

Date: 4/5/2021

**REQUESTOR CONTACT INFORMATION**

Name Susan Kazama Campus Honolulu CC  
 Title Interim Vice Chancellor Email smurata@hawaii.edu  
 Office/Dept Academic Affairs Phone 845-9158

**NEW PROGRAM CODE TO CREATE**

Institution HON - Honolulu CC Campus HON - Honolulu CC  
 Level UG - Undergraduate Effective Term Fall 2021

	Code (Max. Characters)	Description	Check if requesting new code:
College	(2) <u>TR</u>	<u>Transportation &amp; Trades</u>	<input type="checkbox"/> See Banner form STV_COLL
Department	(4) <u>TR</u>	<u>Transportation &amp; Trades</u>	<input type="checkbox"/> See Banner form STV_DEPT
Degree/Certificate	(6) <u>AS/CA</u>	<u>Assoc. in Science/Cert. of Ach</u>	<input type="checkbox"/> See Banner form STV_DEGC
Major	(4) <u>AEC1</u>	<u>Architecture, Eng. &amp; Construction</u>	<input checked="" type="checkbox"/> See Banner form STV_MAJR
Concentration	(4) <u>CMGT</u>	<u>Construction Management</u>	<input type="checkbox"/> See Banner form STV_MAJR
Minor	(4) _____	_____	<input type="checkbox"/> See Banner form STV_MAJR

If a similar major/concentration code exists in Banner, please list the code: 15.1001

Justification to warrant a new major/concentration code similar to an existing major/concentration code:

Purpose of program name modification is to better reflect the area of focus of the current program and does not include significant changes to any program requirement. This change will help us ensure our ability to continuously adjust our curriculum to match the industry technology.

Is this major/concentration code being used the same way at the other UH campuses?  Yes  No

Should this program be available for applicants to select as their planned course of study on the online application? *If yes, student may select the code as their only program of study.*  Yes  No

**RULES PERTAINING TO FINANCIAL AID AND 150% DIRECT SUBSIDIZED LOAN LIMIT LEGISLATION**

Is 50% or greater of the classes in this program offered at a location other than the Home Campus?  Yes  No

Is this program/major/certificate financial aid eligible?  Yes  No

Does this certificate qualify as a Gainful Employment Program (Title IV-eligible certificate program)?  Yes  No

See <http://www.ifap.ed.gov/GainfulEmploymentInfo/index.html>

**Program Length**

(In academic years; decimals are acceptable.) The length of the program should match what is published by the campus in any online and/or written publication.

**Special Program Designations**

See Special Program Designations Code Definitions on IRAO Program Code Request webpage

A  B  N  P  T  U

Required Terms of Enrollment  Fall  Spring  Summer  Extended

*15.1001/2021 Fall 2021*

**IRAO USE ONLY: DATE RECEIVED**

**EXISTING PROGRAM CODE TO REPLACE**

Program Code	<u>AEC</u>	Program Description	<u>Architectural, Eng. and CAD Tech</u>
Institution	<u>HO-Honolulu CC</u>	Campus	<u>Honolulu CC</u>
College	<u>TR</u>	Department	<u>TR</u>
Level	<u>UG</u>		

Are current students "grandfathered" under the program code?  Yes  No  
 Should the old program code be available for use in Banner?  Yes  No

**Effective** Fall 2021, old program code will no longer be available to admit or recruit students.  
Term (ie. Fall 2014)

*This will turn off the online application, recruitment (effects Banner forms SRASUMI and SRAQUIK) and admissions (effects Banner forms SAADCRV, SAAADMS, SAASUMI, SAAQUIK, and SAAQUAN) Banner modules.*

**Effective** Fall 2031, old program code will no longer be available to award degree to students.  
Term (ie. Fall 2014)

*This will turn off the general student (effects Banner form SGASTDN) and academic history (effects Banner form SHADEGR) Banner modules.*

**ADDITIONAL COMMENTS**

**ATTACHMENTS**

**BOR Approved:** Associate, Bachelor and Graduate Degrees, and sole credential certificates

- BOR Meeting Minutes & Supporting Documents OR Memo with President's Approval, with cc to Vice President for Academic Planning and Policy.
- Curriculum

**Chancellor Approved:** Certificates (eg. Certificate of Achievements, Certificates of Competence, Subject Certificates, Academic Subject Certificates) & Associate in Technical Studies (ATS) Degree

