



**UNIVERSITY OF HAWAII  
MEMORANDUM OF AGREEMENT**

**University of Hawai'i at Mānoa (UHM),  
Kapi'olani Community College and Leeward Community College**

**Admission to the University of Hawai'i at Mānoa College of Engineering  
upon successful completion of the Associate of Science in Natural Science (ASNS)  
with a concentration in engineering.**

The purpose of this agreement is to facilitate the transfer of students who complete the Associate of Science in Natural Science with a concentration in engineering at Kapi'olani Community College and Leeward Community College to the University of Hawai'i at Mānoa College of Engineering.

Students who complete the ASNS in engineering at Kapi'olani Community College and Leeward Community College with a minimum GPA of 2.0 or higher will be admitted to the UHM College of Engineering as a transfer student. Students who complete the ASNS with a concentration in engineering will be eligible for the offer of automatic admission to the UHM College of Engineering in the semester they complete the ASNS degree. The University of Hawai'i Office of the Executive Vice President for Academic Affairs/Provost will be responsible for including this degree into the automatic admission process.


Any proposed changes to the degree requirements in the ASNS with a concentration in engineering or admission requirements to the UHM College of Engineering are to be communicated to the Vice Chancellor for Academic Affairs or their designee in a timely manner. Changes made without agreement among the involved campuses may invalidate this agreement.


Degree requirements (2012-2013) for the ASNS with a concentration in engineering are attached.

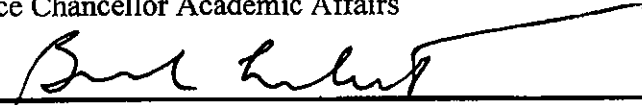
The terms of this agreement are subject to prevailing University policies. Amendments to this agreement must be in writing and approved by designated representatives of each campus. Any party may terminate this agreement for cause by giving written notice to the designated representatives at least 90 days prior to the commencement of a new academic term.

Signatures

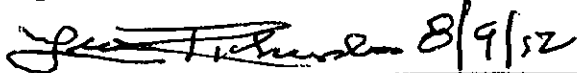
**University of Hawai'i at Mānoa**

 8/8/12  
\_\_\_\_\_  
Tom Apple  
Chancellor Date

 8/2/12  
\_\_\_\_\_  
Reed Dasenbrock 10782  
Vice Chancellor Academic Affairs Date


