

UNIVERSITY OF HAWAI'I
CODE REQUEST FORM FOR ACADEMIC PROGRAM CODES

REQUESTOR CONTACT INFORMATION	
Date: 6/7/13	Effective term of request (Semester-Year): Fall 2013
Name: Brian Richardson	Title: Dean, Divison II
Campus: Windward Community College	Office/Department: Academic Affairs
Phone: 235-7416, 235-7463 (Carol Okimi, secretary)	Email: cokimi@hawaii.edu (secretary)

1. PROGRAM CODE, MAJOR CODE, CONCENTRATION CODE		Banner forms: SMAPRLE, SOACURR, STVMAJR	
Institution: Windward CC (WIN)	College: IN	Department: NATS	
<input checked="" type="checkbox"/> New program code <input type="checkbox"/> Change/replace existing program code:			
Level: <input checked="" type="checkbox"/> Undergraduate <input type="checkbox"/> Graduate <input type="checkbox"/> First-Professional <input type="checkbox"/> Post-Baccalaureate <input type="checkbox"/> Other:			
Degree: Associate of Science in Natural Science		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 <input checked="" type="checkbox"/> Major code or <input type="checkbox"/> Concentration code that does not exist in Banner:			
New Code [4 char/space limit]: ASNS		Description [30 char/space limit]: Assoc in Sci in Nat Sci	
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? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No (Please consult your Financial Aid Officer on Program Participation Agreement impact)			
Is this program/major/certificate financial aid eligible? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No (Financial Aid Officer 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? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (If yes, students may select the code as their <u>only</u> program of study.)			

Please designate as concentrations: Biological Science and Physical Science

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Replacing or eliminating an existing program code:

If replacing an existing program code, are current students "grandfathered" under the old code? Yes No

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

Will the old program code be available for:	Banner Module	Yes	No	Ending Term (Semester-Year)
	Online Application	<input type="checkbox"/>	<input type="checkbox"/>	_____
	Recruitment	<input type="checkbox"/>	<input type="checkbox"/>	_____
	Admissions	<input type="checkbox"/>	<input type="checkbox"/>	_____
	General Student	<input type="checkbox"/>	<input type="checkbox"/>	_____
	Academic History	<input type="checkbox"/>	<input type="checkbox"/>	_____

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: Associates in Arts

3. NEW CAMPUS, COLLEGE, DIVISION, OR DEPARTMENT CODE

Banner forms: STVCAMP, STV_COLL, STVDIVS, STVDEPT

Campus code [3 char]: WIN	Campus description [30 char/space limit]: Windward Community College
College code [2 char]: 00	College description [30 char/space limit]: Windward Community College
Division code [4 char/space limit]: NATS	Division description [30 char/space limit]: Natural Science
Department code [4 char/space limit]: NATS	Department description [30 char/space limit]: Natural Science

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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 table)		Banner form: STVMAJR
Minor Code [4 char/space limit]:	Minor Description [30 char/space limit]:	

Please briefly describe your request and explain why you are requesting the code(s):

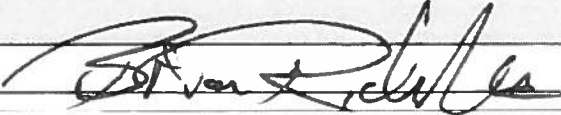

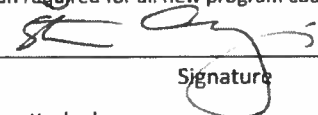
The Board of Regents recently approved the Associate in Science in Natural Science for Windward CC (as well as other colleges). The degree has two concentrations: Physical Sciences and Biological Sciences. We would request to use the codes that are used at the other colleges that already have this program and these concentrations in place.

