UNIVERSITY OF HAWAI'I
MEMORANDUM OF AGREEMENT

HONOLULU COMMUNITY COLLEGE
UNIVERSITY OF HAWAI'I – WEST O'AHU

BACHELOR OF APPLIED SCIENCE
CONCENTRATION OPTIONS IN COMPUTING, ELECTRONICS, AND
NETWORKING TECHNOLOGY (CENT)
OR INFORMATION SECURITY AND ASSURANCE (ISA)

The purpose of this degree pathway is to facilitate a smooth transition for students entering Honolulu Community College or the University of Hawai'i – West O'ahu as they work toward obtaining the Bachelor of Applied Science (BAS) degree with a concentration in Computing, Electronics, and Networking Technology (CENT) or focus in Information Security Assurance (ISA). This recommended pathway is designed to produce multiple entry and exit points to flexibly serve student career and educational objectives. In particular, this Agreement will facilitate the transfer of students in the Associate in Science (AS) in the Computing, Electronics, and Networking Technology (CENT) Program at Honolulu Community College (HON) to the Bachelor of Applied Science with a concentration in CENT or ISA at the University of Hawai'i – West O'ahu (UHWO). While this academic pathway represents the most efficient coursework progression from the AS program at HON through the BAS program at UHWO, individual course substitutions may be made on a case-by-case basis when recommended courses are not available; however, all core, concentration, general education, focus, and graduation requirements must still be met in those individual cases.

As part of the Dual Enrollment agreement between HON and UHWO, and under the terms of this Agreement, the University of Hawai'i-West O'ahu agrees to:

1. Identify academic advisors at UHWO who will partner with HON’s advisors to ensure timely and accurate advising information on pre-admission, admission, degree requirements, and other related advising information.
2. Identify a UHWO faculty member who will serve as the faculty advisor to students who are part of this articulation in the CENT concentration or ISA focus.
3. Inform students that financial aid may be available through whichever institution the student identifies as his/her home campus each semester, and that students must follow the financial aid policies and procedures at that home school in order to be eligible for financial aid.
4. Meet with HON faculty and/or administration minimally every two years, or on an as-needed basis, to discuss potential and planned curricular changes.
5. Continue discussions with HON on dual enrollment processes to benefit the matriculation and transfer processes for CENT and ISA students.
As part of the Dual Enrollment agreement between HON and UHWO, and under the terms of this Agreement, Honolulu Community College agrees to:

1. Identify a program counselor at HON who will partner with UHWO’s advisors to ensure timely and accurate advising information on pre-admission, admission, degree requirements, and other related advising information.
2. Identify a HON faculty member who will serve as the faculty advisor to students who are part of this articulation in the CENT concentration or ISA focus and consult with UHWO’s admissions personnel regarding students on an as-needed basis.
3. Inform students that financial aid may be available through whichever institution the student identifies as his/her home campus each semester, and that students must follow the financial aid policies and procedures at that home school in order to be eligible for financial aid.
4. Meet with UHWO faculty and/or administration minimally every two years, or on an as-needed basis, to discuss potential and planned curricular changes.
5. Continue discussions with UHWO on dual enrollment processes to benefit the matriculation and transfer processes for CENT and ISA students.

This Agreement will be reviewed as necessary in order to support the transfer, matriculation and graduation of CENT and IA students from both Honolulu Community College and the University of Hawai‘i – West O‘ahu.

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**University of Hawai‘i – West O‘ahu**

Rockne C. Freitas, Chancellor  
Linda Randall  
Vice Chancellor for Academic Affairs  
Derrek Choy, Chair of Business Administration  
David Pai, Assistant Professor, Business Administration

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**Honolulu Community College**

Erika Lacro, Chancellor  
Russell Uyeno, Interim Vice Chancellor for Academic Affairs  
Aaron Tanaka, Professor, CENT  
Sally Dunan, Assistant Professor, CENT

Date of Agreement: 7/2/13  
Effective Date: 7/2/13

Revised: 02/08/2008  
Revised: 07/01/2013
General Education Requirements

General Education Requirements for BAS CENT or ISA Concentrations – 31-32 credits (note some courses also meet other requirements in the CENT or ISA programs):

