UNIVERSITY OF HAWAIʻI
MEMORANDUM OF AGREEMENT

LEEWARD COMMUNITY COLLEGE
UNIVERSITY OF HAWAIʻI – WEST OʻAHU

BACHELOR OF APPLIED SCIENCE
CONCENTRATION IN
INFORMATION SECURITY AND ASSURANCE (ISA)

The purpose of this degree pathway is to facilitate a smooth transition for students entering Leeward Community College (Leeward CC) or the University of Hawaiʻi – West O‘ahu (UHWO) as they work toward obtaining the Bachelor of Applied Science (BAS) degree with a concentration in Information Security Assurance (ISA). This recommended pathway is designed to serve student career and educational objectives. In particular, this agreement will facilitate the transfer of students in the Associate in Science (AS) Information and Computer Science (ICS) program at Leeward CC to the BAS program with a concentration in ISA at the UHWO. While this academic pathway represents the most efficient coursework progression from the AS program at Leeward CC 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 Leeward CC and UHWO, and under the terms of this agreement, the University of Hawaiʻi-West Oʻahu agrees to:

1. Identify academic advisors at UHWO who will partner with Leeward CC’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 ISA concentration.
3. Inform students that financial aid may be available through either institution as the student identifies 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 Leeward CC faculty and/or administration minimally every two years, or on an as-needed basis, to discuss potential and planned curriculum changes.
5. Continue discussions with Leeward CC on dual enrollment processes to benefit the matriculation and transfer processes for ISA students.

As part of the dual enrollment agreement between Leeward CC and UHWO, and under the terms of this agreement, Leeward CC agrees to:
1. Identify a program counselor at Leeward CC 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 Leeward CC faculty member who will serve as the faculty advisor to students who are part of this articulation in the ISA concentration and consult with UHWO’s admissions personnel regarding students on an as-needed basis.

3. Inform students that financial aid may be available through either institution as the student identifies 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 ISA students.

This agreement will be reviewed as necessary in order to support the transfer, matriculation and graduation of students from both Leeward Community College and the University of Hawai‘i – West O‘ahu. This agreement will go into effect academic year 2015-2016.

University of Hawai‘i – West O‘ahu

Rockne Freitas, Chancellor

Linda Randall
Vice Chancellor for Academic Affairs

Derrek Choy, Chair of Business Administration

Matthew Chapman, Assistant Professor
Information Technology

Leeward Community College

Manuel J. Cabral, Chancellor

Michael Pecson
Vice Chancellor for Academic Affairs

James Goodman
Dean, Arts & Sciences

Blanca J. Polo, Associate Professor
Information & Computer Science

Date of Agreement: 3/12/2015  Effective Date: 8/1/2015

Revised: 2/12/2015
General Education Requirements

General Education Requirements for BAS ISA Concentrations – 31 credits

### Foundations (12 credits)

<table>
<thead>
<tr>
<th>Code</th>
<th>Credits</th>
<th>Course Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>FW</td>
<td>3</td>
<td>Foundations Written Communication - ENG 100 Composition I, or ESL 100 (Note: Leeward CC A.S. required class)</td>
</tr>
<tr>
<td>FS</td>
<td>3</td>
<td>Foundations Symbolic Reasoning (Note: Leeward CC Math 103 meets this requirement)</td>
</tr>
<tr>
<td>FG</td>
<td>6</td>
<td>Foundations Multicultural Perspectives - Need 6 credits from two different groups (A, B, C); (Note: one FG requirement is part of Leeward CC A.S.)</td>
</tr>
</tbody>
</table>

### Diversification (19 credits)

<table>
<thead>
<tr>
<th>Code</th>
<th>Credits</th>
<th>Course Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>DH, DA</td>
<td>3</td>
<td>Diversification Arts, Humanities, Literature - Need 6 credits from two different areas. Recommended: HWST 107, or other HAP designated course. Upper-division 300 or 400 level courses are recommended whenever possible to count toward the required 45 credits of upper-division coursework.</td>
</tr>
<tr>
<td>DL</td>
<td>3</td>
<td>Diversification Arts, Humanities, Literature – Group different from above.</td>
</tr>
<tr>
<td>DS</td>
<td>3</td>
<td>Diversification Social Sciences – Need 6 credits from two different areas. Recommended: SSCI 301 (also counts toward BAS core requirement)</td>
</tr>
<tr>
<td>DS</td>
<td>3</td>
<td>Diversification Social Sciences – Group different from above. Recommended: ECON 130 or 131 (Note: one DS requirement is part of Leeward CC A.S.)</td>
</tr>
<tr>
<td>DB</td>
<td>3</td>
<td>Diversification Natural Science – 3 credits from the Biological Sciences</td>
</tr>
<tr>
<td>DP</td>
<td>3</td>
<td>Diversification Natural Science – 3 credits from the Physical Sciences (DP)</td>
</tr>
<tr>
<td>DY</td>
<td>1</td>
<td>Diversification Natural Sciences – Lab for either DB or DP above</td>
</tr>
</tbody>
</table>
Lower Division Requirements for ISA Concentration (45-48 credits):

