NEW OR REPLACE PROGRAM CODE

☒ **New Program Code**   ☐ **Replace Program Code**   Date: 3/3/2022

REQUESTOR CONTACT INFORMATION

Name	Michael Bauer	Campus	Leeward CC
Title	Professor	Email	mbauer@hawaii.edu
Office/Dept	GT-207/Math & Science	Phone	(808)455-0310

NEW PROGRAM CODE TO CREATE

Institution	LEE-Leeward Community College	Campus	LEE-Leeward Community College
Level	UG-Undergraduate	Effective Term	Fall 2022

	Code (Max. Characters)	Description	Check if requesting new code:
College	(2) IN	Instructional	☐ See Banner form STVCOLL
Department	(4) ICS	Information& Computer Sciences	☐ See Banner form STVDEPT
Degree/Certificate	(6) AS	Associate in Science	☐ See Banner form STVDEGC
Major	(4) ICS	Information& Computer Sciences	☐ See Banner form STVMAJR
Concentration	(4) DSCI	Data Science	☐ See Banner form STVMAJR
Minor	(4)		☐ See Banner form STVMAJR

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

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

Responds to industry trends to create new specialization in Data Science.

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)? See http://www.ifap.ed.gov/GainfulEmploymentInfo/index.html	☐ Yes	☐ No

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.   2

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

EXISTING PROGRAM CODE TO REPLACE, IF APPLICABLE

Program Code	_____	Program Description	_____
Institution	_____	Campus	Leeward CC
College	_____	Department	_____
Level	_____		

Are current students "grandfathered" under the program code? ☐ Yes ☐ No

Should the old program code be available for use in Banner? ☐ Yes ☐ No

Effective [_____] **, old program code will no longer be available to admit or recruit students.**
Term (ie. Fall 2020)

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 [_____] **, old program code will no longer be available to award degree to students.**
Term (ie. Fall 2020)

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

ATTACHMENTS

BOR Approved: Sole-credential Certificate, Associate, Bachelor and Graduate Degrees, and sole credential certificates

☐ BOR Meeting Minutes & Supporting Documents   ☐ Curriculum

Chancellor Approved: Concentrations, Certificates and Associate in Technical Studies (ATS) Degree

☑ Memo from Chancellor to notify Vice President for Academic Planning and Policy regarding program action.

☑ Curriculum

CERTIFICATES ONLY: Please check one (1) statement. This certificate is a...
☐ BOR approved certificate. BOR Meeting/Approval Date: _____
☑ Chancellor approved within an authorized BOR program. BOR Program: AS ICS _____
☐ Chancellor approved CO in accordance with UHCCP 5.203, Section IV.B.10.

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:
Grant Helgeson	Gregg Yoshimura	~~Tammi Oyadomari-Chun~~
Grant Helgeson Digitally signed by Grant Helgeson Date: 2022.03.03 13:19:30 -10'00'	Gregg Yoshimura Digitally signed by Gregg Yoshimura Date: 2022.03.29 11:06:00 -10'00'	*Della Teraoka* 5/5/2022
Signature Date	Signature Date	Signature Date
		Della Teraoka, Int Dir of Acad Progs

ADDITIONAL COMMENTS

Form modified: Oct 2020

UNIVERSITY of HAWAI'I®
LEEWARD
COMMUNITY COLLEGE

April 8, 2022

MEMORANDUM

TO: Debora J. Halbert
Associate Vice President for Academic Programs and Policy

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

Keala Chock
Vice Chancellor for Academic Affairs

FROM: Carlos Peñaloza
Chancellor

SUBJECT: Program Approvals

I have approved the following effective Fall 2022. The approvals can be found at:
https://leeward.kuali.co/cm

Modified
Associate in Arts (AA-HWST) - Hawaiian Studies
Associate in Science (AS-DMED) - Digital Media Production
Associate in Science (AS-ICS) - Information and Computer Science
Associate in Science (AS-TCH2) - Teaching
Certificate of Achievement (CA-DMED) - Digital Media Production
Certificate of Competence (CO-DMED-DV) - Digital Video
Certificate of Competence (CO-SUBS) - Human Services/Substance Use Disorders Counseling

Deleted
Certificate of Competence (CO-DMED-WEBD) - Web Design

Attachments

c: Erika Lacro, Vice President for Community Colleges
Pearl Imada-Iboshi, Director of Institutional Research and Analysis Office
Leeward CC, Deans
Leeward CC, Division Chairs
Lexer Scully Chou, Student Services Coordinator
Candy Hochstein, Counseling and Advising
Jiajia Garcia, Curriculum Committee Chair
Adam Halemano, Institutional Assessment Specialist (Catalog)
Janel Oshiro, Banner Specialist

Degree: Associate in Arts

Title: Hawaiian Studies

Description: The Associate in Arts in Hawaiian Studies (AAHS) provides a focused pathway for students pursuing an AA degree and transferring to a Hawaiian Studies or other baccalaureate degree program within the UH System. The AAHS also provides students with beneficial qualifications for Hawaiʻi's workforce, where knowledge of the host culture or alternative approaches to problem-solving are desirable. The degree integrates Hawaiian knowledge and values into the curriculum, and thus nurtures a sense of place; defines personal, community and global responsibilities; and builds connections between all who call Hawaiʻi home.

