UNIVERSITY OF HAWAI‘I
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 Hawaiʻi at Mānoa

Tom Apple
Chancellor

Reed Dasenbrock 10/7/12
Vice Chancellor Academic Affairs

Peter Crouch
Dean, College of Engineering

Kapiʻolani Community College

Leon Richards
Chancellor

Louise Pagotto
Vice Chancellor Academic Affairs

Leeward Community College

Manuel Cabral
Chancellor

Michael Pecsok
Vice Chancellor Academic Affairs
# THE UNIVERSITY OF HAWAI'I - 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)

<table>
<thead>
<tr>
<th>COURSE</th>
<th>CR</th>
<th>GR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Written Communication (FW): (1 course)</td>
<td>check boxes if transfer course</td>
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<tr>
<td>Symbolic Reasoning (FS): (1 course)</td>
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<tr>
<td>Global &amp; Multicultural Perspectives (FG): (2 courses only, choose one course from two different groups below)</td>
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</tr>
<tr>
<td>Group A: ANTH 151, HIST 151</td>
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<tr>
<td>Group B: ANTH 152, GEOG 102, HIST 152</td>
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<tr>
<td>Group C: GEOG 151, MUS 107, REL 150</td>
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</tbody>
</table>

### *Arts, Humanities, & Literature:* (1 course only, choose one course from any group below)

**Arts (DA):**

**Humanities (DH):**
- AMST 201, 202; ART 190 (any alpha), 270, 280, 290; CHNS 131, 190; HIST 222, 231, 232, 241, 242, 281, 282, 284, 288;
- HUM 262; HWST 100, 107, 210, 216; IS 109; JPN 131, 132, 290; KOR 290; LING 102; MUS 106, 170; PACS 273;
- PHIL 101, 102, 103, 211, 213, 250; REL 151, 200, 201, 202, 209, 210, 220, 222; SLT 202

**DL (Literature & Language):**
- EALL 281, 282, 285, 292, 297, 298, 299; EL 283; ENG 200, 209, 214, 215, 225, 226, 257; MUS 257, 257P, 270 (any alpha), 271 (any alpha), 272 (any alpha), 273 (any alpha), HAW 261, 262; HWST 270; JOUR 205, 227; LLEA 239, 250; PACS 257 (Also listed as ENG 257C); SPAN 250

### *Social Sciences (DS):* (1 course only)

- AMST 211, 212; ANTH 150, 200, 210, 238; 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 190, 170, 202, 212, 242, 260, 263, 270; SLT 102, 103;
- SOC 100, 214, 216, 231, 251, 257, SOCS 225; SP 101; SSCI 100, 260; WS 202 (Also listed as PSY 202)

### II. CHEMISTRY COURSES (7 Credits)

<table>
<thead>
<tr>
<th>COURSE</th>
<th>CR</th>
<th>GR</th>
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</thead>
<tbody>
<tr>
<td>General Chemistry (GC): (2 courses and 1 lab)</td>
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<tr>
<td>CHEM 161 (General Chemistry I) Prerequisite(s): MATH 103 or higher math level or placement into MATH 135 Recommended: MATH 135.</td>
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<tr>
<td>CHEM 161L (General Chemistry I Lab) Prerequisite(s): MATH 103; credit or concurrent enrollment in CHEM 161.</td>
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<tr>
<td>CHEM 162 (General Chemistry II) Prerequisite(s): CHEM 161 and MATH 103. Recommended Preparation: MATH 135</td>
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</tr>
</tbody>
</table>