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 supporting documents provided to the BOR *(agenda attached - minutes not yet posted)*
- Memo from UH President
- Memo from Chancellor
- Curriculum (required for requests for new programs/majors/minors/certificates)
- Gainful Employment Program notification to the US Department of Education
- Other: _____

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CAMPUS VERIFICATION		
Requestor Signature		Date <u>June 7/13</u>
Registrar (If different from Requestor) Geri Imai		<u>6/12/13</u> Date
Print name _____ Signature _____ Date _____		
Email/memo in lieu of Registrar's signature may be attached		
Financial Aid Officer (Financial Aid Officer consultation required for all new program codes) Steven Chigawa		<u>6/7/13</u> Date
Print name _____ Signature _____ Date _____		
Email/memo in lieu of Financial Aid Officer's signature may be attached		
For Community Colleges, verification of consultation with OVPCC Academic Affairs:		
_____	_____	_____
Print name	Signature	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 Email: iro-mail@lists.hawaii.edu
 Sinclair Annex 2, Room 4 Fax: 808-956-9870
 Honolulu, HI 96822 Phone: 808-956-7532

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

FOR INTERNAL USE ONLY	Date form/docs received:
Program code [12]:	Program Description [30]:
CIP code [6]:	CIP description [30]:

NOTICE OF BOARD OF REGENTS' MEETING

Board business not completed on this day will be taken up on another day and time announced at the conclusion of the meeting.

Date: **Thursday, May 16, 2013**

Time: **9:15 a.m.**

Place: **University of Hawai'i at Mānoa
2465 Campus Road
Campus Center Ballroom
Honolulu, Hawai'i 96822**

AGENDA

- I. **Call Meeting to Order**
- II. **Approval of Minutes of the April 18, 2013 Meeting**
- III. **Public Comment Period:** *Individuals may orally testify on items on this agenda during the Public Comment Period. Please call the Board office prior to the meeting or notify the Secretary of the Board at the meeting site. Written testimony is also accepted. Testifiers are requested to limit their testimony to three (3) minutes.*
- IV. **Election of Board Officers**
- V. **Report of the President**
- VI. **Report of the University of Hawai'i Foundation**
- VII. **Items for Board Action – Part A**

Board of Regents

1. Approval of Recommendations by the Task Group on Intercollegiate Athletics regarding Proposed Amendments to Board of Regents' Policy, Chapter 7, Section 7-8: Intercollegiate Athletics; Board of Regents' Bylaws regarding a new Committee on Intercollegiate Athletics; and Board of Regents' Policy, Chapter 6, Section 6-8b, related to Board Exemptions to Non-Resident Tuition, and Report on a Proposed Process to Reconcile the Athletics Department's Accumulated Deficit
2. Status Report on Operational and Financial Controls Improvement Advisory Task Group's Operational Assessment Phase (*Information Only*)

University of Hawai'i System

3. Recap of Legislative Session

University of Hawai'i at Mānoa

4. Approval of the Immediate Building and Final Phase Construction for Ka Papa Lo'i Kānewai Cultural Resource Center

Community Colleges

5. Approval of Associate in Science (AS) Degree in Natural Science as a Provisional Program

Hawai'i Community College

6. Approval of Conversion of Provisional Program to Established Status for the Certificate of Achievement (CA) and Associate in Sciences (AS) Degree in Fire Science Program

VIII. Executive Session (closed to the public):

Personnel Actions Related to the Following Positions: *(To discuss the following personnel matters pursuant to HRS §92-5(a)(2))*

- a. President of the University of Hawai'i
- b. Update on Executive Searches
 - i. Vice President for Research and Innovation
- c. Emeritus Faculty Title
- d. Report from the Committee on Personnel Affairs on Tenure and Promotion

Legal and Real Estate Matters: *(To consult with attorneys on powers, immunities, and liabilities pursuant to HRS §92-5(a)(4); To consider negotiations concerning acquisition of public property pursuant to HRS §92-5(a)(3))*

- e. Proposed Terms for Honolulu Authority for Rapid Transportation (HART) Stations at University Campuses
- f. Consultation Regarding Acquisition of Replacement Site for Wai'anae Education Center
- g. Update on 30-Meter Telescope