Effective Date: Fall 2022

Program Modifications:

HWST 128 was formerly listed as HWST 160, this is just a numerical change to align with the degree across campuses. ANTH 200 and ECON 131 have always been acceptable courses within our degree and just needed to be updated in the DS section of the program proposal. HIST 288 is a new course as of Fall 2020 and has a DH designation and fits with the purpose of our degree as part of the Moʻolelo pathway. The purpose of these modifications is to make sure that the correct information for the degree is transferred to STAR.

1. Add HWST 128 to the list of DA courses. HWST 128 was originally HWST 160 but to align the AA across campuses it was changed to 128. It is a course that fulfills the Hana Noeau pathway of the degree. It has a DA designation.

2. Add ANTH 200 to list of DS courses as an acceptable elective for the program. This course is part of the Hoʻoulu Lāhui pathway of the degree.

3. Add ECON 131 to the list of DS courses as an acceptable elective for the degree. This course is one option in the Hoʻoulu Lāhui pathway of the degree. 4. Add HIST 288 to the list of DH courses within the Moʻolelo pathway of the degree.

Degree:	Associate in Science

Title: Digital Media Production

Description: The Associate in Science in Digital Media Production provides creative individuals with the art and design training needed to explore and express ideas using leading-edge technology and skillsets. Students receive integrated digital media training in one of four specializations: Animation and Motion Graphics, Digital Photography, and Digital Video for the Web. Students become life-long learners, developing the skills required for a vast array of digital media communications, two-dimensional and three-dimensional animation, video gaming, and interactive media.

Effective Date: Fall 2022

Program Modifications:

Deletion of the Specialization in Creative Media.

An expansion of each remaining specialization to include more hands-on courses. This includes a consolidation of TVPR courses into the Digital Video for the Web specialization, as well as new course proposals for both the specializations in Digital Photography and Animation and Motion Graphics.

The old program was:
Core Requirements (15 credits)

ART 229 Interface Design I 3
DMED 131 Introduction to Digital Video 3
DMED 200 Electronic Portfolio 3
DMED 160 Media Literacy & Ethics 3
DMED 251 Media Entrepreneurship 3

General Education (21 credits)

One course Written Communication (FW) 3
One course MATH 100 or Higher Or Quantitative Reasoning (FS) 3
One course Global Multicultural Perspective (FG) 3
One course Diversification Social Sciences (DS) 3
One Course Diversification Physical Sciences (DP) 3
ART 112 Introduction to Digital Art 3
DMED 150 Film Analysis & Storytelling (DA) 3

Specialization Animation & Motion Graphics (24 credits)

ART 113 Introduction to Drawing 3
ART 113D Introduction to Digital Drawing 3
DMED 140 Principles of Animation 3
DMED 141 Introduction to 3D Animation 3

DMED 240 Animation & Special Effects 3
DMED 241 Introduction to 3D Motion Graphics 3
DMED 242 Character Animation 3
DMED 243 3-D Modeling & Animation 3

Specialization Creative Media (24 credits)

ART 107D Introduction to Digital Photography 3
ART 115D Digital Design 3
ART 156 Digital Painting 3
ART 166 Digital Printmaking 3
ART 202 Digital Imaging 3
ART 207D Intermediate Digital Photography 3
ART 221 Design for Print & Web 3
Elective Choose one course from any other DMED specialization 3

Specialization Digital Photography (24 credits)

ART 101 Introduction to Visual Arts 3
ART 107D Introduction to Digital Photography 3
ART 115D Digital Design 3
ART 202 Digital Imaging 3
ART 207D Intermediate Digital Photography 3
ART 221 Design for Print and Web 3
ART 277D Studio Photography 3
Elective Choose one course from any other DMED specialization 3

Specialization Digital Video for the Web (24 credits)

DMED 130 Pre-Production Digital Video 3
DMED 132 Principles of Digital Editing 3
DMED 133 Sound Design For Digital Media 3
DMED 140 Principles of Animation 3
DMED 235 Digital Video Pre-Production for the Web 3
DMED 236 Advanced Digital Video for the Web 3
DMED 240 Animation and Special Effects 3
DMED 261 Digital Media Marketing & Online Distribution 3

The new proposal is:

Core Requirements (12 credits)

DMED 160 Media Literacy & Ethics 3
DMED 200 Electronic Portfolio 3
DMED 251 Media Entrepreneurship 3
DMED 261 Digital Media Marketing & Online Distribution 3

General Education (15 credits)

One course Written Communication (FW) 3
One course MATH 100 or Higher OR Quantitative Reasoning (FQ) 3
One course Global Multicultural Perspective (FG) 3
One course Diversification Social Sciences (DS) 3
One Course Diversification Biological Sciences OR Physical Sciences (DB OR DP) 3

