Honolulu Community College

Degree: Associate in Science

Division: Mathematics and Natural Sciences

Title: Natural Sciences

Description: A 2 year degree to prepare students for further study in the sciences. It is equivalent to that offered by Kapiolani Community College.

Effective Date: Fall 2012

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.)

Honolulu CC currently prepares students for transfer to a four-year baccalaureate program in the sciences. This program provides pathways, support, and recognition for those students' efforts, and it ensures that students will enter a baccalaureate science program with the skills and knowledge required to promote success.

This program does not require students to take the additional classes required for a Honolulu Community College AA degree that are not required for a UH Manoa baccalaureate degree.

This program addresses the majority of the Mission Statement of Honolulu Community College.

The program provides an “open-door” (Mission Statement) by providing pathways towards baccalaureate science degrees for Honolulu Community College Students.

The program provides a “learning-centered” (Mission Statement) environment by providing pathways towards baccalaureate science degrees for Honolulu Community College Students.

The program provides “meet the evolving post-secondary needs of... business” (Mission Statement) by providing pathways towards baccalaureate science degrees for Honolulu Community College Students.

The program provides "diverse educational opportunities for personal enrichment” (Mission Statement) by providing pathways towards baccalaureate science degrees for Honolulu Community College Students.

This program provides "Community Development" (Mission Statement #5) by
graduating STEM majors who will provide leadership, knowledge, and problem-solving skills.

MISSION

Honolulu Community College serves our community, the city, the state of Hawai`i, and the Pacific region as an affordable, flexible, learning-centered, open-door, comprehensive community college. We meet the evolving post-secondary educational needs of individuals, businesses, and the state by:

- Offering high quality courses and programs in the liberal arts and career and technical fields;
- Maintaining unique educational partnerships with state-registered apprenticeship programs in diverse career fields;
- Supporting our Native Hawaiian community and its language, history, and culture;
- Delivering continuing education and training to meet the demand for a competitive workforce; and
- Providing diverse educational opportunities for personal enrichment.

As a learning-centered, open-door college, Honolulu Community College, is committed to providing the academic and student support to assist students as they progress through their respective courses and programs, and to facilitate the important work of our faculty and staff. The college will acknowledge, promote, and maintain a multicultural environment where gender diversity and other aspects of personal identity are appreciated and respected.

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.)

The overall objective of the A.S. Natural Sciences degree is to allow students to complete a degree while completing the first two years of study towards a baccalaureate degree in STEM fields of study. This was not possible in two years with the additional course requirements of the Honolulu CC AA degree.

Upon graduation, students will be able to:

1. Communicate effectively by means of listening, speaking, reading, and writing in varied situations, understanding basic quantitative information (mathematical skills), and writing in varied situations.
2. Apply symbolic reasoning skills to solve problems, evaluate arguments and chains of reasoning, and interpret information.
3. Demonstrate an understanding of the life processes, individual development, thinking process, and behavior as well as an understanding of the natural environment of the planet and the universe in which we are situated and learn to utilize natural resources without damaging the environment.
4. Demonstrate a comprehension and skill with research methods and scientific
The Associate of Science Degree (A.S - Natural Sciences) is awarded to students who complete the following:
1) 60 credits, all in courses numbered 100 or above.
2) The last 12 Concentration and/or Natural Science Elective
3) A maximum of 48 transfer credits earned at other colleges courses numbered 100 or above completed at Honolulu CC.
4) Two writing intensive courses in any discipline.
5) One Hawaiian, Asian, Pacific (HAP) course.

6) Cumulative grade point average of 2.0 or higher for all credits may be applied towards the degree.
7) General education and program requirements, as indicated below.

Foundation Requirements (13 credits)
I. Foundation Written Communication (FW) (3 credits required)
ENG 100
II. Foundation Symbolic Reasoning (FS) (4 credits required)
MATH 205, PHIL 110
III. Foundation Global Multicultural Perspectives (FG) (6 credits required from 2 groups)
GROUP A: HIST 151
GROUP B: HIST 152
GROUP C: REL 150

Diversification Requirements (10 - 13 credits)
IV. Diversification Social Sciences (DS) (3 credits required)
AMST 211, 212
ANTH 151
ECON 120*, 130*, 131* (*Engineering students must choose one of these.)
GEOG 102, 151
PSY 100, 180, 212, 220, 225, 240, 260, 270
SOC 100, 214, 218, 231, 250, 251, 257
POLIS 110, 120, 130, 180
WS 151

V. Diversification Arts, Humanities, and Literature (DA/DH/DL) (3 credits required)

Diversification Arts (DA)
(Mainly Theory)
ART 101
MUS 106
(Mainly Practice)
HWST 212
MUS107D
MUS 253
SP 151, 251, 290

Diversification Humanities (DH)
AMST 201, 202
ASAN 203, 204
GEOG 122
HWST 107, 282
HIST 231, 232, 241, 242, 281, 282, 284, 288
PHIL 100, 101, 102, 200, 201, 211, 212, 213
REL 151, 200, 201, 202, 203, 204, 205, 207, 210

Diversification Literature (DL)
EALL 271, 272
ENG 250, 251, 252, 253, 254, 255, 256, 257E, F, H, L, M, N, P, Q, X
HAW 261
LING 102

VI. Diversification Natural Sciences (DB/DP/DY) (4 - 7 credits required)
Diversification Biological (DB) (3 credits required* **) *Not required for Engineering
but BIOL 101, 171, MICR 130 or ZOOL 101 suggested for CEE. **Life Science must
take BIOL 171.

