REQUESTOR CONTACT INFORMATION					
Date:		Effective term of request (Semester-Year):			
Name:		Title:			
Campus:		Office/Department:			
Phone:		Email:			
1. PROGRAM CODE, MAJOR CODE, CONCENTRAT	ION CODE		Banner forms: SMAPRLE, SOACURR, STVMAJR		
Institution:	College:		Department:		
☐ New program code ☐ Change/replace exis	ting program code:				
Level: Undergraduate Graduate First-Professional Post-Baccalaureate Other:					
Degree:		Certificate:			
If requesting an existing Major code and/or Concentration code in Banner:					
Existing Major: Existing Concentration: Code Description Code Description					
If requesting a new Major code or Concentration code that does not exist in Banner:					
New Code [4 char/space limit]: Description [30 char/space limit]:					
If a similar major/concentration code exists in Banner, please list the code:					
Is this major/concentration code being used the same way at other UH campuses?					
Is 50% or greater of the classes in this program offered at a location other than the Home Campus? Yes No (Please consult your Financial Aid Officer on Program Participation Agreement impact)					
Is this program/major/certificate financial aid eligi	ble? Yes	No (Financial Aid Of	ficer consultation required for all new program codes)		
Should this program be available for applicants to select as their planned course of study on the online application? Yes No (If yes, students may select the code as their only program of study.)					

Replacing or eliminating an existing program code:					
If replacing an existing program code, are current students "grandfathered" under the old code?					
Should the old program code be available for use in Banner?					
On Red Adi Ge	nner Module line Application cruitment missions neral Student ademic History	No	Ending Term (Semester-Year)		
2. CERTIFICATES ONLY:					
Does this certificate qualify as a Gainful Employment Program (Title IV-eligible certificate program)? Yes No (Please consult your Financial Aid Officer or see: http://www.ifap.ed.gov/GainfulEmploymentInfo/index.html)					
For new certificates approved by the Chancellor, the related BOR authorized academic program is:					
3. NEW CAMPUS, COLLEGE, DIVISION, OR DEPARTM	IENT CODE		Banner forms: STVCAMP, STVCOLL, STVDIVS, STVDEPT		
Campus code [3 char]:	Campus description	Campus description [30 char/space limit]:			
College code [2 char]:	College description [College description [30 char/space limit]:			
Division code [4 char/space limit]:	Division description	Division description [30 char/space limit]:			
Department code [4 char/space limit]:	Department descrip	Department description [30 char/space limit]:			

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4. NEW COURSE SUBJECT CODE (Subject Alpha)		Banner form: STVSUBJ
College:	Department:	
Subject code [4 char/space limit]:	Subject description [30 char/space limit]:	
5. NEW MINOR (Minor codes are listed on the Major code t	able)	Banner form: STVMAJR
Minor Code [4 char/space limit]:	Minor Description [30 char/space limit]:	
Please briefly describe your request and explain wh	y you are requesting the code(s):	
SUPPORTING DOCUMENTATION		
Please see the Code Request Guide for the required	supporting documents to be submitted	. Documents submitted with this form:
☐ Board of Regents meeting minutes and supp	orting documents provided to the BOR	
☐ Memo from UH President		
☐ Memo from Chancellor		
Curriculum (required for requests for new p	rograms/majors/minors/certificates)	
Gainful Employment Program notification to	the US Department of Education	
Other:		

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CAMPUS VERIFICATION	NO 0	
Requestor Signature Dlama	Date Date	112
Registrar (If different from Requestor)		3
Warren Mau	X a han	3/12/12
Print name Email/memo in lieu of Registrar's signature may be at	Signature	Date
Financial Aid Officer (Financial Aid Officer con	sultation required for all new program codes)	
- Aileen Lum-Akana	allen Ihm alean	03-12-2012
Print name	Signature	Date
Email/memo in lieu of Financial Aid Officer's signature	may be attached	
Print name	consultation with OVPCC Academic Affairs:	3-27-12 Date
Email/memo in lieu of signature may be attached		

Send completed form and supporting documentation to:

Institutional Research and Analysis Office (IRAO)

1633 Bachman Place

Honolulu, HI 96822

Email: iro-mail@lists.hawaii.edu

Sinclair Annex 2, Room 4

Fax: 808-956-9870 Phone: 808-956-7532

After <u>all</u> required forms and supporting documents have been submitted, please allow at least two weeks for processing by IRAO and Banner Central.