- Memo from Chancellor to Vice President for Academic Planning and Policy regarding program action.
- Curriculum

**VERIFICATIONS**

*By signing below, I verify that I have reviewed and confirm the above information that is pertinent to my position.*

**Registrar**  
(Print Name)

**Financial Aid Officer**  
(Print Name)

**For Community Colleges,**  
**verification of consultation with**  
**OVPCC Academic Affairs:**

Josephine Stenberg

Heather Florendo

Della Teraoka

Josephine Stenberg 4/5/21  
 Signature Date

Heather Florendo 4/5/21  
 Signature Date

Della Teraoka 4/6/2021  
 Signature Date



UNIVERSITY of HAWAII\*  
**HONOLULU**  
 COMMUNITY COLLEGE

July 19, 2021

**MEMORANDUM**

TO: David Lassner  
 President

VIA: David Lassner  
 Office of the Vice President for Academic Strategy

VIA: Erika Lacro  
 Vice President for Community Colleges

VIA: Tammi Oyadomari-Chun  
 Interim Associate Vice President for Academic Affairs

FROM: Karen C. Lee *Karen C. Lee*  
 Interim Chancellor, Honolulu Community College

SUBJECT: Program Name Change, Major Code and CIP code – Architectural,  
 Engineering and CAD Technologies and CIP code 15.1303

**SPECIFIC ACTION REQUESTED:**

It is requested that the President approve Honolulu Community College's request to change the program's name from Architectural, Engineering and CAD Technologies to Architecture, Engineering and Construction Technologies program (AEC1) with CIP 15.1001 Construction Engineering Technology/Technician

**RECOMMENDED EFFECTIVE DATE:**

Upon approval.

**ADDITIONAL COST:**

None.

**PURPOSE:**

The purpose of this program name modification is to better reflect the area of focus of the current program and does not include significant changes to any program requirements. CAD technology has been implemented in more than just the traditional

David Lassner  
July 19, 2021  
Page 2

Architectural and Engineering industries. The term CAD refers to a specific type of technology used in the industries we serve.

The technology has trickled down into the construction industries as well. We place more students in construction related jobs than any other industry. Removing "CAD" will give us a more generalized and flexible program title without labeling us to a specific type of technology. This change will help us ensure our ability to continuously adjust our curriculum to match the industry technology.

BACKGROUND:

Executive Policy EP 5.201.IV.C.3 Requests to change academic program titles in order to maintain currency in terminology and which involve no substantive change in the program are made to the President. Upon approval, such changes are reported to the Board of Regents as an information item.

ACTION RECOMMENDED:

It is recommended that the President approve Honolulu Community College's request to change the program name from Architectural, Engineering and CAD Technologies (AEC) to Architecture, Engineering and Construction Technologies (AEC1) with CIP 15.1001.

APPROVED/ DISAPPROVED:

\_\_\_\_\_  
David Lassner, President

\_\_\_\_\_  
Date

- c: Pearl Iboshi, Director of Institutional Research and Analysis Office
- Della Teraoka, Interim Director of Academic Programs
- Debra Halbert, Associate Vice President for Academic Programs and Policy
- Susan Kazama, Interim Vice Chancellor of Academic Affairs, HonCC
- Preshess Willets-Vaquilar, Interim Dean, Transportation and Trades Program
- Faamamata Tuifele, Acting Registrar
- Heather Florendo, Financial Aid Officer



David Lassner  
July 19, 2021  
Page 2

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BACKGROUND:

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ACTION RECOMMENDED:

It is recommended that the President approve Honolulu Community College's request to change the program name from Architectural, Engineering and CAD Technologies (AEC) to Architecture, Engineering and Construction Technologies (AEC1) with CIP 15.1001.

