☐ **New Program Code**   ☐ **Replace Program Code**   Date: _____

REQUESTOR CONTACT INFORMATION

Name _____   Campus _____

Title _____   Email _____

Office/Dept _____   Phone _____

NEW PROGRAM CODE TO CREATE

Institution _____   Campus _____

Level _____   Effective Term _____

	Code (Max. Characters)	Description	Check if requesting new code:
College	(2) _____	_____	☐ See Banner form STVCOLL
Department	(4) _____	_____	☐ See Banner form STVDEPT
Degree/Certificate	(6) _____	_____	☐ See Banner form STVDEGC
Major	(4) _____	_____	☐ See Banner form STVMAJR
Concentration	(4) _____	_____	☐ 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:

_____

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.   _____

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

Form modified: Oct 20208

EXISTING PROGRAM CODE TO REPLACE, IF APPLICABLE

Program Code	_____	Program Description	_____
Institution	_____	Campus	_____
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: _____

☐ 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:** Tammi Oyadomari-Chun
_____	_____	_____
Signature Date	Signature Date	Signature Date

ADDITIONAL COMMENTS

UNIVERSITY
of HAWAI'I·
MĀNOA

October 19, 2023 (rev)

<u>MEMORANDUM</u>

TO: Laura E. Lyons
            Interim Vice Provost for Academic Excellence

VIA: Acting Dean Alison Sherwood
            College of Natural Sciences

FROM: Chair Scott Robertson
            Department of Information & Computer Sciences

SUBJECT: **UNDERGRADUATE PROGRAM CHANGE:** CREATION OF A CREATIVE
                COMPUTATIONAL MEDIA TRACK FOR BS IN COMPUTER SCIENCE
                DEGREE.

<u>SPECIFIC ACTION REQUESTED:</u>
The faculty of the Department of Information and Computer Sciences (ICS) requests the
establishment of an official Track in Creative Computational Media (CCM) for the BS in
Computer Science.

<u>RECOMMENDED EFFECTIVE DATE:</u>

Fall 2024

<u>ADDITIONAL COST:</u>

In the first year, the ICS faculty and Instructor will cover the newly proposed classes in the track.
We have funding from CNS and Chris Lee (Founder and Director ACM System at UH) for an I2
temporary position for Spring 24 and for 2024-2025. Eventually, we will request a permanent
instructor position for someone with experience in entertainment, gaming, special effects, or
related industries. We aim to request this position as soon as possible.

<u>PURPOSE:</u>

The purpose of this request is to establish a track specializing in CCM for the BS in Computer
Science **effective in the Fall 2024 semester**

<u>BACKGROUND</u>:

The program changes to achieve this **effective starting in the Fall 2024 semester** are:
- required courses are **110D**, 111, 211, 212, **235**, 311, 314, 321, 355, **369, 481, 487, 488, 496, MATH 301, (MATH 307 or MATH 311), MATH 372.**

The CCM track adds the following required courses:
- ICS 110D "Introduction to Computer Programming: Through animations"
- ICS 235 "Machine Learning Methods"
- ICS 369 "Computational Media Systems"
- ICS 481 "Introduction to Computer Graphics"
- ICS 487 "Digital Content Creation I"
- ICS 488 "Digital Content Creation II" and
- MATH 301 "Introduction to Discrete Mathematics"

The CCM track removes the following required courses:

- ICS 141 "Discrete Mathematics for Computer Science I"
- ICS 241 "Discrete Mathematics for Computer Science II"
- ICS 332 "Operating Systems"
- no choice between MATH 307 and 372. Requirement to take Both (Can take MATH 311 instead of MATH 307)
- Two 300-level courses
- Two 400+ electives

In 2022, Hawaii's film industry generated a record $480M in revenues, but much of the post-production work for the filming in Hawaii was shipped off island due to lack of studio space. UH is currently soliciting proposals for the development of a film studio in West Oʻahu, with the developer scheduled to be announced in December 2023. Nationally the domestic box office generated nearly $6B in revenue in 2022 and is expected to grow to 8.3% by 2027. The revenue of the global film industry was $77B in 2022. Eclipsing the film market, the video game market reached $183B in 2022 with mobile games contributing $92B in revenue.

What unifies these diverse yet interconnected industries is a shared dependence on a media workforce proficient in computational skills. In an era marked by technological ubiquity, computing has transcended its functional role, becoming deeply embedded in virtually every aspect of media production and distribution workflow.