Date form/docs received:	
Program Description [30]:	
CIP description [30]:	
	Program Description [30]:



April 27, 2011

MEMORANDUM

TO:

Linda Johnsrud

Office of the Executive Vice President for Academic Affairs/Provost

VIA:

Michael Pecsok

Vice Chancellor for Academic Affairs

FROM:

Manuel J. Cabral

Chancellor

SUBJECT:

Curriculum Approval

I have approved the following new certificates on 4/26/11. These certificates are effective Fall 2011. The approvals can be found at: http://curriculumcentral.its.hawaii.edu:8080/central/core.cas.jsp

Certificate of Competence (CCP) – Digital Photography
Certificate of Competence (CCP) – Basic Logic and Programming Level 2

c Division Chairs
James Goodman
Ron Umehira
Nancy Buchanan
Kathy Hill
Candy Hochstein
Michael Lane
Pearl Imada-Iboshi

Leeward Community College

Degree: Certificate of Competence

Division: Mathematics and Natural Sciences **Title:** Basic Logic and Programming Level 2

Description: The Certificate of Competence in Basic Logic and Programming Level 2 provides students with the second

semester of computer programming and the mathematics of computers. Students will learn the

fundamentals of data structures, searching and sorting algorithms, recursion, polymorphism, inheritance, and encapsulation using an object-oriented programming language. They will also learn the mathematical concepts behind computer operations, such as graphs, trees, Boolean algebra, finite-state machines, formal

languages, program correctness, and solving recurrence relations.

Effective Date: Fall 2011

1. Are the program outcomes appropriate functions of the college and University? (Relationship to University and campus mission and development plans, evidence of continuing need for the program, projections of career opportunities for graduates, etc.)

<u>Relationship to University and campus mission and development plans:</u> The program objectives are in line with the following principles, which are part of the overall mission of Leeward Community College as stated in the 2010-2011 Leeward Community College Catalog.

Access: To broaden access to postsecondary education in Hawai'i, regionally, and internationally by providing open-door opportunities for students to enter quality educational programs within their own communities.

Work Force Development: To provide the trained workforce needed in the State, the Asia-Pacific region, and internationally by offering occupational, technical, and professional courses and programs which prepare students for immediate and future employment and career advancement.

Personal Development: To provide opportunities for personal enrichment, occupational upgrading, and career mobility through credit and non-credit courses and activities.

Evidence of continuing need for the program: This is a new program.

<u>Projections of career opportunities for graduates:</u> According to employment projections for 2006–2016 by the United States Department of Labor Bureau of Labor Statistics (http://www.bls.gov/emp/ep_table_102.htm), jobs demand for computer specialists will continue to increase for the immediate future. This certificate is also designed to upgrade the computer skills of employees in the Department of the

Navy.

	Emplo	yment	Change,	2008-18	Total job	
	Number	(x1000)			openings due to growth and replacement needs	
2008 National Employment Matrix title	2008	2018	Number (x1000)	Percent		
Computer specialists	3,424.30	4,187.00	762.7	22.27	1,383.60	
Computer and information scientists, research	28.9	35.9	7	24.18	13.2	
Computer programmers	426.7	414.4	-12.3	-2.87	80.3	
Computer software engineers	909.6	1,204.80	295.2	32.46	371.7	
Computer software engineers, applications	514.8	689.9	175.1	34.01	218.4	
Computer software engineers, systems software	394.8	515	120.2	30.44	153.4	
Computer support specialists	565.7	643.7	78	13.8	234.6	
Computer systems analysts	532.2	640.3	108.1	20.31	222.8	
Database administrators	120.4	144.7	24.4	20.26	44.4	
Network and computer systems administrators	339.5	418.4	78.9	23.23	135.5	
Network systems and data communications analysts	292	447.8	155.8	53.36	208.3	
All other computer specialists	209.3	236.8	27.5	13.14	72.6	

^{2.} What are the outcomes of the program? (outcomes should be stated in terms of meeting student, community or State needs. Also includes Program Learning Outcomes.)

As for meeting student needs, this certificate will provide students with opportunities to make effective decisions with intellectual integrity to solve problems and/or achieve goals utilizing the skills of critical thinking, creative thinking, information literacy, and quantitative/symbolic

reasoning, which are fundamental skills in the computer industry.

As for meeting community needs, this certificate provides an opportunity for workforce retraining. With the recent recession, many people in the community are upgrading their skills by taking classes at Leeward Community College, so that they can attain a better-paying position in their current job, change careers to a computer-related job, or begin their education for a four-year degree.

As for meeting State needs, this certificate provides an entry point to a career in the computer industry in the State of Hawaii. According to the HAWAII Workforce Infonet (https://www.hiwi.org/) of the Hawaii Department of Labor, 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.