Specialization Animation and Motion Graphics (33 credits)

ART 112 Introduction to Digital Arts 3
ART 113 Introduction to Drawing 3
ART 113D Introduction to Digital Drawing 3
ART 229 Interface Design I 3
DMED 133 Sound Design for Digital Media 3
DMED 140 Principles of Animation 3
DMED 141 Introduction to 3D Animation 3
DMED 240 Animation and Special Effects 3
DMED 241 Modeling and 3D Motion Graphics 3
DMED 242 Character Animation 3
DMED 243 3D Modeling and Animation 3

Specialization Digital Photography (33 credits)

ART 101 Introduction to the Visual Arts 3
ART 107D Introduction to Digital Photography 3
ART 112 Introduction to Digital Arts 3
ART 115D Introduction to 2D Digital Design 3
ART 202 Digital Imaging 3
ART 207D Intermediate Digital Photography 3
ART 241 Documentary Photography 3
ART 277D Studio Photography 3
ART 287 Industrial Photography 3
DMED 150 Film Analysis and Storytelling
DMED 295 Project Production 3

Specialization Digital Video for the Web (33 credits)

DMED 150 Film Analysis and Storytelling 3
TVPR 126 Introduction to Digital Camera Operation, Composition, and Lighting Principles 3 TVPR
142 Film & Video Audio Acquisition & Recording 3
TVPR 151 Introduction to Film and Video Editing Principles 3
TVPR 211 Introduction to Film and Video Storytelling and Scriptwriting 3
TVPR 226 Applied Digital Camera Operation, Composition, and Lighting 3
TVPR 227 Advanced Film and Video Storytelling and Scriptwriting 3
TVPR 251 Applied Film and Video Editing and Post-Production Audio 3
TVPR 291 Film and Video Directing - Studio/Location Production 3
TVPR 292 Media Project Production Practicum 3
TVPR 294 Advanced Editing and Audio 3

Deletion of the Creative Media Specialization is due to the low number of graduates.

The expansion of more hands-on courses in each remaining specializations (Animation and Motion Graphics, Digital Photography, and Digital Video for the Web will make those concentrations more robust, meaningful and further the skills necessary for our students to succeed in their respective industries. There was also a consolidation of the TVPR Program with the DMED Program due to the concern that the TVPR Program consistently appeared on the small programs list.

****

Degree: Associate in Science

Title: Information and Computer Science

Description: The curriculum leading to an Associate in Science degree in Information and Computer Science is designed to prepare individuals for employment as technical assistants to professional and administrative personnel using computers.

Students may choose one of five areas of specialty: Network Support Specialist, Information Security Specialist, Software Developer Specialist, Data Science Specialist, and Cloud Security Specialist. Skills in writing, speech, and mathematics complete the preparation for employment.

In addition to training the student for work in the technical areas mentioned earlier, the program requirements are designed to facilitate transfer to the baccalaureate programs in Information and Computer Sciences at UH Manoa, UH Hilo, and UH West O'ahu for those students who wish to continue their education while working in the industry.

Effective Date: Fall 2022

Program Modifications:

We are adding a new specialization in data science.

In a conference on 9/21/2021, representatives from the military, local industry, UH President David Lassner and others which was attended by Leeward CC administration and ICS faculty, it was revealed that there will be an immediate need for more than 500 trained data scientists within the next two years in Hawaii. This specialization is being developed to respond to that charge.

Degree: Associate in Science

Title: Teaching

Description: The Associate in Science in Teaching (AST) degree program seeks to improve equity and access to teacher education for underrepresented groups and non-traditional students. The program seeks to address the critical teacher shortage in the state of Hawai`i by providing quality pre-service teachers who are locally educated and culturally sensitive to schools in their own communities. The degree is considered terminal as graduates are prepared to enter the Hawai`i Department of Education (HIDOE) as highly qualified para-educators (Educational Assistants, Part-time teachers, paraprofessional tutors). The degree is also considered transfer as graduates enter bachelor's degree programs at the university level.

Effective Date: Fall 2022

Program Modifications:

Remove ED 286 Students with Exceptionalities I (3 cr) listed in field 3.3 Curriculum Plan.
ED 286 course is no longer offered.

****

Degree: Certificate of Achievement

Title: Digital Media Production

Description: The Certificate of Achievement in Digital Media Production is designed to provide the student with entry-level skills or job upgrading for positions under direct supervision in Multi-Media in various specialization areas including Animation and Motion Graphics, Digital Photography, and Digital Video for the Web. The student must earn a GPA of 2.0 or better for all courses required in this certificate.

Effective Date: Fall 2022

Program Modifications:

Deletion of the Specialization in Creative Media. An expansion of each remaining specialization to include more hands-on courses. This includes a consolidation of TVPR courses into the Digital Video specialization, as well as new course proposals for both the specializations in Digital Photography and Animation and Motion Graphics.