### III. PRE-ENGINEERING (28 - 29 Credits)

<table>
<thead>
<tr>
<th>COURSE</th>
<th>CR</th>
<th>GR</th>
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</thead>
<tbody>
<tr>
<td>EE 160 (Programming for Engineers) Prerequisite(s): MATH 135. Recommended Preparation: MATH 140</td>
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<tr>
<td>MATH 205 (Calculus II) Prerequisite(s): A grade of &quot;C&quot; or higher in MATH 205 or equivalent</td>
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<tr>
<td>PHYS 170 (General Physics I) Prerequisite(s): Credit or concurrent enrollment in MATH 206.</td>
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<tr>
<td>PHYS 170L (General Physics I Lab) Prerequisite(s): Credit or concurrent enrollment in PHYS 170.</td>
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<tr>
<td>PHYS 272 (General Physics II) Prerequisite(s): PHYS 170; PHYS 170L; MATH 206</td>
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<tr>
<td>PHYS 272L (General Physics II Lab) Prerequisite(s): Credit or concurrent enrollment in PHYS 272</td>
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<tr>
<td>MATH 231 (Calculus III) Prerequisite(s): A grade of &quot;C&quot; or higher in MATH 208.</td>
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<tr>
<td>CE 279 or EE 211 (Applied Mechanics I or Basic Circuit Analysis) (see catalog for prerequisites)</td>
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<tr>
<td>MATH 232 (Calculus IV) Prerequisite(s): A grade of &quot;C&quot; or higher in MATH 231</td>
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### IV. ELECTIVES (5 - 6 Credits)

<table>
<thead>
<tr>
<th>COURSE</th>
<th>CR</th>
<th>GR</th>
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</thead>
<tbody>
<tr>
<td>Electives (ELCT): (**) Indicates strongly recommended courses</td>
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</tbody>
</table>

**Please refer to current KCC Catalog for residency, curriculum, and other graduation 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 (Ililma 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
LEEWARD COMMUNITY COLLEGE  
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.  
2) The last 12 Concentration and/or Natural Science Elective credits must be earned at Leeward Community College.  
3) A maximum of 48 transfer credits earned at other colleges may be applied towards the degree.  
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 courses numbered 100 or above completed at Leeward CC.  
7) General education and program requirements, as indicated below.

## Foundation Requirements (13 credits)

<table>
<thead>
<tr>
<th>Category</th>
<th>Course</th>
<th>Grade</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>FW</td>
<td></td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>FS</td>
<td></td>
<td></td>
<td>4</td>
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<tr>
<td>FG</td>
<td></td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>FG</td>
<td></td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>TOTAL FOUNDATION CREDITS (FW + FS + FG)</td>
<td></td>
<td></td>
<td>13</td>
</tr>
</tbody>
</table>

## Diversification Requirements (10 - 13 credits)

### V. Diversification Social Sciences (DS) (3 credits required)

<table>
<thead>
<tr>
<th>Category</th>
<th>Course</th>
<th>Grade</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>American Studies 211, 212</td>
<td>Political Science 110, 120, 130, 180</td>
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<td>3</td>
</tr>
<tr>
<td>Anthropology 150, 200, 210, 260</td>
<td>Psychology 100, 180, 202, 240, 260</td>
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<tr>
<td>Economics 120*, 130*, 131* (*Engineering students must choose one of these)</td>
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<tr>
<td>Geography 102</td>
<td>Sociology 100, 214, 218, 231, 250, 251</td>
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<tr>
<td>Interdisciplinary Studies 221</td>
<td>Women's Studies 151, 290</td>
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<tr>
<td>DS</td>
<td></td>
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</table>

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

#### Diversification Arts (DA)

- **(Mainly Theory)**  
  - Art 101  
  - Drama 101  
  - Music 108, 253, 254, 281, 282, 283, 284

- **(Mainly Practice)**  
  - Dance 121, 131, 132, 160, 180  
  - Drama 221, 222, 240, 260  
  - Music 103, 104, 112, 113, 114, 121, 122, 180, 201, 221, 222, 232  
  - Speech 251* (*Available for Engineering students only)

#### Diversification Humanities (DH)

- American Studies 201, 202  
  - History 231, 232, 241, 242, 260, 281, 282, 284
- Art 171, 172, 180  
  - IS 230H
- Asian Studies 203, 204  
  - Linguistics 102
- Geography 122  
  - Music 106, 265, 266
- Hawaiian Studies 107  

#### Diversification Literature (DL)

- East Asian Language & Literature 271, 272  
  - Humanities 261, 262
- English 250, 251, 252, 253, 254, 255, 256, 257H, 257N

#### Diversification Natural Science (DB/DP/DY) (4 - 7 credits required)

- **Diversification Biological (DB) (3 credits required)**
  - Anth 215
  - Biol 100, 101, 124, 130, 171, 172, 200, 201
  - Bot 101, 130  
  - Fish 185  
  - Zool 101, 200, 240, 241
  - Micr 130
  - *Not required for Engineering but Biol 101, 171, Micr 130 or Zool 101  
  - *Suggested for CEE  
  - **Life Science must choose Biol 171.

