3
EN194	Technical Communication	3
MA161B	College Algebra & Trigonometry II	4
SU250	Introduction to Geographic Information Systems	3

List Elective Courses (or provide category, optional) include total:

Eligibility Requirements or Prerequisite requirements (if applicable):

Articulation (if applicable - DCAPS, UOG, etc.):

Students in the Secondary DCAPS program gain credits that articulate to this degree-approximately 12 credits.

Course Sequence by Semester

e (please include subject/course number/title/credits:	
Basic Blueprint Reading	3
Introduction to Construction Trades	3 OR
Surveying Drafting	3
Critical Thinking for Civic Engagement	3
Freshman Composition	3 OR
Freshman Composition with Instructional Lab	4
College Algebra & Trigonometry I	4
e Credit Total:	16-17
o (please include subject/course number/title/credits:	
Technical Engineering Drawing I	3
Comp Aided Design & Draft I	3
Technical Communication	3
College Algebra & Trigonometry II	4
Applied Physics I	4
Semester Two Credit Total:	
	e (please include subject/course number/title/credits: Basic Blueprint Reading Introduction to Construction Trades Surveying Drafting Critical Thinking for Civic Engagement Freshman Composition Freshman Composition with Instructional Lab College Algebra & Trigonometry I e Credit Total: o (please include subject/course number/title/credits: Technical Engineering Drawing I Comp Aided Design & Draft I Technical Communication College Algebra & Trigonometry II Applied Physics I o Credit Total:

Semester Thi	ee (please include subject/course number/title/credits:	
AE138	Building Codes, Specifications & Construction Management	3
AE160	Comp Aided Design & Draft II	3
CE210	Statics	3
CE211	Plane Surveying I	3
CE215	Construction Procedures	3
SU250	Introduction to Geographic Information Systems	3
Semester Three Credit Total:		18
Semester For	ur (please include subject/course number/title/credits:	
AE122	Technical Engineering Drawing II	3
CE225	Construction Planning & Estimating	3
Humanities & Fine Arts		3-4 credits
Social and Behavioral Sciences		3 credits
Semester Four Credit Total:		12-13

Semester Five (please include subject/course number/title/credits: <<Semester Five (please include subject/course number/title/credits>> Semester Five Credit Total: <<Semester Five Credit Total>>

Semester Six (please include subject/course number/title/credits: <<Semester Six (please include subject/course number/title/credits>> Semester Six Credit Total: <<Semester Six Credit Total>>

Advisory Committee Minutes

Please copy and paste meeting minutes or submit to CRC via email gcc.crc@guamcc.edu : September 25, 2021 Construction Trades Advisory Committee meeting minutes Call to Order: 1130

Roll Call: Paul Santos (DLM-PE), Bruce Thorson (DCA-civil engineer), Dave Santos, John Zilian, Robert Balajadia (Construction Project Manager), Larry Taitano, Kenny Rekdahl (DCA-engineer), Tommy Tyquiengco, Mateo Matanane (Architect), and Gil Yanger (General Contractor)

Agenda:

Recommendations for curriculum adjustments to Construction Trades, Civil Engineering, Surveying Technology and Pre-Architectural Certificate and Degree programs. AS in Civil Engineering AS in Pre-Architectural Drafting AS in Surveying Technology Courses for archive are: CE121-Properties of Materials; CE213-Hydraulics; CE214-Structural Design; CE221-Strength of Materials; CE224-Highways. Courses for removal of prerequisites: CE211-Plane Surveying I

Rationale:

Changes deemed as necessary in assisting students in realizing skills and knowledge essential to their respective field of study. Changes recommended will reflect rigor and pertinence requested by Industry for students' success in the field.

All motions were carried unanimously.

Adjournment: Motion by Dave Santos: Seconded by Bruce Thorson. Meeting adjourned: 1400