Our Creative Computational Media (CCM) track in the BS and BA degrees represent a groundbreaking educational pathway that not only positions students for gainful employment but also for leadership and innovation within the industry. With a unique blend of technical prowess, creative thinking, and industry insight, graduates will be primed to contribute to the anticipated film studio at West Oʻahu, as well as make a substantial impact on the global stage. This program is a launchpad for the next generation of media professionals, offering unparalleled opportunities for growth, exploration, and success in a rapidly evolving landscape.

The modified UHM catalog entry (with additions in red ink and deletions in red strike-through) is shown below. The program sheets and sample 4-year plans are also attached. Text in blue is related to another memo.

Marked-up Catalog Entry

Bachelor of Science in Computer Science, Creative Computational Media Track
Students must complete the following courses (62 credits):
- ICS 110D, 111, 211, 212, 235, 311, 314, 321, 355, 369, 481, 487, 488, 496 in CCM
- MATH 301, (307 or 311), 372
- Two electives (400-level or above) in an area relevant to CCM. The courses may include ICS courses or courses from other departments as long as they are approved by an ICS advisor and meet the minimum total of 6 credit hours.

Substitution allowed: (ICS 141 and 241) can be a substitution for (MATH 301 and 372).
Substitution allowed: EE 367 for ICS 311.

ACTION RECOMMENDED:
We would like to recommend the establishment of an official Track in Creative Computational Media (CCM) for the BS in Computer Science.

APPROVED DISAPPROVED:

Laura E. Lyons (signature)   10/30/23

Laura E. Lyons   Date
Interim Vice Provost for Academic Excellence

cc: Lynne Higa, College of Natural Sciences,

University of Hawai'i at Mānoa
College of Natural Sciences Program Sheet 2023-2024
Bachelor of Science (BS) in Computer Science
Creative Computational Media Track
Admissions: Open   Process: Declaration
Min. Total Credits: 122 (122 in core & major)

UHM General Education Core Requirements

Foundations

❏	FW ENG 100, 100A, 190, ESL 100, or AMST 111
❏	FQ* MATH 215, 241, or 251A
❏	FG (A / B / C)
❏	FG (A / B / C)

Note: This requirement changed in Fall 2018. If you entered the UH System prior to that, please see your college/school advisor.

Diversification

❏	DA / DH / DL
❏	DA / DH / DL
❏	DB
❏	DP PHYS 151 or 170
❏	DY PHYS 151L or 170L
❏	DS
❏	DS

* See degree, college and major requirements for courses that can also fulfill these.

UHM Graduation Requirements

Focus

❏	H
❏	E (300+)
❏	O (300+)
❏	W
❏	W
❏	W
❏	W (300+)
❏	W (300+)

Hawaiian / Second Language

❏	101
❏	102
❏	201
❏	202

Credit Minimums

●	120 total applicable
●	30 in residence at UHM
●	45 upper division (300+ level) credits

Grade Point Average

●	2.0 cumulative or higher *(Note: Other GPAs may be required.)*
●	Good academic standing

Degree Requirements

Bachelor of Science Requirements

❏	Calculus I
❏	Calculus II
❏	Chemistry I with lab
❏	Chemistry II with lab
❏	Physics I with lab
❏	Physics II with lab

Refer to major requirements for the specific courses that satisfy these requirements.

College Requirements

Credit Maximums

●	8 KRS activity
●	9 Directed Reading / Research
●	12 Practicum / Internship

This program sheet was prepared to provide information and does not constitute a contract. See back for major requirements.
Meet regularly with your major advisor.