The old program:

Requirements (30 credits):

General Education (6 credits)
Written Communication (FW) 3
MATH 100 or Higher or Any Quantitative Reasoning (FQ) 3

DMED Core (12 credits)
ART 112 Digital Art 3
DMED 160 Media Literacy & Ethics 3
DMED 200 Electronic Portfolio 3
DMED 251 Media Entrepreneurship 3

Elective (12 credits)

Choose four courses within your any DMED specialization12

TOTAL CREDITS 30

The new program:

Requirements (30 credits):

General Education (6 credits)
Written Communication (FW) 3
MATH 100 or Higher or Any Quantitative Reasoning (FQ)

DMED Core (9 credits)
DMED 160 Media Literacy & Ethics 3
DMED 200 Electronic Portfolio 3
DMED 251 Media Entrepreneurship 3
OR
DMED 261 Digital Media Marketing & Online Distribution 3

Elective (15 credits)

Choose five courses within your any DMED specialization 15

TOTAL CREDITS 30

The changes reflect changes that are being proposed in the AS degree in Digital Media. This includes the deletion of the Creative Media Specialization and the consolidation of courses from the TVPR Program and an increase of hands-on courses in the curriculum.

Degree: Certificate of Competence

Title: Digital Video

Description: Meet the challenges of real-world video production in a variety of global and local contexts. Students will experience storytelling, shooting, editing, and directing.

Effective Date: Fall 2022

Program Modifications:

DMED 130 Pre Production: Digital Video
DMED 131 Intro to Digital Video
DMED 132 Principles of Digital Editing

TO:

DMED 150 Film Analysis and Storytelling
TVPR 126 Intro to Digital Cam Operation, Composition, and Lighting Principles
TVPR 151 Intro to Film and Video to Editing Principles
Also updated 3.1 Program Justification to match other current proposals.

The consolidation of the TVPR and Digital Media Curriculum necessitates this change.

****

Degree: Certificate of Competence

Title: Web Design

Description: Prepares students for a career in design, development and management of websites. Students will develop a strong foundation in digital art, visual and information design, web animation and website management.

Effective Date: Fall 2022

Program Modifications:

It is requested that this CO be deleted. The Specialization in Internet Publishing was deleted effective Fall 2021, so the CO should also be de deleted.

Degree:	Certificate of Competence

Title: Human Services/Substance Use Disorders Counseling

Description: The Human Services (HSER) Certificate of Competence in Substance Use Disorders Counseling (COSUD) program provides education and skill development for people interested in pursuing a career as substance use disorders (SUDs) counselors, as well as for those already working in the helping professions and who wish to develop or hone their knowledge and skills in the SUD field. The COSUD Counseling program also offers a specialization for people with BA and MA degrees from such areas of social work, psychology, counseling, and marriage and family therapy. The learner will focus on developing both basic and intermediate-level knowledge and skills required of entrance level substance use disorders counselors.

Effective Date: Fall 2022

Program Modifications:

This is an already existing program. 1) Leeward CC CO in Substance Abuse Counseling program is the first of the two COSAC programs (UHMC) with similar certificates, to alter the title of the program so as to be in line with the field's change in the description from "substance abuse counseling" (SUBS) to "substance use disorders" (SUDS) counseling.

Our current titled HSER/SUBS certificate programs are in agreement to begin the process of altering our program titles to become CO in Substance Use Disorders (SUDS) Counseling programs.

2) The current PLOs are being updated to incorporate agreed upon Program Coordinating Council (PCC) general PLOs from other neighbor island certificate programs with inclusion of more field-specific suggested PLOs that were recommended by our Leeward COSAC Advisory Committee.

3) This proposal modification includes adding the prerequisite course, HSER 100 to the current required program courses (HSER 140, 245, 268, 270, 294 & 295).

4) The scheduling rules (as defined in the current program) for the course offerings according to four semesters over the two years, will be abolished.

Justification:

1) The Diagnostic Statistical Manual 5, published in 2013, no longer utilizes the term "substance abuse," which was applied to contrast the more severe "substance dependence" in the previously utilized DSM IV. The requested program title change reflects the updated understanding that "substance use disorders" exists along a continuum, and is identified as such in the current DSM 5 and by the American Society of Addictive Medicine (ASAM). The term "abuse" sounds pejorative and suggests that substance use disorders are moral transgressions versus stemming from a brain disorder. This new title will put us in sync with the updated changes that have occurred in the field.

2) The PLO updates stem from discussions with the Program Coordinating Council (PCC) coordinators who agreed to adopt general HSER PLOs. Program learning outcomes specific to the SUD Counseling and advocated by the Leeward CC CO SAC Advisory Committee were also incorporated.

3) Moving the HSER 100 Self Exploration (which will have a name change to "Exploration of Self in Society") prerequisite course into the protective status of the proposed titled COSUD program, will thus allow for financial aid to cover this course. This proposal would add it to the certificate course count to make it part of the total credit count for the program.