ICS Core Requirements (27 credits)

3  ICS 100/101  Computing Literacy & Apps or Digital Tools for Info World
3  ICS 110  Introduction to Programming
3  ICS 111  Introduction to Computer Science I
3  ICS 113  Database Fundamentals
3  ICS 125  Personal Computer Maintenance and Repair
3  ICS 184  Introduction to Networking
3  ICS 240  Operating Systems
3  ICS 270  Systems Analysis
3  ICS 293D  Cooperative Education

ICS Specialization Requirements (9 Credits)
Select one specialization below (9 credits)

Network Support Specialist
3  ICS 171  Introduction to Computer Security
3  ICS 172  Network Design and Administration
3  ICS 283  Advanced Network Design and Administration

Database Support Specialist
3  ICS 151  Structured Database Programming
3  DMED 120  NetPrep Web Development
3  ICS 251  Advanced Database Programming

Information Security Specialist
3  ICS 171  Introduction to Computer Security
3  ICS 281  Ethical Hacking
3  ICS 282  Computer Forensics

Mobile Developer Specialist
3  ICS 136  Introduction to Mobile Device Application Developer
3  ICS 251/DMED 120  Advanced Database Programming or NetPrep Web Development
3  ICS 236  Mobile Device Management and Programming

Software Developer Specialist
3  ICS 211  Introduction to Computer Science II
3  ICS 212 or ICS 215  Program Structure / Introduction to Scripting
3  ICS 241  Discrete Mathematics for Computer Science II

General Lower Level Degree Requirements (9-12 credits)
(3)  MATH 103 or ICS 141 College Algebra / Discrete Mathematics for Computer Science
     (Note: MATH 103 meets FS requirement at UHWO)
3  ENG 225  Technical Writing
3  ICS 170  Ethics for the Digital World
3  SP 151  Personal and Public Speech
BAS Core & Upper Division Requirements

Bachelor of Applied Science Core Requirements for ISA Concentrations
(12 credits)¹:

3 ENG 200 Composition II²
or ENG 209 Business Writing
or ENG 210 Writing Term Papers
or ENG 215 Research/Argumentative Writing
3 PUBA/BUSA 481 Ethics and Administration (ETH focus)
or PUBA 477 Ethics in Healthcare Administration (ETH focus)
or MGT 301 Business Ethics (ETH focus)
or another 300-400 level course with the ETH identifier.
(3)* SSCI 301 (DS) Methods and Techniques in Social Science Research
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)
3 Capstone Course:
   APSC 486 or APSC 490 Senior Project (WI) / Senior Practicum (WI)

* DS under General Education

AND

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

3 ISA 320 Fundamentals of Secure Software Programming
3 ISA 330 Introduction to Proactive System Security
3 ISA 340 Introduction to Digital Forensics
3 ISA 400 Management of Information Security
3 ISA 450 Modern Cyber Conflicts
3 CENT/ITS 410 IT Project Management (WI)

9 UHWO electives 300 or higher level Business Area* or PUBA courses not used to meet any other requirement
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 Business Administration including ACC, BUSA, FIN, MGT, or MKT.
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 or BUSA 320  Statistics for Decision-Making in Public Administration; Statistics for Decision-Making [Math 103 is pre-requisite for BUSA 320 (satisfies a core requirement)
3  PUBA/BUSA 481  Ethics and Administration or another 300-400 level course with an ETH identifier (satisfies a core requirement)
3  APSC 486/490  Capstone: Senior Project/Senior Practicum (satisfies a core requirement)
3  CENT/ITS 410  IT Project Management

3  ISA 320  Fundamentals of Secure Software Programming
3  ISA 330  Introduction to Proactive System Security
3  ISA 340  Introduction to Digital Forensics
3  ISA 400  Management of Information Security
3  ISA 450  Modern Cyber Conflicts

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 Business Administration including ACC, BUSA, FIN, MGT, or MKT.

Foundations  (12 credits)
Diversification  (19 credits)
Lower Division ICS Core  (27 credits)
Lower Division ICS Specialization  (9 credits)
Lower Division Degree Requirements  (9-12 credits)
BAS Core  (12 credits)
Upper Division Requirements  (33 credits)

MINIMUM TOTAL CREDITS for BAS in ISA: 121-124 credits

The student is responsible for the completion of the minimum total credits above, 45 upper division credits as indicated, the 30 credit residency requirement, and focus area requirements.

1 BAS Computer Literacy requirement is waived based on overall computer competencies with the ISA concentration