BIOL 100, 101, 103/103L, 123, 124, 124L, 171, 171L, 172, 172L, 200, 201
BOT 101, 101L, 130, 130L,
FSHN 185
MICR 130
SCI 101, 121
ZOOL 101, 200, 240, 241

Diversification Physical (DP) (3 credits required)
CHEM 161
Diversification Laboratory (DY) (1 credit required)
CHEM 161L
VII. Additional Requirements (6 - 7 credits required)
Computer Competency (CC) (3 credits required)
ICS 101
EE 150* (*Engineering students only and they must choose this course.)
General Chemistry (GC) (3 - 4 credits required*)
CHEM 162 (CHEM 162B = 3 cr. 162 + 1 cr. 162L)
CHEM 162L* (*Not required for Engineering.)

VIII. Concentration Requirements (5 - 26 credits required)
Select one of the Natural Science Concentrations
Life Sciences  Physical Sciences  Engineering
BIOL 171L 1 cr.  MATH 206 4 cr.  MATH 206 4 cr.
BIOL 172 3 cr.  PHYS 170 4 cr.  PHYS 170 4 cr.
BIOL 172L 1 cr.  PHYS 170L 1 cr.  PHYS 170L 1 cr.
          PHYS 272 3 cr.  PHYS 272 3 cr.
          PHYS 272L 1 cr.  PHYS 272L 1 cr.
          MATH 231 3 cr.
          MATH 232 3 cr.
          EE 211 4 cr.
          CE 270 3 cr.

IX. Natural Science Electives (14 - 22 credits required)
Select classes required for your program which are not chosen above.
BIOC 241  BOT 101  GG 101  MATH 206  PHRM 203
BIOC 251  BOT 101L  GG 101L  MATH 206L
          BOT 130  GG 103  MATH 231  PHYS 151 (Life Sci. only)
          BIOL 171  MATH 232  PHYS 151L (Life Sci. only)
          BIOL 171L  CHEM 272B  HORT 110  PHYS 152 (Life Sci. only)
          BIOL 172  CHEM 273B  ME 213  PHYS 152L (Life Sci. only)
          BIOL 172L  ICS 111  PHYS 170
          BIOL 265  CE 270  ICS 141  MICR 130  PHYS 170L
          BIOL 265L  CE 271  ICS 211  MICR 140  PHYS 272
          BIOL 275  ICS 212  PHYS 272L
          BIOL 275L  EE 150  ICS 241  OCN 201  PHYS 274
          EE 211  OCN 201L
          EE 213  ZOOL 200
          EE 260  ZOOL 240
          ZOOL 241

Writing Intensive Courses (2 courses)
1. ____________________________
2. ____________________________

Focus: Hawaiian, Asian, and Pacific (HAP, 1 Course)
1. ____________________________
Important note: Appropriate course substitutions may be made with the prior written approval of both the appropriate Division Chair and Dean.

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.)

The program will recruit students from two general sources - incoming freshmen seeking a science degree and students enrolled in science courses to fulfill diversification requirements.

1. Incoming freshmen seeking a science degree will be recruited via counseling and Honolulu CC's catalog containing degree descriptions. Students seeking a science degree will have formal, well-structured pathways.

2. Students will be recruited from the College's introductory science courses that non-science majors take to fulfill Gen Ed diversification requirements. Non-science majors commonly are inspired by introductory science courses to major in a science. The College's introductory course instructors will be able to counsel students using the pathways that correspond with the students' specific interest and goals.

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.)

No additional cost. All the courses that fulfill degree requirements currently are offered by the College. The personnel, supplies, and equipment costs are part of the current College and Natural Sciences and Mathematics Divisions' budgets.

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.)

The proposed program will utilize classes already taught at Honolulu CC. The efficiency of offering those classes will be determined by the standard methods already in place. Efficiency should be high since most of the required classes currently are under-enrolled. Additional students will increase the fill rate. Since no new faculty are appointed to help with the program and no monies are allocated for supporting the program, the increase in anticipated cost, cost per SSH, and cost per degree should be zero.

Comparisons with the AS-NS program offered at Kapiolani CC are as follows: KCC reports a budget of $741,973 per year after an initial $1.25 million Tribal Colleges and Universities Program (TCUP) grant to start the program, and they awarded 43 degrees the first year and 113 the second.
After the program is approved it is expected that the information concerning cost per SSH, SSH/faculty, average class size and other quantitative measures will be available.

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 evaluated by the number of graduates as well as the number of students following the pathways without obtaining a degree. It is expected that 25 students will obtain degrees each year with a 10% increase during each of the first 5 years. Graduates should continue their studies and obtain a four-year baccalaureate degree in STEM fields.