[Catalogue Changes – Effective Fall 2014]

BACHELOR OF SCIENCE (BAS): SUSTAINABLE SCIENCE MANAGEMENT

The BAS in Sustainable Science Management (SSM) curriculum integrates a broad base of knowledge with natural and applied sciences to explore the full range of sustainability. Topics are designed to both illuminate generic sustainability principles and to provide working, contemporary examples of real-world issues. The use of this comprehensive approach is facilitated by the Maui island existence, where interrelationships among the elements of complex issues are readily observed, providing an ideal vantage point for sustainability study and analysis.

SSM Admission Requirements

Students applying for admission to the SSM program must first meet the UH Maui College admission requirements. In order to declare as an SSM major, students must also meet the following:

1. Completion of ENG 100 with a grade C or better;
2. Completion of MATH 103 with a grade of C or better or placement at MATH 135 or above;
3. Completion of ICS 101 with a grade of C or better, or consent;
4. Completion of SSM 101 with a grade C or better.
5. A cumulative GPA of not less than 2.5 for all courses taken.

SSM Lower Division Requirements

Prior to enrolling in Upper Division (300+ level) SSM courses, students should first complete their Lower Division requirements which may be accomplished in a number of ways. The most typical routes include the following:

1. *SSM Base Program Path*
   Students starting at UH Maui College will most likely pursue their SSM degree by following the SSM Program map provided below. While this path is unique to the SSM program, it also meets the requirements of the Liberal Arts AA degree pathway.

2. *Students transferring to SSM with completed college credits.*
   A. *All Students*
      All students are required to meet the following Lower Division requirements/equivalents in order to qualify for Upper Division coursework in the SSM program:
      a. *MATH 115 or OCN 250; <u>and</u> MATH 135 or higher, each with a grade of C or better;*
      b. *At least four credits of college chemistry with lab, all with a grade of C or better;*
      c. *At least four credits of college biology with lab, all with a grade of C or better;*
      d. SSM 201 <u>or</u> OCN 201/201L, with a grade of C or better;
      e. SSM 202 with a grade of C or better.
      f. A minimum of 62 credit hours in 100+ level coursework.

NOTE: In addition to SSM requirements, some Upper Division required courses have different prerequisites. Students should review these early in their degree work in order to avoid setbacks as they progress toward their degree.

B. *UHMC Degree Students*
Students who have successfully completed a two-year degree at UHMC in Natural Science (ASNS), Business Careers (AAS Business Careers, Option IV), or Liberal Arts (AA Liberal Arts or Hawaiian Studies) and have applied to be SSM program majors may take one SSM Upper Division course per semester for up to three semesters as long as they are enrolled in coursework described in paragraph 2 (a-f) above.

C. *Other Degree Students*
Students holding a two or four year degree from any accredited college must have a cumulative GPA of 2.5 or higher in their degree work, must have at least 40 hours of transferable credit and must meet the requirements of paragraph 2 (a-f) above in order to take Upper Division coursework in the SSM program.

D. Other Students
Students who have completed not less than 62 hours of 100+ level coursework at accredited institutions may apply to take SSM Upper Division coursework. Non-degree students shall have 1) substantially met the SSM Lower Division requirements set forth in the SSM Program map below, 2) achieved a grade of C or better on all courses required to meet SSM program requirements with a cumulative 2.5 GPA on all transferring credits, and 3) met all requirements of paragraph 2 (a-f) above.

SSM Graduation Requirements

Students must complete the following in order to graduate with a BAS degree in Sustainability Science Management:

1. Meet all Lower Division requirements as described in the SSM Program map below or in paragraph 2 above.
2. Complete all required Upper Division coursework and electives as described on the SSM Program Map below, with a grade C or better on each required course. Upper Division electives may be any course in the SSM upper-division curriculum, or other 300-level or higher courses as approved by the Program Coordinator. Not less than 6 hours of Upper Division elective credits must be in 400^{+} level courses.
3. A minimum of 30 credit hours shall be taken at UHMC.
4. Complete all required SSM courses, including SSM 101, 201, 202 310, 302, 375, 393V, 401, 402, and 422 plus a six credit capstone course (SSM 495/496) over not less than two semesters; all with a grade of C or better and with a combined GPA of 2.5 or better.
5. Complete not less than 15 credit hours of writing intensive (WI) courses with a C or better, at least 6 credit hours shall be in courses of 300-level or higher.
6. All SSM alpha required courses, except SSM 393V must be taken for a letter grade. A maximum of 6 credit hours in other coursework may be achieved via Prior Learning Assessment.
7. Complete not less than 124 credit hours of coursework in support of the BAS degree. Only courses numbered 100 and above may apply to this degree requirement.
8. Submission of a completed Application for Graduation from UHMC.

Sustainable Science Management

The Sustainable Science Management (SSM) program, leading to a baccalaureate degree, provides a variety of options to students seeking employment in the rapidly expanding field of sustainability. The coursework covers important contemporary topics including but not limited to energy, ecology, business and management, water and wastewater, agriculture, waste-management, economics, policy, the built environment, and social science; all in the context of case studies in the larger interdisciplinary field of sustainability. To be successful in this regard, students will develop thinking and analytical skills, which will enable graduates to apply learned principles to the changing and complex issues of the future. The BAS in Sustainable Science Management program is designed to equip students with the fundamental skills necessary in order to bridge the disciplines and to facilitate sustainable solutions and operations for any organization or community.