**FW** 3  **Foundations Written Communication** - ENG 100 Composition I, or ESL 100 (also satisfies AS CENT gen ed requirement)

**FS** 3-4  **Foundations Symbolic Reasoning** – MATH from the following list: 103 College Algebra; 135 Pre-calculus: Elementary Functions; 140 Pre-calculus: Trigonometry and Analytic Geometry: or higher level math (also satisfies AS CENT gen ed requirement)

**FG** 3  **Foundations Multicultural Perspectives** - Need 6 credits from two different groups (A,B,C):
- Group A: (e.g. HIST 151 or ANTH 151)
- Group B: (e.g. HIST 152 or ANTH 152)
- Group C: GEOG 151, MUS 107, GEOG 102, REL 150 (3 credits also satisfies AS CENT Humanities requirement)

**DH, DA, DI** 3  **Diversification Arts, Humanities, Literature** - Need 6 credits from two different areas. Recommended: HWST or DL107, or other DH or DL course with HAP focus. Upper-division 3XX or 4XX courses are recommended whenever possible to count toward the required 45 credits of upper-division coursework.

**DS** 3  **Diversification Arts, Humanities, Literature** – Group different from above
- Recommended: SP 151 Personal and Public Speech, or SP 251 Principles of Effective Speaking (or PUBA 313 or other DA to meet O-focus requirement)

**DS** 3  **Diversification Social Sciences** – Need 6 credits from two different areas.
- Recommended: SSCI 301 (also counts toward BAS core requirement) (3 credits also satisfy AS CENT gen ed requirement)

**DS** 3  **Diversification Social Sciences** – Group different from above
- Recommended: **Econ 130 or 131** (also counts toward IA lower division requirement)

**DB** 3  **Diversification Natural Science** – 3 credits from the Biological Sciences (DB)

**DP** 3  **Diversification Natural Science** – 3 credits from the Physical Sciences (DP)
- Recommended: PHYS 105 Principles of Technology (4 credits, satisfies AS CENT gen ed requirement and DP + DY BAS gen ed requirement)

**DY** 1  **Diversification Natural Sciences** – Lab for either DB or DP above
- Recommended: PHYS 105 Principles of Technology (4 credits, satisfies AS CENT gen ed requirement and DP + DY BAS gen ed requirement)
Lower Division Requirements for CENT Concentration (45-47 credits):

(Honolulu Community College’s AS degree CENT, with selected electives indicated below, is one degree pathway; however, completion of the AS degree is not a requirement of the BAS program at UHWO)

3  CENT/ICS 110  Introduction to Information Systems
4  CENT 132  ICT Support
3-4 ICS 111  Introduction to Computer Science I
4  CENT 140  Computer Networking I
4  CENT 228  System Administration & TCP/IP Networking with Unix/Linux
4  CENT 231  Telecommunications
4  CENT 240  Computer Networking II
4  CENT 270  Network Operating Systems I
3  CENT 275  Security Essentials
3  CENT 280  Database Systems I
2  CENT 290v  Internship for CENT
or CENT 293v  Cooperative Education
1  FAMR100a  Personal and Professional Development

Program Electives (select two courses from below):

4  CENT 232  PC Desktop and Printer Support
3  CENT 285  Introduction to Internet Applications/Web Applications
3  ICS 211  Introduction to Computer Science II (using Java)
3  ACCT 201  Introduction to Financial Accounting
3  Any CENT course numbered 300 or above that is not otherwise used to meet a program requirement

OR

Lower Division Requirements for ISA Concentration (45-47 credits):

3  CENT/ICS 110  Introduction to Information Systems
4  CENT 132  ICT Support
3-4 ICS 111  Introduction to Computer Science I (using Java)
4  CENT 140  Computer Networking I
4  CENT 228  System Administration & TCP/IP Networking with Unix/Linux
4  CENT 231  Telecommunications
4  CENT 240  Computer Networking II
4  CENT 270  Network Operating Systems I
3  CENT 275  Security Essentials
3  CENT 280  Database Systems I
2  CENT 290v  Internship for CENT
or CENT 293v  Cooperative Education
1  FAMR100a  Personal and Professional Development
3  ACCT 201  Introduction to Financial Accounting
3* ECON 130  Principles of Microeconomics,
or ECON 131  Principles of Macroeconomics
University of Hawai'i – West O'ahu
Bachelor of Applied Science with a Concentration in Computing,
Electronics, and Networking Technology (CENT)
or Information Security and Assurance (ISA)