4) The semester rule changes will allow for greater flexibility for planning and organizing course offerings that take into consideration other similar neighbor island certificate program course scheduling. It also allows learners greater access to courses by making them more available throughout the year.

Fwd: CO updates

Ron T Umehira <umehira@hawaii.edu>   Wed, May 4, 2022 at 5:01 PM
To: Della Teraoka <dellaand@hawaii.edu>
Cc: Keala Chock <keala.chock@hawaii.edu>, Jim Goodman <goodmanj@hawaii.edu>, Shirlene Callejo <callejos@hawaii.edu>

Hi Della,

Mahalo for your patience as I just received an email from Gwen verifying that HSER Program Coordinator Selene LeGare at Maui College has agreed to change their program title to "Substance Use Disorders Counseling" too.

Hopefully, you can now approve the CO program modification.

Aloha,
Ron

---------- Forwarded message ---------
From: **Gwen E Williams** <gwenw@hawaii.edu>
Date: Wed, May 4, 2022 at 4:52 PM
Subject: Fwd: CO updates
To: Ron T Umehira <umehira@hawaii.edu>

Hi Ron,

Here is the confirmation email from Selene, coordinator of their Human Services program and the SUD certificates. Hope it suffices. Trina now retired coordinator from HCC said she too would be willing to write one if needed.

With aloha,

Gwen

---------- Forwarded message ---------
From: **Selene LeGare** <slegare@hawaii.edu>
Date: Wed, May 4, 2022 at 4:39 PM
Subject: CO updates
To: Gwen E Williams <gwenw@hawaii.edu>
Cc: Trina Nahm-Mijo <nahmmijo@hawaii.edu>

Aloha Gwen,

As discussed re: CO alignment, I'll plan to submit a title change for our SAC CO (I & II) to "Substance Use Disorders Counseling" in the fall. I believe Charlie is still waiting to hear back from ADAD re: adding our HSER 110 where you have added your HSER 100 so we can (roughly) align there as well -- but we may not put that through curriculum until after our Kealaho'imai grant cohorts finish up.

Can you let me know when your title change is fully approved? Do you know when ADAD plans to make the change on their end? I noticed that the language on their website has been updated to SUD in some areas but not others.

-Selene

_____
Selene LeGare, MPH
Human Services Program Coordinator
University of Hawaii Maui College

AS-ICS
Information and Computer Science
Approved | Fall 2022

Proposal Information

Status
Active

Workflow Status
Complete
Proposer Notification, Proposer   expand ▲
Notification Sent | Proposer

    ✉ Michael J Bauer

Changes
- 1.4) Description
- 3.4) Program Rules
- 2.1) Outcomes
- 3.3) Program Curriculum Plan
- 1.1) Effective Term

Show All ✔

1) GENERAL INFORMATION

Proposed
1.1) Effective Term
Fall 2022

Existing
1.1) Effective Term
Fall 2021

1.2) Program Title
Information and Computer Science

1.3) Degree Type
Associate in Science (AS)

Proposed

1.4) Description

The curriculum leading to an Associate in Science degree in Information and Computer Science is designed to prepare individuals for employment as technical assistants to professional and administrative personnel using computers.

Students may choose one of five areas of specialty: Network Support Specialist, Information Security Specialist, Software Developer Specialist, Data Science Specialist, and Cloud Security Specialist. Skills in writing, speech, and mathematics complete the preparation for employment.

In addition to training the student for work in the technical areas mentioned earlier, the program requirements are designed to facilitate transfer to the baccalaureate programs in Information and Computer Sciences at UH Manoa, UH Hilo, and UH West O'ahu for those students who wish to continue their education while working in the industry.

Existing
1.4) Description

The curriculum leading to an Associate in Science degree in Information and Computer Science is designed to prepare individuals for employment as technical assistants to professional and administrative personnel using computers.

Students may choose one of four areas of specialty: Network Support Specialist, Information Security Specialist, Software Developer Specialist, and Cloud Security Specialist. Skills in writing, speech, and mathematics complete the preparation for employment.

In addition to training the student for work in the technical areas mentioned earlier, the program requirements are designed to facilitate transfer to the baccalaureate programs in Information and Computer Sciences at UH Manoa, UH Hilo, and UH West O'ahu for those students who wish to continue their education while working in the industry.

1.5) Division
Math & Science

P) PROPOSAL DETAILS

P.1) Proposal Summary
We are adding a new specialization in data science.

P.2) Proposal Rationale/Justification
In a conference on 9/21/2021, representatives from the military, local industry, UH President David Lassner and others which was attended by Leeward CC administration and ICS faculty, it was revealed that there will be an immediate need for more than 500 trained data scientists within the next two years in Hawaii. This specialization is being developed to respond to that charge.

P.3)Title Change
No

P.4) Proposal Supporting Documents

P.5) Other Departments Involved
no

P.6) Have other departments been consulted?

N/A

P.7) Proposal Impact(s) - Articulation

No impact on articulation.

P.8) Proposal Impact(s) - Requirements

No impact on earning the AS degree.