APPROVED/  DISAPPROVED:



\_\_\_\_\_  
David Lassner, President

Digitally signed by David Lassner

Date: 2021.07.22 09:42:28 -10'00'

\_\_\_\_\_  
Date

- c: Pearl Iboshi, Director of Institutional Research and Analysis Office  
Della Teraoka, Interim Director of Academic Programs  
Debora Halbert, Associate Vice President for Academic Programs and Policy  
Susan Kazama, Interim Vice Chancellor of Academic Affairs, HonCC  
Preshess Willets-Vaquilar, Interim Dean, Transportation and Trades Program  
Faamamata Tuifele, Acting Registrar  
Heather Florendo, Financial Aid Officer

# AEC Architecture, Engineering and Construction Technologies

Approved | Fall 2020

## Proposal Information

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### Workflow Status

#### Proposer

- ✓ **Guy Fo (Submitter)**  
Submitted 9-21-2019

#### *(CURRICULUM PLANNING COMMITTEE) \\ CPC Chair*

- **Coty Gonzales**
- ✓ **Guy Fo**  
Approved 11-5-2019

Approved by unanimous quorum vote of CPC membership on 10-18-2019. No issues needed to be addressed at this level.

#### *(VCAA) \\ VCAA*

- ✓ **Susan Kazama**  
Approved 11-11-2019

#### *(Chancellor) \\ CHANCELLOR*

- ✓ **Karen Lee**  
Approved 12-15-2019

#### *(POST APPROVAL NODE) \\ BANNER*

- ✉ **Pat Yahata**

#### *(POST APPROVAL NODE) \\ CATALOG*

- ✉ **Sandra L Pinell**

(POST APPROVAL NODE) \\ STAR

✉ Balbag-Gerard, Erica

(POST APPROVAL NODE) \\ SCHEDULER

✉ Karadeen Kam-Kalani

### Changes

- affectedCatalogPages
- \*\* (1.5) Program Description (Required)
- \*\* (1.7) PLOs (Program Learning Outcomes) and ILOs (Institutional Learning Outcomes) (Required)
- \*\* (1.4) Program Mission (Required)
- (2.3) Recommended Prep

Show All ▼

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### Instructions for accessing Program Forms:

1. KSCM accommodates only one proposal in "Review" per program, at any given time. The proposal in "Review" must be approved or withdrawn before additional proposals are drafted in KSCM.
2. To MODIFY an Existing Program: Select "Programs" from the left-side bar, search for and open the desired program, then select "Propose Changes" in the right-side bar.
3. To DUPLICATE a program to create a New Program: Open the Existing Program, then click the "Duplicate" button in the right-side bar
4. To CREATE a New Program: Select "Programs" from the left-side bar, then click the "+New Program" button above the right-side bar.
5. KSCM training videos may be found at: <https://programs.honolulu.hawaii.edu/intranet/node/2206>

### \*\* Program Alpha (Program Code) (Required)

AEC

Changes

### \*\* Program Title (Required)

Architectural **Architecture**, Engineering and ~~CAD~~ **Construction** Technologies

### \*\* Effective Term (Required)

Fall 2020

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## A. Program Proposal Details

### \*\* (A) Proposer Name (Required)

Changes

Guy Fo

**\*\* (B) Date Proposal Created (Required)**

09/20/2018-2019

**\*\* (C) Action Proposed (Required)**

Modify Program

**(D) Proposed New Program Alpha (Subject Code), if applicable.**

**(E) Proposed New Program, Degree, Certificate, or Concentration, if applicable.**

### **BOR Approval**

**\*\* (F) Proposal Summary and Rationale (Required)**

1) This proposal is to request a change to the program name from Architectural, Engineering and CAD Technologies to Architecture, Engineering and Construction Technologies. The rationale behind this change has many factors. As each year goes by, CAD technology has been implemented in more than just the traditional Architectural and Engineering industries. The technology has trickled down into the construction industries as well. Right now, we place more students in construction related jobs than any other industry. Just as the technology has steadily evolved within the industries, so should our name to align with that change. Another reason to make this change is that the name is redundant in nature. The term CAD refers to a specific type of technology used in the industries we serve. Removing "CAD" from our name will not eliminate our ability to offer the same technological training we have always provided, but instead will give us a more generalized and flexible program title that can last a very long time without labeling us to a specific type of technology. Keeping the "Technology" portion of the name covers all technology we may ever need to offer to align with industry needs. This change will help us ensure our ability to continuously adjust our curriculum to match the direction industry technology may go.

This name change has also been a part of discussions with HawaiiCC who also has an AEC program. We have started to formulate a plan through PCC meetings to create a true alignment between our two campuses/programs. HawaiiCC has already completed their name change ahead of us and we will need to also complete this change to ensure the plan to align our programs can be successful. This alignment plan will give all AEC students at both campuses great flexibility in course selection and transfer.