Collective Bargaining: *(To discuss authority of persons conducting labor negotiations and conducting negotiations pursuant to HRS §92-5(a)(3))*

- h. Collective Bargaining
 - i. UHPA

IX. Items for Board Action – Part B

University of Hawai'i System

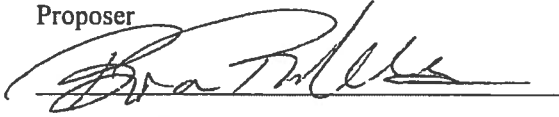
7. Approval of Recommendations for Tenure and Promotion

X. Personnel Actions [Attachments B-1 (For approval), B-2 (Information only)]

**Program and Certificate Proposal Signature Page
Windward Community College**

1. **Name of Proposal: Associate of Science in Natural Science**

2. Proposer



Feb 1/13
Date

3. Department Review

S. Colman
Department Chairperson

Feb 26/13
Date

4. Curriculum Committee Review ^{All members}
_{in favor}

L. J. J. J.
Curriculum Committee Chairperson

2/28/13
Date

5. Faculty Senate Review

K. K. K. K. K.
Faculty Senate Chairperson

3/5/13
Date

6. Division


Dean of Academic Affairs

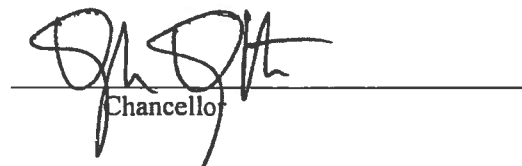
Feb 20/13
Date

7. Vice Chancellor for Academic Affairs

Richard J. J.
Vice Chancellor for Academic Affairs

2/20/13
Date

8. Chancellor


Chancellor

3/6/13
Date



You are currently viewing: Main » Discussions » 2013 » Curriculum Change for an Associate In Science In Natural Science



Curriculum Request to Create an Associate in Science in Natural Science

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This proposal to create an Associate in Science in Natural Science (AS in NS) is part of a larger document combining proposals from Hawai'i Community College, Honolulu Community College, and Kaua'i Community College. Thus, some of the wording in this document may seem odd when read as a stand-alone document.

The program is based on what has already been implemented at Kapiolani and Leeward CC, although they have been altered to meet the goals of the specific campuses.

Download:

- Request to create an AS in NS (PDF)
- current version of common document to be presented to the BOR (unfinished, PDF) - some sections need to be completed

Related Links

- Curriculum resource page
- CCAAC
- Curriculum Policy (PDF)

The discussion finished on February 8, 2013
This discussion has **anonymous** posting.
You need to log in, but when you post, your identity will not be displayed or stored.
You must log in to post to this discussion.
Contributions are no longer possible.
The discussion was requested by Kathleen French

Comment by Anonymous (ID 588)

I would like to better understand how PLO2 significantly contributes to the General Education Outcome for Global & Cultural Awareness. The link is not intuitive, but might be explained.

submitted on January 21, 2013 - 9:09pm

You cannot contribute to this discussion at this time.
If you have not logged in, try logging in to post to this discussion.

Please email wccweb@hawaii.edu if you have questions or experience any problems.

Windward Community College (campus map)
45-720 Kea'ahala Rd., Kāne'ohe HI 96744
phone: (808) 235-7400 main fax: (808) 247-5362
(other fax numbers)
Campus Security: (808) 235-7355 or 911 in an
emergency
An equal opportunity/affirmative action institution

[jump to
top of page](#)

University of Hawai'i System
UH Community Colleges
Disabilities Resources
Emergency Plans and
Procedures
Directions to the WCC Campus

[Log in](#)

page last updated: January 21, 2013

1. What are the objectives of the Program?

The proposed new A.S. degree in Natural Sciences with concentrations in Biological Sciences and Physical Sciences at Hawaii Community College (HawCC), Honolulu Community College (HonCC), Kauai Community College (KauCC), and Windward Community College (WinCC) will prepare students to transfer to baccalaureate STEM (Science, Technology, Engineering and Mathematics) programs with a recognized and supported pathway. This proposal reflects an agreement by these four campuses that aligns concentrations and Program Learning Objectives.