For information contact Program Coordinator Tim Botkin, botkin@hawaii.edu or (808) 984 3322.

SUSTAINABLE SCIENCE MANAGEMENT BACHELOR OF APPLIED SCIENCE PROGRAM MAP

LOWER DIVISION COURSES AND REQUIREMENTS				
YR	*Fall Semester Courses*	*Credits*	*Spring Semester Courses*	*Credits*
1st	ENG 100 *Composition I*	3	ECON 130 or 131 *Micro- or Macroeconomics*	3
	ICS 101 *Business Tools* or BUSN *150 Business Computing*[1]	3	ENRG 103[2] *Energy Production Systems*	3
Y	MATH 135 *Elementary Functions*	3	FG course[6]	3
E	CHEM 151 *Elem Survey Chem or* 161/161L *Gen Chemistry I*	4	CHEM 162/162L *Gen Chem II* or GIS 150 *Intro GIS*	4
A	SSM 101 *Intro to Sustainable Science*	3	MATH 115[3] *Statistics*	3
R	*TOTAL*	16	TOTAL	**16**
2d	BIOL 171/171L *Intro Biology I*	4	COM215/PSY 253 *Conflict Resolution*	3
	PSY 100 *Survey of Psychology*	3	ENG 210 *Research Writing*	3
Y	SSM 201 *Sust. Bldg.* or OCN 201/201L *Sci. of the Sea*[4]	3/4	MATH 203 or 205 *Calculus*; or BLAW 200 *Bus Law*[7]	3/4
E	HWST 107 *Center of Pacific* or HIST 284[5] *History of Hawaii*	3	SSM 202 *Sustainable island Communities*	3
A	FG course[6]	3	ZOOL 200 *Marine Biology*	4
R	TOTAL	**16/17**	TOTAL	**16/17**

NOTE: SSM Lower Division requirements above shall incorporate the following elements:

I. *CHEM 161/161L and 162/162L*
   or
   CHEM 151 and GIS 150,
   and
II. *SSM 201 or OCN 201/201L*
   and
III. *BLAW 200*
   or
   MATH 203 or 205.
IV. *Minimum of 62 lower division credits required.*

Footnotes:

[1]May be met by approved higher level course or competency testing, if available.

[2]Students should seek consent and waiver of ENRG 101 prerequisite, and may take a new SSM 200-level energy course when available. PHYS 151 also meets this requirement but has additional prerequisites.

[3]Statistics requirement may be met by BUS 310 or OCN 250 upon approval.

[4]OCN 201 is required for students focusing on marine studies in their upper division coursework.

[5]HWST 207 is another option but may have additional prerequisites.

[6] Global Multicultural Perspectives: 6 credits from FGA, B or C. Choose two courses from two groups.

[7]Calculus is a prerequisite for SSM 403 and other Upper Level courses. Students should plan accordingly.

UPPER DIVISION COURSES AND REQUIREMENTS				
YR	*Fall Semester Courses*	*Credits*	*Spring Semester Courses*	*Credits*
J	SSM 375 *Renewable Energy Conversions* or Elective	3	SSM 301 *Sustainable Assessments & Indicators*	3
U	SSM 302 *Environmental Health*	3	PHIL 323 *Professional Ethics*	3
N	MGT 310 *Principles of Management*	3	SSM 402 *Water Resource Management*	3
I	ENG 316 *Adv. Research Writing*	3	SSM 393v *Internship*	3
O	AQUA 362 *Aquaculture and Mariculture*	3	Elective[1]	3
R	**TOTAL**	**15**	TOTAL	**15**
S	HUM 400 *Changes & Choices*	3	COM 459[2] *Intercultural Communication II*	3
E	SSM 422 *Sustainable Systems Thinking*	3	SSM 403 or Elective[1]	3
N	Elective[1]	3	BIOL 424 *Protected Species Management*	3
I	Elective[1]	3	SSM 401 *Environmental Policy, Law & Justice*	3
O	SSM 495 *Capstone I*	3	SSM 496 *Capstone II*	3
R	TOTAL	**15**	TOTAL	**15**

NOTE: SSM Upper Division elective requirements shall incorporate the following options:

1. *a) SSM 375 and any additional non-required 400+ level SSM course;*

   or

   b) AQUA 466: Fisheries Science and OCN 351: Coastal Methods and Analysis.[3]

   and

2. *Approved Upper Division elective credits as needed to achieve at least 124 credit hours total for the degree, not less than 60 of which must be in Upper Division.*

Footnotes:

[1] *At least 6 hours of electives shall be 400 level courses. Electives shall be drawn from courses referenced in paragraph 2 of the SSM Graduation Requirements above, or as approved by the Program Coordinator.*

[2] *The COM 459 requirement may be met by a pending course titled Communicating Sustainable Science, which may be SSM 490v or COM 490, if offered.*