2) Fixed language tied to changing the program name

3) Added courses to language in Recommended prep

**Proposal Summary and Rationale - Attach supporting documents as applicable**

**\*\* (G) Impact on other Courses (Required)**

none

**\*\* (H) Impact on other Programs/Departments (Required)**

AEC - HawaiiCC

**\*\* (I) Other affected Programs/Departments have been consulted (Required)**

Yes

Changes



**If Yes, List Contacts**

Proposal ~~Gail~~ had been shared with the following Department Liaisons:

Humanities — Kara Kam Kalani

Language Arts — Jeff Stearns ~~Cho~~

**(J) Impact on Articulation with other Campuses**

Changes

**(K) Impact on Resources****\*\* (L) Workflow Division (Required)**

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## 1. Program Data

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Note: Non-Curriculum catalog information (i.e. liaison, phone, email, website, address, faculty, cost of textbooks and supplies, advisory committee) is not included below and should be reviewed and updated via Program Dean/Div Chair.

**(1.1) Program Alpha (Program Code)**

AEC

Changes

**(1.2) Program Title**

Architectural ~~Architecture~~, Engineering and ~~CAE~~ **Construction** Technologies

**(1.3) Division**

Transportation & Trades (TR)

Changes

**\*\* (1.4) Program Mission (Required)**

The Architectural ~~Architecture~~, Engineering and ~~CAE~~ **Construction** Technologies program's mission is to:

- Provide students with state-of-the-art technical training in preparation for architectural ~~architecture~~, engineering, construction management, or related employment.
- Meet the needs of students with specialized interests and objectives who need or desire similar training.
- Provide students with the general education skills, attitudes, and values for effectively working with others, contributing to the AEC industry, and accepting responsibilities implied in support of a safe and sustainable natural and built environment.

Changes

**\*\* (1.5) Program Description (Required)**

The Architectural ~~Architecture~~, Engineering and ~~CAE~~ **Construction** Technologies program is designed to prepare students for immediate employment as architectural ~~architecture~~ or engineering drawing technicians, or construction management interns. It also prepares in-service professionals for employment upgrading. Some students also use the program to prepare for employment in building construction, interior design drawing, kitchen and bath design, solar energy planning, construction estimating, land surveying, and various other fields. If you are interested in using the program as a step on the way to a bachelor's degree in architecture or engineering, please see a Honolulu Academic Counselor.

Incoming students choose either an architectural technology track or a construction management track. More than 70 percent of the courses are shared by the two tracks, either is appropriate for students with a principal interest in engineering technology, and both include two online courses. 3D printing, field shadowing, portfolio presentations, and other activities are also parts of the program.

The program leads to an Associate in Science degree, and there is a shorter Certificate of Achievement available for students with special non-degree objectives. Both degree and certificate students must earn a grade of "C" or higher in all required AEC, Math and ENG courses.

Students are encouraged to have access to a "newer" desktop or laptop computer with a minimum 17-inch screen to complete assigned drawings and other projects outside of class. There is also a requirement of 40 hours of AEC-related school and community service apart from coursework prior to completion of the program, and new students are required to attend an AEC orientation session.

#### **(1.6) Other Program Information**

**This Add File button will be retired. Please Use Box 2.6 instead.**

Proposed

**\*\* (1.7) PLOs (Program Learning Outcomes) and ILOs (Institutional Learning Outcomes) (Required) ②**

Draw objects of various orientations as may be prescribed, draw sections and elevations of objects, and interpret drawings identify the relationships of objects or object features to demonstrate visualization and graphic representation proficiency and knowledge.

**Linked Institution Outcomes**

1. Critical Thinking – Effectively analyze arguments, assumptions, and problems and draw conclusions.
3. Effective Communication – Actively express and exchange ideas through listening, speaking, reading, writing, and other modes of interpersonal expression.
4. Quantitative Reasoning – Effectively analyze numerical data, solve quantitative problems, and apply mathematical concepts.

**LINKED COURSE OUTCOMES**

— None —

Identify or describe the typical characteristics and uses of common construction materials, products, and systems, assess their sustainability, document them in drawings, and make appropriate selections based on design project requirements.