- **Diversification Physical (DP) (3 credits required)**
  - Chem 161
  - (Chem 161A = 3 cr. 161 + 1 cr. 161L)

- **Diversification Laboratory (DY) (1 credit required)**
  - Chem 161L

**TOTAL DIVERSIFICATION CREDITS (DS + DA/DH/DL + DB/DP/DY) (IV + V + VI)**

<table>
<thead>
<tr>
<th>Category</th>
<th>Course</th>
<th>Grade</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>DB* ***</td>
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<tr>
<td>DP</td>
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<td>3</td>
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<tr>
<td>DY</td>
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<td></td>
<td>1</td>
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<tr>
<td>TOTAL DIVERSIFICATION CREDITS</td>
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</table>
VII. Additional Requirements (6 - 7 credits required)

<table>
<thead>
<tr>
<th>Category</th>
<th>Course</th>
<th>Grade</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CC</td>
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<td></td>
<td></td>
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<tr>
<td>GC</td>
<td>3</td>
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</tbody>
</table>

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 162L* (*Not required for Engineering.)

TOTAL ADDITIONAL REQUIREMENTS CREDITS (VII)

VIII. Concentration Requirements (5 - 23 credits required)

<table>
<thead>
<tr>
<th>Semester</th>
<th>Course</th>
<th>Grade</th>
<th>Credits</th>
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</thead>
</table>

Select one of the Natural Science Concentrations

<table>
<thead>
<tr>
<th>Life Science</th>
<th>Physical Science</th>
<th>Engineering</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Biol 171L</td>
<td>1 cr.</td>
<td></td>
</tr>
<tr>
<td>Biol 172</td>
<td>3 cr.</td>
<td></td>
</tr>
<tr>
<td>Biol 172L</td>
<td>1 cr.</td>
<td></td>
</tr>
</tbody>
</table>

Math 206 | 4 cr. | Biol 171 | 4 cr. |
Math 206 | 4 cr. |

Math 206 | 4 cr. |
Phys 170 | 4 cr. |
Phys 170L | 1 cr. |
Phys 272 | 3 cr. |
Phys 272L | 1 cr. |
Math 231 | 3 cr. |
Math 232 | 3 cr. |
EE 211 or | 4 cr. |
CE 270    | 3 cr. |

TOTAL CONCENTRATION REQUIREMENTS CREDITS (VIII)

Total Concentration Credits

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

<table>
<thead>
<tr>
<th>Semester</th>
<th>Course</th>
<th>Grade</th>
<th>Credits</th>
</tr>
</thead>
</table>

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 |     |
Biol 171 | Bot 130 | GG 103 | Math 231 | Phys 151 *(Life Sci. only)* |
Biol 171L | Chem 272B | Hort 110 | Math 232 | Phys 151L *(Life Sci. only)* |
Biol 172 | Chem 273B | ME 213 | Phys 152 | Phys 152L *(Life Sci. only)* |
Biol 172L | ICS 111 |     | Phys 170 |       |
Biol 265 | CE 270 | ICS 141 | Micro 130 | Phys 170L |
Biol 265L | CE 271 | ICS 211 | Micro 140 | Phys 272 |
Biol 275 | ICS 212 |     | Phys 272L |       |
Biol 275L | EE 150 | ICS 241 | OCN 201 | Phys 274 |
EE 211 | ICS 241 | OCN 201L |     |       |
EE 213 |     |     | Zool 200 |       |
EE 260 |     |     | Zool 240 |       |

TOTAL NATURAL SCIENCE ELECTIVES CREDITS (IX)

Total Natural Science Credits

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

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.