The requirements and outcomes of the proposed are essentially the same as those of the AS-NS degree offered at Kapi'olani CC and UH Leeward Community College, with minor differences to account for UHH requirements.

Details of the respective degrees can be found in Appendix A for HawCC, Appendix B for HonCC, Appendix C for KauCC, Appendix D for WinCC.

Kapi'olani CC initiated this program and currently offers an AS-NS degree (see Appendix G) and Leeward Community College has a recently approved AS-NS degree (see Appendix H) to address the needs of four-year STEM students. The Kapi'olani AS-NS degree contains two pathways, a Physical Science and a Life Science concentration. Leeward Community College has an AS-NS degree of similar structure. Both degrees require 60 credits of study with similar and comparable class requirements.

A. Program Learning Outcomes

The four community colleges have agreed to adopt the common Program Learning Objectives. Upon graduation, students will be able to:

1. analyze data effectively using the most currently available technology
2. communicate scientific ideas and principles clearly and effectively
3. analyze and apply fundamental mathematical, physical, and chemical concepts and techniques to scientific issues
4. apply fundamental concepts and techniques in their chosen field of study, such as biology, chemistry, geology, engineering, etc.

In addition, the four colleges have identified course and institutional learning outcomes that are aligned to these program learning outcomes. The proposed AS in NS will allow these colleges to better serve STEM students, as well as align the colleges' degree offerings with those of the other community college campuses.

B. STEM pathways for Community College students

There are national trends that show the importance of a strong STEM program at the community college level. It is reported that 44% of students who successfully completed a bachelor's or master's degree in science or engineering at the beginning of this decade, attended a community college at some point in their education (C&EN, Chemical and Engineering News, Nov. 15, 2010). This was derived from analysis of the National Science Foundation NSF "Characteristics of Recent Science and Engineering Graduates: 2006 (<http://www.nsf.gov/statistics/nsf10318/start.cfm>).

We have designed this AS to allow students to fulfill most of the GE Core requirements for UHH while also providing ample opportunity for enrollment in STEM courses to fulfill during their junior and senior years, but the courses that they do take, will fulfill STEM program requirements at 4-year institutions and provide an easier pathway into STEM.

In the State of Hawaii, three colleges already have A.S. in Natural Sciences degrees: Kapiolani Community College (KapCC), Leeward Community College (LeeCC), and UH Maui College (UHMauiC).

[DRAFT: include success of those programs at KapCC and LeeCC]

There are articulation agreements in STEM fields between the community colleges and both state and private baccalaureate institutions, including UH Hilo, UH Manoa, Chaminade University, and Hawaii Pacific University.

Expand target audiences, including high school students, who would be able to move directly into STEM-related fields.

2. Are the program objectives appropriate functions of the college and University?

A. UHCC and Hawaii CC Strategic Plan Goals

The proposed AS Degree will directly address two of the five major goals of the UHCC Strategic Plan 2002-2010, updated 2008-2015. All four colleges have Strategic Outcome and Performance Measures that align with the UHCC major goals.

UHCC GOAL A: Promote Learning & Teaching for Student Success

The AS-NS program allows the college to identify STEM students and to provide them with the assistance and support they need for academic success. STEM programs are an excellent place to implement non-traditional learning environments such as peer tutoring, community based learning, and problem based learning.

The AS-NS program directly addresses the need for the development and awarding of STEM degrees. Program requirements were designed to ensure articulation. Identifying STEM students allows the college to properly advise and to monitor student progress.