**Linked Institution Outcomes**

2. Information Literacy – Form strategies to locate, evaluate, and apply information, and know the ethical and legal issues surrounding information and information technology.
3. Effective Communication – Actively express and exchange ideas through listening, speaking, reading, writing, and other modes of interpersonal expression.
5. Career Preparation – Demonstrate knowledge and skills to successfully move to a baccalaureate education or selected vocation.
6. Community Awareness and Social Responsibility – Demonstrate and apply an understanding of moral and ethical issues that pertain to the environment, social justice, and cultural diversity.

**LINKED COURSE OUTCOMES**

— None —

Demonstrate either proficiency in designing and creating the construction documents and a materials estimate for a residential or commercial building, or essential skills necessary for responsibly planning, scheduling, and managing a construction project.

**Linked Institution Outcomes**

1. Critical Thinking – Effectively analyze arguments, assumptions, and problems and draw conclusions.
2. Information Literacy – Form strategies to locate, evaluate, and apply information, and know the ethical and legal issues surrounding information and information technology.
3. Effective Communication – Actively express and exchange ideas through listening, speaking, reading, writing, and other modes of interpersonal expression.
4. Quantitative Reasoning – Effectively analyze numerical data, solve quantitative problems, and apply mathematical concepts.
5. Career Preparation – Demonstrate knowledge and skills to successfully move to a baccalaureate education or selected vocation.

**LINKED COURSE OUTCOMES**

— None —

Demonstrate proficiency in the use of the latest 3D computer modeling software, applicable codes, and industry best practices to create, modify, reconcile, or parse architectural or engineering design and construction documents.

**Linked Institution Outcomes**

1. Critical Thinking – Effectively analyze arguments, assumptions, and problems and draw conclusions.
2. Information Literacy – Form strategies to locate, evaluate, and apply information, and know the ethical and legal issues surrounding information and information technology.
5. Career Preparation – Demonstrate knowledge and skills to successfully move to a baccalaureate education or selected vocation.

**LINKED COURSE OUTCOMES**

— None —

Model habits and attitudes for success in professional employment, prepare and present a professional resume and portfolio, and demonstrate developed interviewing skills in preparation for employment.

**Linked Institution Outcomes**

2. Information Literacy – Form strategies to locate, evaluate, and apply information, and know the ethical and legal issues surrounding information and information technology.
3. Effective Communication – Actively express and exchange ideas through listening, speaking, reading, writing, and other modes of interpersonal expression.
5. Career Preparation – Demonstrate knowledge and skills to successfully move to a baccalaureate education or selected vocation.
6. Community Awareness and Social Responsibility – Demonstrate and apply an understanding of moral and ethical issues that pertain to the environment, social justice, and cultural diversity.

**LINKED COURSE OUTCOMES**

— None —

Demonstrate computation, communication, critical thinking, research, and problem-solving skills as well as a sensitivity and appreciation of diversity and community to perform effectively as a team member in a professional, competitive, and diverse work environment and as a responsible member of the community.

**Linked Institution Outcomes**

1. Critical Thinking – Effectively analyze arguments, assumptions, and problems and draw conclusions.
5. Career Preparation – Demonstrate knowledge and skills to successfully move to a baccalaureate education or selected vocation.
6. Community Awareness and Social Responsibility – Demonstrate and apply an understanding of moral and ethical issues that pertain to the environment, social justice, and cultural diversity.

**LINKED COURSE OUTCOMES**

— None —

Existing

**\*\* (1.7) PLOs (Program Learning Outcomes) and ILOs (Institutional Learning Outcomes) (Required) ②**

• Draw objects of various orientations as may be prescribed, draw sections and elevations of objects, and interpret drawings identify the relationships of objects or object features to demonstrate visualization and graphic representation proficiency and knowledge.

**Linked Institution Outcomes**

1. Critical Thinking – Effectively analyze arguments, assumptions, and problems and draw conclusions.
3. Effective Communication – Actively express and exchange ideas through listening, speaking, reading, writing, and other modes of interpersonal expression.
4. Quantitative Reasoning – Effectively analyze numerical data, solve quantitative problems, and apply mathematical concepts.

**LINKED COURSE OUTCOMES**

— None —

• Identify or describe the typical characteristics and uses of common construction materials, products, and systems, assess their sustainability, document them in drawings, and make appropriate selections based on design project requirements.