P.9) Proposal Impact(s) - Resources

The ICS program is experiencing steady and sustained growth. Sections of the courses required for this specialization will be added to our growing schedule.

P.10) Department Vote

	Date	Yes	No	Abstain
Department Vote	2021/10/08	37	0	0

P.11) Proposer Notes

2) PROGRAM LEARNING OUTCOMES

Proposed

2.1) Outcomes

Demonstrate computing literacy.

Describe the functions and interrelationships of the building blocks of an operating system.

Develop object-oriented computer programs in at least two programming languages.

Apply mathematics to solve computing problems.

Communicate in written and oral form, a system solution, its documentation, and its implementation.

Use project management tools to manage information systems development projects.

Work as part of a group/team.

Design a relational database with proper documentation.

Demonstrate proficiency in computer maintenance and networking.

Software Developer Specialist: Develop a foundation in computer programming, data structures, and discrete mathematics.

Network Support Specialist: Apply computer-networking principles to build and troubleshoot networks.

Information Security Specialist: Apply the tools and techniques of information security to secure physical and digital information.

Cloud Support Specialist: Utilize methodologies and tools that assist with discovering and securing data in the cloud.

Data Science Specialist: Apply tools used to analyze and display data.

Existing

2.1) Outcomes

Demonstrate computing literacy.

Describe the functions and interrelationships of the building blocks of an operating system.

Develop object-oriented computer programs in at least two programming languages.

Apply mathematics to solve computing problems.

Effectively communicate, in written and oral form, a system solution, its documentation, and its implementation.

Use project management tools to manage information systems development projects.

Work effectively as part of a group/team.

Design a relational database with proper documentation.

Demonstrate proficiency in computer maintenance and networking.

Software Developer Specialist: Develop a foundation in computer programming, data structures, and discrete mathematics.

Network Support Specialist: Apply computer-networking principles to build and troubleshoot networks.

Information Security Specialist: Apply the tools and techniques of information security to secure physical and digital information.

Cloud Support Specialist: Utilize methodologies and tools that assist with discovering and securing data in the cloud.

3) BOR INFORMATION

3.1) Program Justification

Relationship to campus mission: The campus mission is: "At Leeward Community College, we work together to nurture and inspire all students. We help them attain their goals through high-quality liberal arts and career and technical education. We foster students to become responsible global citizens locally, nationally, and internationally. We advance the educational goals of all students with a special commitment to Native Hawaiians." The ICS AS supports all aspects of the campus mission. In particular, the ICS AS provides high-quality career and technical education to students. Projections of career opportunities for graduates: According to employment projections for 2016–2026 by the United States Department of Labor Bureau of Labor Statistics (https://www.bls.gov/emp/tables/emp-by-detailed-occupation.htm), job demand for computer specialists will continue to increase for the immediate future. Most of these jobs are increasing at a rate greater than the average for all occupations. For example, "Computer support specialists" jobs are increasing at a rate of 10.6%, while the national average for all jobs is 7.4%.

3.2) Program Mission and Objectives

The overall objective of the Leeward CC ICS Program is to prepare students (and to upgrade/retrain professionals) for employment as technical assistants to professional and administrative personnel using computers.

Proposed

3.3) Program Curriculum Plan

All required ICS courses must be passed with a grade of "C" or better in order to be applied to the degree and certificates.

Core Requirements: 27 credits
- ICS 101 Digital Tools for the Information World (3) or ICS 103 Introduction to Computer Science Principles (3)
- ICS 110M Introduction to Programming (3) or ICS 110P Introduction to Programming or equivalent (3)
- ICS 111 Introduction to Computer Science I (3)
- ICS 125 Personal Computer Maintenance and Repair (3) or ICS 131 Introduction to Virtualization (3)
- ICS 129 Introduction to Databases (3)
- ICS 171 Introduction to Computer Security (3)
- ICS 184 Introduction to Networking (3)
- ICS 231 Introduction to Linux (3)
- ICS 270 Systems Analysis (3)

General Education Requirements: 24 credits
- ENG 100 Composition I (3)
- ENG 209 Business Writing (3) or ENG 225 Technical Writing (3)
- ICS 141 Discrete Mathematics for Computer Science I (3) or MATH 103 College Algebra (3), or MATH 135 Precalc: Elementary Functions (3) or higher than MATH 135
- ICS 170 Ethics for the Digital World (3)
- SP 151 (3) or SP 251 (3)
- One DS Course (3)
- One FG Course (3)
- One Elective: 3 credits (must be any ICS course 100 or higher not used for ICS program requirements)

Specialty: 9 credits Select One Specialty Below
Information Security Specialty (for UHWO ISA BAS transfer students)
- ICS 215 Introduction to Scripting (3)
- ICS 281 Ethical Hacking (3)
- ICS 282 Computer Forensics (3)

Network Support Specialty (for UHWO ISA BAS transfer students)
- ICS 215 Introduction to Scripting (3)
- ICS 273 Network Design and Administration (3)
- ICS 274 Advanced Network Design and Administration (3)