UHCC GOAL B: Functions as a Seamless State System

The AS-NS program provides a clear pathway to properly prepare students for transfer to a baccalaureate STEM program. This will reduce the number of credits a student typically takes before transfer. The program will increase the number of degrees awarded by the colleges since STEM students often transfer before obtaining a degree at the four colleges. The AS in NS is consistent with the AS in NS degrees that already exist at other UHCCs.

B. Local and industry demands for the graduates and the salaries

The primary purpose of the AS in NS is as a transfer degree for students pursuing more advanced degrees in STEM-related fields. As a result, it is a generic degree that would respond to any local and industry demands for students trained in science fields.

[DRAFT: add more details]

C. Alignment with Four-Year Degrees

The coursework for the proposed AS in NS degrees were chosen based on the degree requirements for science degrees at UH Manoa and UH Hilo, with Hawaii CC focusing on students transferring to UH Hilo and the other three campuses focusing on students transferring to UH Manoa.

It is anticipated that the alignment with four year science degrees will be superior to the alignment typically possible with the generic Associate in Arts degree, which will thus shorten the time to completion for our students.

Because of the alignment of the AS in NS to baccalaureate programs, it will be easier for students to transfer to four-year programs that are key to careers in STEM-related fields. The following are likely pathways from the community colleges to the universities in the state.

UH Hilo	UH Manoa
---------	----------

<p>College of Agriculture, Forestry, and Natural Resource Management Agriculture, Animal Science-Livestock Production Specialty Animal Science-Pre-Veterinary Specialty Coastal Resource and Watershed Management Specialty</p> <p>College of Arts and Sciences Astronomy Biology/Cell and Molecular Track Biology/Ecology, Evolution and Conservation Track Chemistry Computer Science Engineering Environmental Studies/Science Geology Geography Marine Science Natural Science Nursing Physics Pre-Pharmacy</p>	
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3. How is the program organized to meet its objectives?

The proposed AS in Natural Science degree is designed to align with the requirements found in the AS degrees at Kapi'olani CC, Leeward CC and UH Maui College, and at degree programs at the 4-year institutions. The common requirements will provide continuity through the UH system while also serving the needs of STEM students.

See appropriate appendix for details on each college.

General Education

Hawaii (12 credits)	Honolulu (21 credits)	Kauai (21 credits)	Windward (21 credits)
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ENG 100 ENG 102 ICS 101 SpCo 251 Note: UH Hilo does not have Foundation courses, so these classes are counted as part of the core	ENG 100 (Foundation FW) MATH 103 or higher (Foundation FS) Two courses from Foundation FG A, B, and C One diversification course from DA, DH, or DL One diversification course from DS One diversification course from DB or DP	ENG 100 (Foundation FW) MATH 103 or higher (Foundation FS) Two courses from Foundation FG A, B, and C One diversification course from DA, DH, or DL One diversification course from DS One diversification course from DB or DP	ENG 100 (Foundation FW) MATH 103 or higher (Foundation FS) Two courses from Foundation FG A, B, and C One diversification course from DA, DH, or DL One diversification course from DS One diversification course from DB or DP
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Biological Sciences Concentration

Hawaii (22 credits)	Honolulu (minimum 28 credits)	Kauai (minimum 29 credits)	Windward (minimum 28 credits)
BIOL 171 BIOL 171L BIOL 172 BIOL 172L CHEM 161 CHEM 161L CHEM 162 CHEM 162L MATH 205 PHYS 170 PHYS 170L	BIOL 171 BIOL 171L BIOL 172 BIOL 172L CHEM 161 CHEM 161L CHEM 162 CHEM 162L MATH 205 PHYS 151 (3) or PHYS 170 (4) PHYS 151L (1) or PHYS 170L (1) PHYS 152 (3) or PHYS 272 (3) PHYS 152L (1) or PHYS 272L (1)	BIOL 171 (3) BIOL 171L (1) BIOL 172 (3) BIOL 172L (1) CHEM 161 (3) CHEM 161L (1) CHEM 162 (3) CHEM 162L (1) MATH 205 (4) PHYS 151 (3) or PHYS 170 (4) PHYS 151L (1) or PHYS 170L (1) PHYS 152 (3) or PHYS 272 (3) PHYS 152L (1) or PHYS 272L (1) SCI 170 (1)	BIOL 171 (3) BIOL 171L (1) BIOL 172 (3) BIOL 172L (1) CHEM 161 (3) CHEM 161L (1) CHEM 162 (3) CHEM 162L (1) MATH 205 (4) PHYS 151 (3) or PHYS 170 (4) PHYS 151L (1) or PHYS 170L (1) PHYS 152 (3) or PHYS 272 (3) PHYS 152L (1) or PHYS 272L (1)