**Linked Institution Outcomes**

2. Information Literacy – Form strategies to locate, evaluate, and apply information, and know the ethical and legal issues surrounding information and information technology.
3. Effective Communication – Actively express and exchange ideas through listening, speaking, reading, writing, and other modes of interpersonal expression.
5. Career Preparation – Demonstrate knowledge and skills to successfully move to a baccalaureate education or selected vocation.
6. Community Awareness and Social Responsibility – Demonstrate and apply an understanding of moral and ethical issues that pertain to the environment, social justice, and cultural diversity.

**LINKED COURSE OUTCOMES**

— None —

• Demonstrate either proficiency in designing and creating the construction documents and a materials estimate for a residential or commercial building, or essential skills necessary for responsibly planning, scheduling, and managing a construction project.

**Linked Institution Outcomes**

1. Critical Thinking – Effectively analyze arguments, assumptions, and problems and draw conclusions.
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5. Career Preparation – Demonstrate knowledge and skills to successfully move to a baccalaureate education or selected vocation.

**LINKED COURSE OUTCOMES**

— None —

• Demonstrate proficiency in the use of the latest 3D computer modeling software, applicable codes, and industry best practices to create, modify, reconcile, or parse architectural or engineering design and construction documents.

**Linked Institution Outcomes**

1. Critical Thinking – Effectively analyze arguments, assumptions, and problems and draw conclusions.
2. Information Literacy – Form strategies to locate, evaluate, and apply information, and know the ethical and legal issues surrounding information and information technology.
5. Career Preparation – Demonstrate knowledge and skills to successfully move to a baccalaureate education or selected vocation.

**LINKED COURSE OUTCOMES**

— None —

• Model habits and attitudes for success in professional employment, prepare and present a professional resume and portfolio, and demonstrate developed interviewing skills in preparation for employment.

**Linked Institution Outcomes**

- 2. Information Literacy – Form strategies to locate, evaluate, and apply information, and know the ethical and legal issues surrounding information and information technology.
- 3. Effective Communication – Actively express and exchange ideas through listening, speaking, reading, writing, and other modes of interpersonal expression.
- 5. Career Preparation – Demonstrate knowledge and skills to successfully move to a baccalaureate education or selected vocation.
- 6. Community Awareness and Social Responsibility – Demonstrate and apply an understanding of moral and ethical issues that pertain to the environment, social justice, and cultural diversity.

**LINKED COURSE OUTCOMES**

— None —

- Demonstrate computation, communication, critical thinking, research, and problem-solving skills as well as a sensitivity and appreciation of diversity and community to perform effectively as a team member in a professional, competitive, and diverse work environment and as a responsible member of the community.

**Linked Institution Outcomes**

- 1. Critical Thinking – Effectively analyze arguments, assumptions, and problems and draw conclusions.
- 5. Career Preparation – Demonstrate knowledge and skills to successfully move to a baccalaureate education or selected vocation.
- 6. Community Awareness and Social Responsibility – Demonstrate and apply an understanding of moral and ethical issues that pertain to the environment, social justice, and cultural diversity.

**LINKED COURSE OUTCOMES**

— None —

## 2. Program Courses

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**Program Requisites: (Box 2.1-2.4)**

Provide requisite text using standard language in similar programs. For programs with multiple degrees and certificates, also reference the credential being modified.

**(2.1) Prerequisite**

Placement in ENG 100

**(2.2) Prerequisite or Co-requisite**

Changes

**(2.3) Recommended Prep**

- Recommended high school preparation: CAD Drafting, Geometry, English, Art, Basic Science, and Computer Literacy.
- High School CAD drafting alternative: Equivalent training/office experience
- ENG 100 is a prerequisite (not shown below) for AEC 211, ~~213~~ and ~~213~~**277** and ENG 209 is a prerequisite (not shown below) for AEC 237 and 239. These English courses need to be satisfied before enrolling in these third semester AEC courses.

CA, AS:

Recommended Prep: "C" or higher in a high school CAD drafting course or equivalent CAD training/experience."