Software Developer Specialty (for UHM ICS BA or UHWO ISA BAS transfer students)
- ICS 211 Introduction to Computer Science II (3)
- ICS 212 Program Structure (3) or ICS 215 Introduction to Scripting (3)
- ICS 241 Discrete Mathematics for Computer Science II (3)

Cloud Support Specialty
- ICS 215 Introduction to Scripting (3)
- ICS 281 Ethical Hacking (3)
- ICS 284 Cloud Security (3)

Data Science Specialty

- ICS 235 Machine Learning Methods (3)
- ICS 262 Data Analysis Using R and Python (3)
- ICS 263 Data Visualization (3)

MATH 103 transfers to UHWO. ICS 141 transfers to UH Manoa. ENG 209 transfers to UHWO. ICS 110P is recommended for students who plan to transfer to UHWO B.A.S Information Security and Assurance.

Existing

3.3) Program Curriculum Plan

All required ICS courses must be passed with a grade of "C" or better in order to be applied to the degree and certificates.

Core Requirements: 27 credits
- ICS 101 Digital Tools for the Information World (3) or ICS 103 Introduction to Computer Science Principles (3)
- ICS 110M Introduction to Programming (3) or ICS 110P Introduction to Programming or equivalent (3)
- ICS 111 Introduction to Computer Science I (3)
- ICS 125 Personal Computer Maintenance and Repair (3) or ICS 131 Introduction to Virtualization (3)
- ICS 129 Introduction to Databases (3)
- ICS 171 Introduction to Computer Security (3)
- ICS 184 Introduction to Networking (3)
- ICS 231 Introduction to Linux (3)
- ICS 270 Systems Analysis (3)

General Education Requirements: 24 credits
- ENG 100 Composition I (3)
- ENG 209 Business Writing (3) or ENG 225 Technical Writing (3)
- ICS 141 Discrete Mathematics for Computer Science I (3) or MATH 103 College Algebra (3), or MATH 135 Precalc: Elementary Functions (3) or higher than MATH 135
- ICS 170 Ethics for the Digital World (3)
- SP 151 (3) or SP 251 (3)
- One DS Course (3)
- One FG Course (3)
- One Elective: 3 credits (must be any ICS course 100 or higher not used for ICS program requirements)

Specialty: 9 credits Select One Specialty Below
Information Security Specialty (for UHWO ISA BAS transfer students)
- ICS 215 Introduction to Scripting (3)
- ICS 281 Ethical Hacking (3)
- ICS 282 Computer Forensics (3)

Network Support Specialty (for UHWO ISA BAS transfer students)
- ICS 215 Introduction to Scripting (3)
- ICS 273 Network Design and Administration (3)
- ICS 274 Advanced Network Design and Administration (3)

Software Developer Specialty (for UHM ICS BA or UHWO ISA BAS transfer students)
- ICS 211 Introduction to Computer Science II (3)
- ICS 212 Program Structure (3) or ICS 215 Introduction to Scripting (3)
- ICS 241 Discrete Mathematics for Computer Science II (3)

Cloud Support Specialty
- ICS 215 Introduction to Scripting (3)
- ICS 281 Ethical Hacking (3)
- ICS 284 Cloud Security (3)

MATH 103 transfers to UHWO. ICS 141 transfers to UH Manoa. ENG 209 transfers to UHWO. ICS 110P is recommended for students who plan to transfer to UHWO B.A.S Information Security and Assurance.

Proposed

3.4) Program Rules

Semester 1   15
<div align="center">Total Credits</div>

- Complete all of the following
    - Earned a minimum grade of C in each of the following:
        - ICS170 - Ethics for the Digital World (3)
        - ICS184 - Introduction to Networking (3)

    - Complete 1 of the following
        - Earned a minimum grade of C in each of the following:
            - ICS110M - Introduction to Programming (3)
        - Earned a minimum grade of C in each of the following:
            - ICS110P - Introduction to Programming (3)

    - Complete 1 of the following
        - Earned a minimum grade of C in each of the following:
            - ICS101 - Digital Tools for the Information World (3)
        - Earned a minimum grade of C in each of the following:
            - ICS103 - Introduction to Computer Science Principles (3)

    - Complete 1 of the following
        - Earned a minimum grade of C in each of the following:
            - ICS141 - Discrete Mathematics for Computer Science I (3)
        - Completed the following:
            - MATH103 - College Algebra (3)
        - Completed the following:
            - MATH135 - Precalculus: Elementary Functions (3)
        - Completed at least 3 credits from the following types of courses: MATH course numbered higher than 135

Semester 2   15
<div align="center">Total Credits</div>

- Complete all of the following
    - Earned a minimum grade of C in each of the following:
        - ICS111 - Introduction to Computer Science I (3)
        - ICS171 - Introduction to Computer Security (3)
        - ICS231 - Introduction to Linux (3)
    - Completed the following:
        - ENG100 - Composition I (3)