Hawaii Employment Projections for 2008-2018 by HAWAII Workforce Infonet					
	Employment			Estimated	
Occupation Title	Num	ber	Percent	Annual Openings	
	2008	2018	change		
Computer and information scientists, research	70	70	0.00%	0	
Computer programmers	920	780	-1.50%	20	
Computer software engineers, applications	880	1,060	2.00%	30	
Computer software engineers, systems software	510	600	1.80%	10	
Computer support specialists	1,360	1,400	0.30%	40	
Computer systems analysts	1,040	1,110	0.70%	30	
Database administrators	250	280	1.20%	10	
Network and computer systems administrators	960	1,080	1.30%	30	
Network systems & data communications analysts	1,540	2,120	3.80%	90	
Computer specialists, All Other	1,330	1,340	0.10%	30	
Total, all occupations	685,950	734,790	0.70%	21,400	

Upon completion of the certificate, the student will be able to:

Solve problems, develop algorithms and write structured computer programs in a programming language.

Demonstrate familiarity with the mathematics used in computing science.

Create data structures in an object-oriented programming language.

3. How is the program organized to meet its outcomes? (Description of curriculum organization, requirements, admission policies, advising and counseling, and other aspects of the program, with reference to its outcomes.)

The Certificate of Competence in Basic Logic and Programming Level 2 contains these two ICS courses:

ICS 211 - Introduction to Computer Science II

ICS 241 – Discrete Mathematics for Computer Science II

These two courses are taught at Leeward CC as part of the ICS courses required to transfer to UH Manoa. This certificate will use the same admission, advising, and counseling resources as the ICS programs. ICS 211 is a programming class. ICS 241 is a mathematics class. The two skills have been identified by the Department of the Navy as meeting a critical need. Furthermore, these two classes are articulated with the ICS BA and BS degrees at UH Manoa. Earning a Certificate of Competence in Basic Logic and Programming will facilitate the transfer of students to UH Manoa who wish to attain these degrees.

4. Who will enroll in the program? (Special target groups, if any; number of majors expected by year for first five years; expected service to non-majors; evidence of student interest.)

<u>Special target groups:</u> One special target group is students from the US Navy. For the fall 2011, we are working on an agreement to have 20 students from the U.S. navy signed up for both courses. In addition, we also want to target students who are taking classes at Leeward CC, who want to transfer to the ICS program at UH Manoa.

<u>Number of majors expected by year for first five year:</u> We expect 20 students from the U.S. Navy in the fall 2011. Potentially, if the U.S. Navy has a continuing need for this certificate each academic year, we can expect 100 students over five years from the U.S. Navy. In addition, we expect 20 of our regular students per year to complete this certificate, for a total of 100 over five years. This adds up to 200 total students in the first five years.

Expected service to non-majors: The ICS department has around ten students per year who transfer to UH Manoa and/or are UH Manoa students.

<u>Evidence of student interest:</u> The ICS department usually offers one section of ICS 211 in the fall. ICS 241 is usually offered every summer. Therefore, we have at least 20 students who would be interested in this program.

- 5. What resources are required for program implementation and first five-year cycle operation? (Number, source, and cost of faculty; library requirements; support personnel; estimated cost of supplies, equipment and CIP; facilities to be utilized; total funds required for program implementation and operation; expected source of funds, including sources of reallocated funds.)
 The program can be done with the use of existing resources. No new classes need to be offered. All courses within the program are presently offered by the ICS discipline.
- 6. How efficient will the program be? (Compare anticipated cost per SSH, cost per major, SSH/faculty, average class size or other quantitative measures with other programs in the college and similar programs on other UH campuses.)
 This program potentially will be offered with a memorandum of agreement between Leeward Community College and the Department of the

As for our regular students, there will be no extra cost, except the cost of tuition.

Navy. The cost will be based on 20 students with overhead calculated as part of the agreement.

The availability of this certificate will provide an additional incentive for ICS students transferring to the UH Manoa ICS program to take these courses. The high level of student interest in the certificate is likely to increase enrollment in the courses included in the certificate. Thus, this program should improve the fill rate and the efficiency of these courses.

Because these courses are presently being offered by the ICS discipline, no new resources would be needed. With the increase in enrollment generated by this program, program efficiency will increase.

7. How will effectiveness of the program be demonstrated? (Projected number of graduates yearly; placement of graduates; special accreditation; student satisfaction; career and employer satisfaction, etc.)

Effectiveness will be demonstrated through the number of students who complete the Certificate of Competence in Basic Logic and Programming Level 2, improved student retention rates, improved class enrollment for ICS 211 and ICS 241, student feedback, and employer feedback.

For the Department of the Navy, a pre-test and a post-test will be administered to all students to measure their level of comprehension.

Campus: LEE

Updated By: WALBRITT Updated Date: 03/10/2011