Major Requirements for BS in Computer Science, Creative Computational Media
Admission: Open
Application: NA
Min. major credits: BS = 62
Min. C grade (not C-) in all courses, except otherwise specified
Requirements
• To enroll in all courses requiring Calculus II as their prerequisite (ICS 311, MATH 307, MATH 311 and MATH 372), students must take MATH 242 or 252A for their Calculus II requirement.   • MATH 215 or 241 or 251A (Calculus I) is a prerequisite for MATH 242. However, students must meet the grade requirement B (not B-) in MATH 215 to enroll in MATH 242.   • MATH 241 or 251A (Calculus I) is a prerequisite for MATH 252A. However, students must meet the grade requirement B (not B-) in MATH 241 and receive consent to enroll in MATH 252A.
Required Courses (56 credits)
❏ ICS 110D
❏ ICS 111
❏ ICS 211
❏ ICS 212
❏ ICS 235 (Fall only)
❏ ICS 311 (Substitution allowed: EE 367 can be a substitution for ICS 311)
❏ ICS 314
❏ ICS 321
❏ ICS 355
❏ ICS 369
❏ ICS 481
❏ ICS 487
❏ ICS 488
❏ ICS 496 in CCM
❏ MATH 301
❏ MATH 307 or MATH 311
❏ MATH 372
Substitution allowed: (ICS 141 and ICS 241) can be a substitution for MATH 301 in the CCM Track. In that case, students must take a 300+ level course for one of the diversification courses (DA/DH/DL or DS).
❏ **BS Computer Science Creative Computational Media only (6 credits)**
The courses may include ICS courses or courses from other departments as long as they are approved by an ICS advisor and meet the minimum total of 6 credit hours.
❏ CCM Elective 400+ approved by ICS advisor
❏ CCM Elective 400+ approved by ICS advisor
Approved courses in ICS: ICS 464, ICS 482, ICS 484, ICS 485, ICS 486, 489
Notes

University of Hawaiʻi at Mānoa
College of Natural Sciences Program Sheet 2023-2024
Bachelor of Science (BS) in Computer Science
Creative Computational Media Track
Admissions: Open   Process: Declaration
Min. Total Credits: 122 (122 in core & major)

College Advising: Student Academic Success Center: Hamilton Library 002K; (808) 956-5911; cnsadvis@hawaii.edu; natsci.manoa.hawaii.edu/sasc
Information and Computer Sciences Department: POST 317; (808) 956-7420; icsinfo@hawaii.edu; https://www.ics.hawaii.edu/
ICS Undergraduate Advisor: Kenny Kaʻaiakamanu-Quibilan; POST 303A; (808) 956-5428; kennydq@hawaii.edu
Guylaine Poisson; POST 303C; (808) 956-3496; guylaine@hawaii.edu

University of Hawaiʻi at Mānoa – Four-Year Academic Plan 2024-2025
College of Natural Sciences
Bachelor of Science (BS) in Computer Science
Creative Computational Media Track

This is a sample academic plan. Students should meet with an academic advisor prior to registration to formulate their own plan.

Year 1		Year 2		Year 3		Year 4	
Fall		**Fall**		**Fall**		**Fall**	
ICS 110D	3	**ICS 212**	3	**ICS 321**	3	DS	3
ICS 111	4	**ICS 235**	3	**MATH 307**	3	**CCM Elective 400+**	3
MATH 215 or **241** or **251A** (	4	**MATH 372**	3	**PHYS 152 or 272**	3	**ICS 488**	4
FW	3	FG (A/B/C)	3	**PHYS 152L or 272L**	1	**CHEM 161**	3
HSL 101	3	HSL 201	3	**ICS 381**	3	**CHEM 161L**	1
				DS	3		
Credits	17	Credits	15	Credits	16	Credits	14
Spring		**Spring**		**Spring**		**Spring**	
ICS 211	4	**ICS 311**	4	**ICS 369**	3	**ICS 496**	3
MATH 242 or **252A**	4	**ICS 314**	3	DA/DH/DL	3	FG (A/B/C)	3
MATH 301	3	**PHYS 151 or 170** (DP)	3	DB	3	**CCM Elective 400+**	3
DA/DH/DL	3	**PHYS 151L or 170L (DY)**	1	**ICS 355**	3	**CHEM 162**	3
HSL 102	3	HSL 202	3	**ICS 487**	4	**CHEM 162L**	1
Credits	17	Credits	14	Credits	16	Credits	13
Summer		**Summer**		**Summer**		**Summer**	
Credits	0	Credits	0	Credits	0	Credits	0
Total Credits	34	**Total Credits**	63	**Total Credits**	95	**Total Credits**	122

Notes:

Students must take placement exams to be able to register for CHEM 161 and MATH 215 or 241 or 251A.

Substitution allowed: (ICS 141 and ICS 241) can be a substitution for MATH 301 in the Creative Computational MediaTrack. In that case, students must take a 300+ lev
course for one of the diversification courses (DA/DH/DL or DS). EE 367 can be a substitution for ICS 311. Students must incorporate all focus requirements
into this plan. Focus designations (i.e., W, E, O, H) are CRN specific and semester specific. 45 upper division (300+ level) credits are required.