**(2.4) Other Requirements****(2.5) Program courses (Alpha/Number/Title/Credits), Course Sequence, General Education courses, Elective courses, and**



**Footnotes**

**\*\* (2.6) Catalog Mark-up (Required)**

See attached

Proposed

Existing

- AEC Program pages Mark-up.pdf

**(2.7) Admin Corrections/Changes (For Administrative Use Only)**

**Admin Corrections/Changes – Attach supporting documents as applicable**

## AEC - ARCHITECTURAL, ENGINEERING AND CAD TECHNOLOGIES

**LIAISON:** Michael Jennings (845-9408, mjenning@hawaii.edu)

**WEBSITE:** [www.honolulu.hawaii.edu/aec](http://www.honolulu.hawaii.edu/aec)

**FACULTY:** Guy Fo, Michael Jennings, Norman Takeya

**PROGRAM MISSION:** The Architectural, Engineering and CAD Technologies program's mission is to:

- Provide students with state-of-the-art technical training in preparation for architectural, engineering, construction management, or related employment.
- Meet the needs of students with specialized interests and objectives who need or desire similar training.
- Provide students with the general education skills, attitudes, and values for effectively working with others, contributing to the AEC industry, and accepting responsibilities implied in support of a safe and sustainable natural and built environment.



**PROGRAM DESCRIPTION:** The Architectural, Engineering and CAD Technologies program is designed to prepare students for immediate employment as architectural or engineering drawing technicians, or construction management interns. It also prepares in-service professionals for employment upgrading. Some students also use the program to prepare for employment in building construction, interior design drawing, kitchen and bath design, solar energy planning, construction estimating, land surveying, and various other fields. If you are interested in using the program as a step on the way to a bachelor's degree in architecture or engineering, please see a Honolulu Academic Counselor.

Incoming students choose either an architectural technology track, or a construction management track. More than 70 percent of the courses are shared by the two tracks, either is appropriate for students with a principal interest in engineering technology, and both include two online courses. 3D printing, field shadowing, portfolio presentations, and other activities are also parts of the program.

The program leads to an Associate in Science degree, and there is a shorter Certificate of Achievement available for students with special non-degree objectives. Both degree and certificate students must earn a grade of "C" or higher in all required AEC, MATH & ENG courses.

Students are encouraged to have access to a "newer" desktop or laptop computer with a minimum 17-inch screen to complete assigned drawings and other projects outside of class. There is also a requirement of 40 hours of AEC-related school and community service apart from coursework prior to completion of the program, and new students are required to attend an AEC orientation session.

**PROGRAM LEARNING OUTCOMES (PLOs):** Upon successful completion of the AEC program, students will be able to:

- Draw objects of various orientations as may be prescribed, draw sections and elevations of objects, and interpret drawings identify the relationships of objects or object features to demonstrate visualization and graphic representation proficiency and knowledge.
- Identify or describe the typical characteristics and uses of common construction materials, products, and systems, assess their sustainability, document them in drawings, and make appropriate selections based on design project requirements.
- Demonstrate either proficiency in designing and creating the construction documents and a materials estimate for a residential or commercial building, or essential skills necessary for responsibly planning, scheduling, and managing a construction project.
- Demonstrate proficiency in the use of the latest 3D computer modeling software, applicable codes, and industry best practices to create, modify, reconcile, or parse architectural or engineering design and construction documents.
- Model habits and attitudes for success in professional employment, prepare and present a professional resume and portfolio, and demonstrate developed interviewing skills in preparation for employment.
- Demonstrate computation, communication, critical thinking, research, and problem-solving skills as well as a sensitivity and appreciation of diversity and community to perform effectively as a team member in a professional, competitive, and diverse work environment and as a responsible member of the community.

**RECOMMENDED PREPARATION:**

- Recommended high school preparation: CAD Drafting, Geometry, English, Art, Basic Science, and Computer Literacy.
- High School CAD drafting alternative: Equivalent training/office experience
- ENG 100 is a prerequisite (not shown below) for AEC 211 and 213 and ENG 209 is a prerequisite (not shown below) for AEC 237 and 239. These English courses need to be satisfied before enrolling in these third semester AEC courses.