Physical Sciences Concentration

Hawaii (24 credits)	Honolulu (minimum 24 credits)	Kauai (27 credits)	Windward (minimum 24 credits)

CHEM 161 CHEM 161L CHEM 162 CHEM 162L MATH 205 MATH 206 PHYS 170 PHYS 170L PHYS 272 PHYS 272L	CHEM 161 (3) CHEM 161L (1) CHEM 162 (3) CHEM 162L (1) MATH 205 (4) MATH 206 (4) PHYS 151 (3) or PHYS 170 (4) PHYS 151L (1) or PHYS 170L (1) PHYS 152 (3) or PHYS 272 (3) PHYS 152L (1) or PHYS 272L (1)	CHEM 161 (3) CHEM 161L (1) CHEM 162 (3) CHEM 162L (1) MATH 205 (4) MATH 206 (4) PHYS 170 (4) PHYS 170L (1) PHYS 272 (3) PHYS 272L (1) SCI 170 (1)	CHEM 161 (3) CHEM 161L (1) CHEM 162 (3) CHEM 162L (1) MATH 205 (4) MATH 206 (4) PHYS 151 (3) or PHYS 170 (4) PHYS 151L (1) or PHYS 170L (1) PHYS 152 (3) or PHYS 272 (3) PHYS 152L (1) or PHYS 272L (1)
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Natural Science Electives

Hawaii (at least 13 credits)	Honolulu (minimum 9 credits)	Kauai (minimum 9 credits)	Windward (minimum 9 credits)
Students pursuing the Physical Sciences concentration must take at least one biological science course as an elective.	transfer-level natural science courses (DP, DB, DY) Students pursuing the Physical Sciences concentration must take at least one biological science course as an elective.	transfer-level natural science courses (DP, DB, DY) Students pursuing the Physical Sciences concentration must take at least one biological science course as an elective.	transfer-level natural science courses (DP, DB, DY) Students pursuing the Physical Sciences concentration must take at least one biological science course as an elective.

Other Electives

Hawaii (to a total of 60 credits)	Honolulu	Kauai	Windward
transfer-level courses	transfer-level courses in any field to achieve a total of 60 credits	transfer-level courses in any field to achieve a total of 60 credits	transfer-level courses in any field to achieve a total of 60 credits

Other Requirements

Hawaii	Honolulu	Kauai	Windward

two Writing Intensive courses	two Writing Intensive courses one HAP designated course	at least one Writing Intensive course at least one Pacific Cultures course	two Writing Intensive courses one HAP designated course
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4. Who will enroll in the program?

All four colleges currently have small numbers of students transferring into 4-year STEM programs.

The AS in NS programs will recruit students from two general sources - incoming freshmen seeking a baccalaureate STEM degree and students enrolled in science courses to fulfill diversification requirements. Incoming freshmen will be recruited via counseling at HawCC and our local High Schools. Students will also be recruited from the college's introductory science courses that non-science majors take to fulfill Gen Ed diversification requirements.

The colleges will continue their open-door admission policy, so any student can declare as majoring in the AS in NS.

Counselors will be provided with material to help them to better direct students who are interested in pursuing STEM-related education and careers towards the degree. Placement tests will indicate student proficiencies in Math, which will be a key indicator of suitability..