Program Electives (select one course from below):
- **4** CENT 232  PC Desktop and Printer Support
- **3** CENT 285  Introduction to Internet Applications/Web Applications
- **3** ICS 211  Introduction to Computer Science II (using Java®)
- **3** Any CENT course numbered 300 or above that is not otherwise used to meet a program requirement

* Counted in DS under General Education
Bachelor of Applied Science Core Requirements for both CENT and ISA Concentrations (15 credits):

<table>
<thead>
<tr>
<th>Credits</th>
<th>Course/Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>ENG 200 Composition II</td>
</tr>
<tr>
<td>or</td>
<td>ENG 209 Business Writing</td>
</tr>
<tr>
<td>or</td>
<td>ENG 210 Writing Term Papers</td>
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<tr>
<td>or</td>
<td>ENG 215 Research/Argumentative Writing</td>
</tr>
<tr>
<td>3</td>
<td>PUBA/BUSA 481 Ethics and Administration (ETH focus)</td>
</tr>
<tr>
<td>or</td>
<td>PUBA 477 Ethics in Healthcare Administration (ETH focus)</td>
</tr>
<tr>
<td>or</td>
<td>MGT 301 Business Ethics (ETH focus)</td>
</tr>
<tr>
<td>3*</td>
<td>SSCI 301 (DS) Methods and Techniques in Social Science Research</td>
</tr>
<tr>
<td>3</td>
<td>PUBA 341 Statistics for Decision-Making in Public Administration;</td>
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<tr>
<td>or</td>
<td>BUSA 320 Statistics for Decision-Making (Math 103 is pre-requisite for BUSA 320)</td>
</tr>
<tr>
<td>3</td>
<td>APSC 486/490 Senior Project/Administrative Practicum</td>
</tr>
</tbody>
</table>

* Counted in DS under General Education

AND

Upper Division Course Requirements for CENT Concentration (33 credits):

<table>
<thead>
<tr>
<th>Credits</th>
<th>Course/Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>CENT 310 Network Security</td>
</tr>
<tr>
<td>3</td>
<td>CENT 315 Network Management</td>
</tr>
<tr>
<td>3</td>
<td>CENT 410 (WI) IT Project Management</td>
</tr>
<tr>
<td>3</td>
<td>ISA 400 Management of Information Security</td>
</tr>
<tr>
<td>9</td>
<td>CENT electives 300 or higher level CENT courses not used to meet any other requirement</td>
</tr>
<tr>
<td>9</td>
<td>UHWO electives 300 or higher level Business Area* or PUBA courses not used to meet any other requirement</td>
</tr>
<tr>
<td>3</td>
<td>Restricted Electives 300 or higher level Business Area*, CENT, ISA, or PUBA courses not used to meet any other requirement</td>
</tr>
</tbody>
</table>

* Business Area is meant to reflect any course in core or concentration areas within the BA in Business Administration Programs like ACC, BUSA, FIN, or MGT.

OR

Upper-Division Course Requirements for ISA Concentration (33 credits):

<table>
<thead>
<tr>
<th>Credits</th>
<th>Course/Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>ISA 400 Management of Information Security</td>
</tr>
<tr>
<td>3</td>
<td>CENT 310 Network Security</td>
</tr>
<tr>
<td>3</td>
<td>ITS/CENT/BUSA 410 IT Project Management</td>
</tr>
<tr>
<td>9</td>
<td>ISA electives 300 or higher level ISA courseses not used to meet any other requirement</td>
</tr>
</tbody>
</table>

Attachment III
<table>
<thead>
<tr>
<th></th>
<th>UHWO electives</th>
<th>300 or higher level Business Area* or PUBA courses not used to meet any other requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Restricted Electives</td>
<td>300 or higher level Business Area*, CENT, ISA, or PUBA courses not used to meet any other requirement</td>
</tr>
</tbody>
</table>

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**Graduation Requirement – 45 credits of upper division course work met for CENT:**