**PROGRAM REQUIREMENTS:** *Students may take the following courses in any order that respects course prerequisites and co-requisites.*

**Program Prerequisites:** *Placement in ENG 100*

**Recommended Prep:** *"C" or higher in a high school CAD drafting course or equivalent CAD training/experience."*

**Suggested First Semester**

AEC 101 - Construction Graphics and Conventions  
 AEC 110 - Basic AutoCAD®  
 AEC 118 - Construction Material  
 ENG 100 - Composition I  
 SP 251 - Principles of Effective Public Speaking (Gen Ed - Humanities\*)

CA Arch Tech Focus Credits	CA Const Mgmt Focus Credits	AS Arch Tech Focus Credits	AS Const Mgmt Focus Credits
3	3	3	3
4	4	4	4
3	3	3	3
3	3	3	3
3	3	3	3
<b>16</b>	<b>16</b>	<b>16</b>	<b>16</b>

**Suggested Second Semester**

AEC 160 - Construction Detailing  
 AEC 111 - Introduction to Professional Ethics  
 AEC 161 - Building Information Modeling Software  
 AEC 164 - Residential Planning and Design  
 AEC 165 - Construction Administration  
 ENG 209 - Business and Managerial Writing  
 MATH 150 - Technical College Mathematics

CA Arch Tech Focus Credits	CA Const Mgmt Focus Credits	AS Arch Tech Focus Credits	AS Const Mgmt Focus Credits
3	3	3	3
1	1	1	1
3	3	3	3
3	3	3	3
	3		3
3	3	3	3
3	3	3	3
<b>16</b>	<b>16</b>	<b>16</b>	<b>16</b>

**Suggested Third Semester**

AEC 209 - Planning and Scheduling  
 AEC 210 - Residential Working Drawings  
 AEC 211 - Construction Estimating and Bidding  
 AEC 213 - Construction Codes  
 AEC 217 - Structural Drawing  
 AEC 237 - Introduction to the Built Environment (Gen. Ed. – Social Sci.)  
 AEC 239 - Field Shadow Experience  
 AEC 163 - Construction Law  
 100-Level General Education Requirement – Social Science \*  
 (Recommended: AEC 236 or 237)

CA Arch Tech Focus Credits	CA Const Mgmt Focus Credits	AS Arch Tech Focus Credits	AS Const Mgmt Focus Credits
			4
		4	
		3	3
		3	3
		3	3
		3	
		1	
			3
			3
		<b>17</b>	<b>19</b>

	CA Arch Tech Focus Credits	CA Const Mgmt Focus Credits	AS Arch Tech Focus Credits	AS Const Mgmt Focus Credits
<b>Suggested Fourth Semester</b>				
<i>AEC 260 - Commercial Working Drawings</i>			4	4
<i>AEC 261 - Building Services</i>			3	3
<i>AEC 263 - Virtual Construction or AEC 265 Construction Inspection</i>				3
<i>AEC 264 - Advanced Modeling and Presentation</i>			3	
<i>AEC 277 - Land Surveying I (Gen. Ed. - Nat'l Science)</i>				3
<i>AEC 280 - Site Modeling</i>			3	3
<i>AEC 289 - Preparation for Employment in the AEC Field</i>			2	2
<i>100-Level General Education Requirement – Natural Science *</i> <i>(Recommended: AEC 277, GEO 101, GG 101, or 103)</i>			3	
<i>SUMMER TERM: AEC 278- Land Surveying II (elective)</i>				(3)
			18	18

	CA Arch Tech Focus	CA Const Mgmt Focus	AS Arch Tech Focus	AS Const Mgmt Focus
<b>Additional Requirements</b>				
<i>Completion of 40 hours of program-related community service</i>			✓	✓
<b>Minimum Credits Required</b>	<b>32</b>	<b>32</b>	<b>67</b>	<b>69</b>

\* General Education and Quantitative/Logical Reasoning Requirements for an AS degree are listed under *DEGREES AND CERTIFICATES*.

Note: For grade requirements, see the Program Description on the previous page.

Note: Students must meet the minimum proficiency standards in communication and computation established for Honolulu CC to qualify for the Certificate of Achievement.

**COST OF TEXTBOOKS/SUPPLIES:** The total cost of books for all classes over the two-year program is approximately \$600.

**ADVISORY COMMITTEE:**

- Tim Bramsen, Bowers + Kubota Consulting
- Song K. Choi, Assist. Dean, University of Hawaii College of Engineering
- Ranelle Ho, SSFM International, Inc.
- Yoshi Honda, US CAD
- Jonathan Kam, Hunt-Moss Hawaii
- Dwight Mitsunaga, AIA, Pacific Architects, Inc.
- Rick Myers, AIA Group 70 International, Inc.
- Vaughn Sabino, Alaka'i Mechanical Corp.