5. What resources are required for program implementation and first cycle operation?

Overall, the AS in NS is a reorganization of existing courses to better focus students pursuing STEM-related pathways. As such, adequate facilities, faculty, and courses are already available at each of the campuses. Some exceptions are described in the appendices where the details of the campus proposal are presented.

In the Academic Cost and Revenues Analyses, expenditures and revenue are projected for three academic years, from Fall 2013 through Spring 2016.

The Academic Cost and Revenue Template for each campus is included in the appropriate appendix. There is general consistency between the colleges regarding how the figures were calculated.

The **headcount enrollment (A)** and **annual SSH (B)** is calculated based on an estimate of how many students will pursuing an AS in NS who are currently pursuing AA degrees or undeclared.

This number is based on enrollment figures in key STEM-related classes such as calculus and advanced physics.

Estimated Headcount for the four colleges

	2013-2014	2014-2015	2015-2016
Hawai'i CC			
Honolulu CC			
Kaua'i CC			
Windward CC	8	16	24

The calculation of **instructional costs** without fringe (C) is based upon average yearly salary of Math & Science instructors multiplied by the FTE and applying UHPA collective bargaining increases where appropriate. We assumed an increase of 3% per year. Because most of the faculty are already in place, the additional instructional costs for the program are based on the anticipated increase in demand for STEM-related classes.

Other personnel costs (D) are calculated by total support staff costs multiplied by the program SSH, divided by the total Math & Science SSH then prorated by the percentage of lab courses.

Unique program costs (E) were calculated in a similar fashion by taking total supply costs for the Math & Science division and multiplying that by the program SSH, then divided by the total Math & Science SSH prorated by the percentage of lab courses. Program costs will include additional instructional supplies.

Revenue generated by **tuition** (G) is based on the number of SSH multiplied by the applicable tuition; the tuition was based on the *Proposed Tuition Schedule* for the UHCC's (<http://www.hawaii.edu/offices/app/>).

The **instructional cost with fringe** (K1) is based on the average Math & Science instructor's salary multiplied by the FTE for the program. The **support costs** (L) and **total campus expenditures** (N) are from **.

The program used for comparison (O), also taken for the above Expenditures Report, is Kapi'olani Community College's AS in NS.

Estimated cost per SSH

	2013-2014	2014-2015	2015-2016
Hawai'i CC			
Honolulu CC			
Kaua'i CC			
Windward CC	\$225	\$169	\$150

Estimated Net Cost

	2013-2014	2014-2015	2015-2016
Hawai'i CC			
Honolulu CC			
Kaua'i CC			
Windward CC	(\$17,560)	(\$9,780)	1,840

There should be little additional cost to the college since the program will draw from existing students currently enrolled in STEM classes on campus. As the program grows, additional facilities faculty would be required.

6. How efficient will the program be?

[STILL TO ADD: Get these elements from CTE IR people, use elements of the ARDP]

The proposed AS-NS degree at HawCC will utilize existing faculty, staff, facilities, and equipment. Gaps in course offerings will initially be met through cooperative agreements between HawCC and UHH. The college might incur additional costs due to additional courses being added and offered. If enrollment outgrows the projected numbers of students in the program, any extra costs will be offset by tuition.

7. How will effectiveness of the program be demonstrated?

[DRAFT: Get these elements from CTE IR people]

Program effectiveness is determined by looking at student achievement data. Student achievement data includes number of declared AS-NS majors, annual degree attainment, number of students who transfer to UH four-year institutions and the number of transfers who successfully achieve 4-year degrees. The attainment of the program's student learning

outcomes will be assessed as part of the established and ongoing assessment process at each of the colleges.

The AS in NS programs will also also subject to Annual Program Review process in which all programs participate. The annual review process requires programs to report progress on student achievement data, perform an analysis of course and program student learning outcomes assessment, review current curriculum and recommend changes, and determine future need for additional resources.