 7/11/12  
\_\_\_\_\_  
for Peter Crouch  
Dean, College of Engineering Date

**Kapi'olani Community College**

 8/9/12  
\_\_\_\_\_  
Leon Richards  
Chancellor Date

 8/9/12  
\_\_\_\_\_  
Louise Pagotto  
Vice Chancellor Academic Affairs Date

**Leeward Community College**

 8/13/12  
\_\_\_\_\_  
Manuel Cabral  
Chancellor Date

 8/13/12  
\_\_\_\_\_  
Michael Pecsok  
Vice Chancellor Academic Affairs Date

**THE UNIVERSITY OF HAWAII - KAPI'OLANI COMMUNITY COLLEGE**

**ASSOCIATE IN SCIENCE (A.S.) DEGREE IN NATURAL SCIENCE--CONCENTRATION IN PRE-ENGINEERING**

60 Credits minimum of 100-200 level courses: 2.0 grade point ratio (GPR) minimum

**Effective Fall 2012**

I. GENERAL EDUCATION REQUIREMENTS (19 Credits)		COURSE	CR	GR
<b>Written Communication (FW):</b> (1 course) <span style="float: right;"><i>check boxes if transfer course</i></span> ENG 100 or ESL 100 (Composition I) <span style="float: right;"><input type="checkbox"/></span>				
<b>Symbolic Reasoning (FS):</b> (1 course) MATH 205 (Calculus I) <span style="float: right;"><input type="checkbox"/></span>				
<b>Global &amp; Multicultural Perspectives (FG):</b> (2 courses only, choose one course from two different groups below:) Group A. ANTH 151, HIST 151 <span style="float: right;"><input type="checkbox"/></span> Group B. ANTH 152, GEOG 102, HIST 152 <span style="float: right;"><input type="checkbox"/></span> Group C. GEOG 151, MUS 107, REL 150 <span style="float: right;"><input type="checkbox"/></span>				
<b>*Arts, Humanities, &amp; Literature:</b> (1 course only; choose one course from any group below:) <b>Arts (DA):</b> ART 101, 105, 106J, 107, 111, 112, 113, 114, 115, 116, 123, 125, 126, 127, 128, 129, 155, 156, 157, 158, 159, 189, 191 (any alpha), 192 (any alpha), 195, 201, 202, 207, 209, 212, 213, 214, 222, 223, 224, 225, 226, 229, 243, 244, 245, 246, 247, 248, 249, 253, 256, 257, 258, 259, 260, 266, 269 (any alpha), 288, 289, 293V, 295, 296; DNCE 121, 122, 131, 132, 150, 212, 213; MUS 108, 114, 121B, 121C, 121D, 121Z, 122B, 122C, 122D, 183, 201, 206, 221B, 229, 230, 231B, 231C, 231G, 231M, 253; SP 151*, 231*, 233, 251*; THEA 101, 221*, 222*, 240* <b>Humanities (DH):</b> AMST 201, 202; ART 190 (any alpha), 270, 280, 290; CHNS 131, 290; HIST 222, 231, 232, 241, 242, 281, 282, 284, 288; HUM 269; HWST 100, 107, 210, 216; IS 109; JPNS 131, 132, 290; KOR 290; LING 102; MUS 106, 170; PACS 273; PHIL 100, 101, 102, 103, 211, 213, 250; REL 151, 200, 201, 202, 209, 210, 220, 222; SLT 202 <b>(DL) Literature &amp; Language:</b> EALL 261, 262, 269, 271, 272; EL 263; ENG 200, 209, 214, 215, 225, 227, 256, 257C, 257P, 270 (any alpha), 271 (any alpha), 272 (any alpha), 273 (any alpha); HAW 261, 262; HWST 270; JOUR 205, 227; LLEA 239, 260; PACS 257 (Also listed as ENG 257C); SPAN 250				
<b>*Social Sciences (DS):</b> (1 course only) AMST 211, 212; ANTH 150, 200, 210, 235; ASAN 100; BOT 105; COM 201; ECON 120, 130, 131; FAMR 230; GEOG 210; JOUR 150 LAW 101; PACS 108; POLS 110, 120, 130, 171, 207, 270; PSY 100, 170, 202, 212, 240, 260, 270; SLT 102, 103; SOC 100, 214, 218, 231, 251, 257; SOCS 225; SP 181; SSCI 200, 260; WS 202 (Also listed as PSY 202) <span style="float: right;"><input type="checkbox"/></span>				
II. CHEMISTRY COURSES (7 Credits)		COURSE	CR	GR
<b>General Chemistry (GC):</b> (2 courses and 1 lab) CHEM 161 (General Chemistry I) Prerequisite(s): MATH 103 or higher math level or placement into MATH 135 Recommended: MATH 135. <span style="float: right;"><input type="checkbox"/></span> CHEM 161L (General Chemistry I Lab) Prerequisite(s): MATH 103; credit or concurrent enrollment in CHEM 161. <span style="float: right;"><input type="checkbox"/></span> CHEM 162 (General Chemistry II) Prerequisite(s): CHEM 161 and MATH 103. Recommended Preparation: MATH 135 <span style="float: right;"><input type="checkbox"/></span>				
III. PRE-ENGINEERING (28 - 29 Credits)		COURSE	CR	GR
EE 160 (Programming for Engineers) Prerequisite(s): MATH 135. Recommended Preparation: MATH 140 <span style="float: right;"><input type="checkbox"/></span> MATH 206 (Calculus II) Prerequisite(s): A grade of "C" or higher in MATH 205 or equivalent <span style="float: right;"><input type="checkbox"/></span> PHYS 170 (General Physics I) Prerequisite(s): Credit or concurrent enrollment in MATH 206. <span style="float: right;"><input type="checkbox"/></span> PHYS 170L (General Physics I Lab) Prerequisite(s): Credit or concurrent enrollment in PHYS 170. <span style="float: right;"><input type="checkbox"/></span> PHYS 272 (General Physics II) Prerequisite(s): PHYS 170; PHYS 170L; MATH 206 <span style="float: right;"><input type="checkbox"/></span> PHYS 272L (General Physics II Lab) Prerequisite(s): Credit or concurrent enrollment in PHYS 272 <span style="float: right;"><input type="checkbox"/></span> MATH 231 (Calculus III) Prerequisite(s): A grade of "C" or higher in MATH 206. <span style="float: right;"><input type="checkbox"/></span> CE 270 or EE 211 (Applied Mechanics I or Basic Circuit Analysis) (see catalog for prerequisites) <span style="float: right;"><input type="checkbox"/></span> MATH 232 (Calculus IV) Prerequisite(s): A grade of "C" or higher in MATH 231 <span style="float: right;"><input type="checkbox"/></span>				
IV. ELECTIVES (5 - 6 Credits)		COURSE	CR	GR
<b>Electives (ELCT):</b> (** indicates strongly recommended courses) ASTR 110, BIOC 241, BIOC 244, BIOL 171, BIOL 171L, BIOL 172, BIOL 172L, BIOL 265, BIOL 265L, BIOL 275, BIOL 275L, BOT 201, BOT 201L, CHEM 272, CHEM 272L, CHEM 273, CE 270**, CE 271**, EE 211**, EE 260**, GG 101L, GG 103, ICS 111**, ICS 141, ICS 211, ICS 212, ICS 241, MATH 100, MATH 206L, ME 213**, MICR 130, MICR 140, MICR 161, MICR 230, MICR 240, OCN 201, PHYS 151, PHYS 151L, PHYS 152, PHYS 152L, PHYS 274**, PHYL 160, ZOOL 141, ZOOL 141L, ZOOL 142, ZOOL 142L, ZOOL 200, ZOOL 200L <span style="float: right;"><input type="checkbox"/></span>				

Please refer to current KCC Catalog for residency, curriculum, and other graduation requirements.