<table>
<thead>
<tr>
<th></th>
<th>SSCI 301</th>
<th>Methods and Techniques in Social Science Research (satisfies a core requirement)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>PUBA 341</td>
<td>Statistics for Decision-Making in Public Administration;</td>
</tr>
<tr>
<td></td>
<td>PUBA 320</td>
<td>Statistics for Decision-Making [Math 103 is pre-requisite for BUSA 320 (satisfies a core requirement) [Note: SSCI 210 Applied Statistics I is a statistics option for BAS students, but students choosing that option will need an additional 3 credits of upper division work]</td>
</tr>
<tr>
<td></td>
<td>PUBA/BUSA 481</td>
<td>Ethics and Administration (ETH focus) (satisfies a core requirement)</td>
</tr>
<tr>
<td></td>
<td>PUBA 477</td>
<td>Ethics in Healthcare Administration (ETH focus) (satisfies a core requirement)</td>
</tr>
<tr>
<td></td>
<td>MGT 301</td>
<td>Business Ethics (ETH focus) (satisfies a core requirement)</td>
</tr>
<tr>
<td></td>
<td>APSC 486/490</td>
<td>Senior Project/Administrative Practicum (satisfies a core requirement)</td>
</tr>
<tr>
<td></td>
<td>CENT 310</td>
<td>Network Security</td>
</tr>
<tr>
<td></td>
<td>CENT 315</td>
<td>Network Management</td>
</tr>
<tr>
<td></td>
<td>CENT 410</td>
<td>Project Management</td>
</tr>
<tr>
<td></td>
<td>ISA 400</td>
<td>Management of Information Security</td>
</tr>
<tr>
<td></td>
<td>CENT electives</td>
<td>300 or higher level CENT courses not used to meet any other requirement</td>
</tr>
<tr>
<td></td>
<td>UHWO electives</td>
<td>300 or higher level Business Area* or PUBA courses not used to meet any other requirement [Note: HAP, WI, DA, DL, or DH designated courses recommended to minimize number of overall credits needed to meet all requirements]</td>
</tr>
<tr>
<td></td>
<td>Restricted Electives</td>
<td>300 or higher level Business Area*, CENT, ISA, or PUBA courses not used to meet any other requirement</td>
</tr>
</tbody>
</table>

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Graduation Requirement – 45 credits of upper division course work met for ISA:

3  SSCI 301  Methods and Techniques in Social Science Research  (satisfies a core requirement)
3  PUBA 341  Statistics for Decision-Making in Public Administration;
or BUSA 320  Statistics for Decision-Making  [Math 103 is pre-requisite for BUSA 320 (satisfies a core requirement)]
  [Note: SSCI 210 Applied Statistics I is a statistics option for BAS students, but students choosing that option will need an additional 3 credits of upper division work]
3  PUBA/BUSA 481  Ethics and Administration  (satisfies a core requirement)
or PUBA 477  Ethics in Healthcare Administration  (satisfies a core requirement)
or MGT 301  Business Ethics  (satisfies a core requirement)
3  APSC 486/490  Senior Project/Administrative Practicum  (satisfies a core requirement)
3  ISA 400  Management of Information Security
3  CENT 310  Network Security
3  ITS/CENT/BUSA 410  IT Project Management
9  ISA electives  300 or higher level ISA courses not used to meet any other requirement
9  UHWO electives  300 or higher level Business Area* or PUBA courses not used to meet any other requirement  [Note: HAP, WI, DA, DL, or DH designated courses recommended to minimize number of overall credits needed to meet all requirements]
6  Restricted Electives  300 or higher level Business Area*, CENT, ISA, or PUBA courses not used to meet any other requirement

* Business Area is meant to reflect any course in core or concentration areas within the BA in Business Administration Programs like ACC, BUSA, FIN, or MGT.

MINIMUM TOTAL CREDITS for BAS in CENT: 121 credits

MINIMUM TOTAL CREDITS for BAS in ISA: 121 credits

1  BAS Computer Literacy requirement is waived based on overall computer competencies with the CENT or IA concentration
2  ENG 200 must be taken at UHWO in order to meet UHWO minimum 30 credit requirement for graduation. If ENG 200 or equivalent is taken at HON, an alternate course must be taken at UHWO.