    - Complete 1 of the following
        - Earned a minimum grade of C in each of the following:
            - ICS125 - Personal Computer Maintenance and Repair (3)
        - Earned a minimum grade of C in each of the following:

- ICS131 - Introduction to Virtualization (3)

Semester 3

15

Total Credits

- Complete all of the following
    - Earned a minimum grade of C in each of the following:
        - ICS129 - Introduction to Databases (3)

    - Completed at least 1 of the following:
        - ENG209 - Business Writing (3)
        - ENG225 - Technical Writing (3)

    - Completed at least 1 of the following:
        - SP151 - Personal and Public Speech (3)
        - SP251 - Principles of Effective Public Speaking (3)

    - Complete 1 of the following
        - Completed at least 1 courses from the following:

            ▾ Information Security Speciality

        - Completed at least 1 courses from the following:

            ▾ Software Developer Speciality

        - Completed at least 1 courses from the following:

            ▾ Network Support Speciality

        - Completed at least 1 courses from the following:

            ▾ ICS Cloud Specialization

        - Completed at least 1 courses from the following:

            ▾ Data Science Speciality

    - Earned at least 3 credits from ICS

Semester 4

15

Total Credits

- Complete all of the following

    - Complete 1 of the following
        - Completed at least 2 courses from the following:

            ▾ Information Security Speciality

        - Completed at least 2 courses from the following:

            ▾ Software Developer Speciality

        - Completed at least 2 courses from the following:

            ▾ Network Support Speciality

- Completed at least 2 courses from the following:

  ▼ ICS Cloud Specialization

  - Completed at least 2 courses from the following:

  ▼ Data Science Speciality

  - Completed at least 3 credits from the following types of courses: FG.
  - Completed at least 3 credits from the following types of courses: DS.
  - Earned a minimum grade of C in each of the following:

    - ICS270 - Systems Analysis (3)

Grand Total Credits: 60

Existing

3.4) Program Rules

Semester 1

15
Total Credits

- Complete all of the following
  - Completed the following:
    - ICS170 - Ethics for the Digital World (3)
    - ENG100 - Composition I (3)
    - ICS184 - Introduction to Networking (3)
  - Completed at least 1 of the following:
    - ICS110M - Introduction to Programming (3)
    - ICS110P - Introduction to Programming (3)

  - Complete 1 of the following
    - Completed the following:
      - ICS101 - Digital Tools for the Information World (3)
    - Completed the following:
      - ICS103 - Introduction to Computer Science Principles (3)

Semester 2

15
Total Credits

- Complete all of the following
  - Completed the following:
    - ICS111 - Introduction to Computer Science I (3)
    - ICS171 - Introduction to Computer Security (3)
    - ICS231 - Introduction to Linux (3)

  - Complete 1 of the following
    - Completed the following:
      - ICS141 - Discrete Mathematics for Computer Science I (3)
    - Completed the following:
      - MATH103 - College Algebra (3)
    - Completed the following:
      - MATH135 - Precalculus: Elementary Functions (3)

  - Complete 1 of the following
    - Completed the following:
      - ICS125 - Personal Computer Maintenance and Repair (3)
    - Completed the following:
      - ICS131 - Introduction to Virtualization (3)

Semester 3

15
Total Credits

- Complete all of the following
  - Completed the following:

- ICS129 - Introduction to Databases (3)

- ○ Completed at least 1 of the following:
  - ENG209 - Business Writing (3)
  - ENG225 - Technical Writing (3)

- ○ Completed at least 1 of the following:
  - SP151 - Personal and Public Speech (3)
  - SP251 - Principles of Effective Public Speaking (3)

- ○ Complete 1 of the following
  - Completed at least 1 courses from the following:

    #### ▾ Information Security Speciality

  - Completed at least 1 courses from the following:

    #### ▾ Software Developer Speciality

  - Completed at least 1 courses from the following:

    #### ▾ Network Support Speciality

  - Completed at least 1 courses from the following:

    #### ▾ ICS Cloud Specialization

- ○ Earned at least 3 credits from ICS

Semester 4

9

Total Credits

- Complete all of the following

  - ○ Complete 1 of the following
    - Completed at least 2 courses from the following:

      #### ▾ Information Security Speciality

    - Completed at least 2 courses from the following:

      #### ▾ Software Developer Speciality

    - Completed at least 2 courses from the following:

      #### ▾ Network Support Speciality

    - Completed at least 2 courses from the following:

      #### ▾ ICS Cloud Specialization

  - ○ Any FG course.
  - ○ Any DS course.
  - ○ Completed the following:
    - ICS270 - Systems Analysis (3)

Grand Total Credits: 54

3.5) Program Target Group

This is a previously approved program. It is in the catalog as well as the Banner system.

3.6) Program Resources

This is a previously approved program. It is in the catalog as well as the Banner system.

3.7) Program Efficiency

This is a previously approved program. It is in the catalog as well as the Banner system.

3.8) Program Effectiveness

This is a previously approved program. It is in the catalog as well as the Banner system.

4) ATTACHMENTS