LS 04/18/2012

**\*Select courses that also satisfy the Writing Intensive and/or Hawaiian, Asian or Pacific Issues requirements.**

The issuance of an AS degree require that the student must earn a cumulative grade point ratio (GPR) of 2.0 or higher for all classes applicable toward the degree

**Advising: Maida Kamber Center for Career, Transfer and Graduation (Ilima 104, 734-9500)**

**Walk-in hours: Monday - Thursday 8:30-4:30pm**

**The Science, Technology, Engineering, and Math (STEM) Program offers support including tutoring, internships and scholarships.**

**Visit them in Kokio 202**

**ASSOCIATE IN SCIENCE - NATURAL SCIENCE (AS-NS) DEGREE REQUIREMENTS (Effective Spring 2012)**

The Associate of Science Degree (A.S. - Natural Science) is awarded to students who complete the following:

1) 60 credits, all in courses numbered 100 or above.	4) Two writing intensive courses in any discipline.
2) The last 12 Concentration and/or Natural Science Elective credits must be earned at Leeward Community College.	5) One Hawaiian, Asian, Pacific (HAP) course.
3) A maximum of 48 transfer credits earned at other colleges may be applied towards the degree.	6) Cumulative grade point average of 2.0 or higher for all courses numbered 100 or above completed at Leeward CC.
	7) General education and program requirements, as indicated below.

**Foundation Requirements (13 credits)**

	Category	Course	Grade	Credits
I. Foundation Written Communication (FW) (3 credits required) English 100 or ESL 100/ENG 100E	FW			3
II. Foundation Symbolic Reasoning (FS) (4 credits required) Math 205	FS			4
III. Foundation Global Multicultural Perspectives (FG) (6 credits required from 2 groups) GROUP A: Anth 151, Art 175, Hist 151 GROUP B: Anth 152, Art 176, Hist 152 GROUP C: Geog 151, Mus 107, Rel 150	FG			3
	FG			3
	<b>TOTAL FOUNDATION CREDITS (FW + FS + FG)</b>			<b>13</b>

**Diversification Requirements (10 - 13 credits)**

IV. Diversification Social Sciences (DS) (3 credits required) American Studies 211, 212 Anthropology 150, 200, 210, Economics 120*, 130*, 131* ( <i>*Engineering students must choose one of these.</i> ) Geography 102 Interdisciplinary Studies 221 Political Science 110, 120, 130, 180 Psychology 100, 180, 202, 240, 260 Sociology 100, 214, 218, 231, 250, 251 Women's Studies 151, 290	DS			3
V. Diversification Arts, Humanities, and Literature (DA/DH/DL) (3 credits required) <b>Diversification Arts (DA)</b> (Mainly Theory) Art 101 (Mainly Practice) Art 104, 104D, 105B, 105C, 106, 107, 107D, 112, 113, 113D, 114, 115, 123, 202, 213, 243, 244 Dance 121, 131, 132, 160, 180 Music 103, 104, 112, 113, 114, 121, 122, 180, 201, 221, 222, 232 Speech 251* ( <i>*Available for Engineering students only.</i> ) Drama 101 Music 108, 253, 281, 282, 283, 284 Drama 221, 222, 240, 260	D__			3
<b>Diversification Humanities (DH)</b> American Studies 201, 202 Art 171, 172, 180 Asian Studies 203, 204 Geography 122 Hawaiian Studies 107 History 231, 232, 241, 242, 260, 281, 282, 284 IS 250H Linguistics 102 Music 106, 265, 266 Philosophy 100, 101, 102, 200, 201, 211, 212, 213 Religion 151, 200, 201, 202, 203, 204, 205, 207, 210				
<b>Diversification Literature (DL)</b> East Asian Language & Literature 271, 272 English 250, 251, 252, 253, 254, 255, 256, 257H, 257N Humanities 261, 262				
VI. Diversification Natural Science (DB/DP/DY) (4 - 7 credits required) <b>Diversification Biological (DB) (3 credits required* **)</b> Anth 215 Biol 100, 101, 124, 130, 171, 172, 200, 201 Bot 101, 130 Fshn 185 Micr 130 <i>*Not required for Engineering but Biol 101, 171, Micr 130 or Zool 101 suggested for CEE. **Life Science must choose Biol 171.</i>	DB* **			
<b>Diversification Physical (DP) (3 credits required)</b> Chem 161 (Chem 161B = 3 cr. 161 + 1 cr. 161L)	DP			3
<b>Diversification Laboratory (DY) (1 credit required)</b> Chem 161L	DY			1
<b>TOTAL DIVERSIFICATION CREDITS (DS + DA/DH/DL + D/B/DP/DY) (IV + V + VI)</b>			<b>Total Diversification Credits</b>	

**VII. Additional Requirements (6 - 7 credits required)**

Category	Course	Grade	Credits
Computer Competency (CC) (3 credits required)			
CC			3
ICS 101			
EE 150* ( <i>*Engineering students only and they must choose this course.</i> )			
GC			3
General Chemistry (GC) (3 - 4 credits required*)			
GC*			
Chem 162 (Chem 162B = 3 cr. 162 + 1 cr. 162L)			
Chem 162L* ( <i>*Not required for Engineering.</i> )			
TOTAL ADDITIONAL REQUIREMENTS CREDITS (VII)			Total Additional Credits

**VIII. Concentration Requirements (5 - 23 credits required)**

Semester	Course	Grade	Credits																																																												
Select one of the Natural Science Concentrations																																																															
<table border="1"> <thead> <tr> <th colspan="2">Life Science</th> <th colspan="2">Physical Science</th> <th colspan="2">Engineering</th> </tr> </thead> <tbody> <tr> <td>Biol 171L</td> <td>1 cr.</td> <td>Math 206</td> <td>4 cr.</td> <td>Math 206</td> <td>4 cr.</td> </tr> <tr> <td>Biol 172</td> <td>3 cr.</td> <td>Phys 170</td> <td>4 cr.</td> <td>Phys 170</td> <td>4 cr.</td> </tr> <tr> <td>Biol 172L</td> <td>1 cr.</td> <td>Phys 170L</td> <td>1 cr.</td> <td>Phys 170L</td> <td>1 cr.</td> </tr> <tr> <td></td> <td></td> <td>Phys 272</td> <td>3 cr.</td> <td>Phys 272</td> <td>3 cr.</td> </tr> <tr> <td></td> <td></td> <td>Phys 272L</td> <td>1 cr.</td> <td>Phys 272L</td> <td>1 cr.</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td>Math 231</td> <td>3 cr.</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td>Math 232</td> <td>3 cr.</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td>EE 211 or</td> <td>4 cr. or</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td>CE 270</td> <td>3 cr.</td> </tr> </tbody> </table>				Life Science		Physical Science		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 or	4 cr. or					CE 270	3 cr.
Life Science		Physical Science		Engineering																																																											
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				EE 211 or	4 cr. or																																																										
				CE 270	3 cr.																																																										
TOTAL CONCENTRATION REQUIREMENTS CREDITS (VIII)			Total Concentration Credits																																																												

Total Foundation (I, II, III) + Diversification (IV, V, VI) + Additional (VII) + Concentration Requirements (VIII)

60 -

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Nat. Sci. Electives

**IX. Natural Science Electives (8 - 22 credits required)**

Semester	Course	Grade	Credits
Select classes required for your program which are <u>not</u> chosen above.			
	Bioc 241		
	Bioc 251		
	Biol 171		
	Biol 171L		
	Biol 172		
	Biol 172L		
	Biol 265		
	Biol 265L		
	Biol 275		
	Biol 275L		
	Bot 101		
	Bot 101L		
	Bot 130		
	Chem 272B		
	Chem 273B		
	Chem 272B		
	Chem 273B		
	GG 101		
	GG 101L		
	GG 103		
	Hort 110		
	ICS 111		
	ICS 141		
	ICS 211		
	ICS 212		
	ICS 241		
	Math 206		
	Math 206L		
	Math 231		
	Math 232		
	ME 213		
	Micr 130		
	Micr 140		
	OCN 201		
	OCN 201L		
	Phrm 203		
	Phys 151 ( <i>Life Sci. only</i> )		
	Phys 151L ( <i>Life Sci. only</i> )		
	Phys 152 ( <i>Life Sci. only</i> )		
	Phys 152L ( <i>Life Sci. only</i> )		
	Phys 170		
	Phys 170L		
	Phys 272		
	Phys 272L		
	Phys 274		
	Zool 200		
	Zool 240		
	Zool 241		
TOTAL NATURAL SCIENCE ELECTIVES CREDITS (IX)			Total Natural Science Credits

Total Credits (Add I + II + III + IV + V + VI + VII + VIII + IX)

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.