September 2019

COMPUTER INFORMATION SYSTEMS ARTICULATION AGREEMENT GUIDE
Washtenaw Community College – AS in Information Systems: Programming in C++
Eastern Michigan University – BBA in Computer Information Systems

<table>
<thead>
<tr>
<th>Washtenaw Community College Courses:</th>
<th>Eastern Michigan University Courses:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Michigan Transfer Agreement (MTA) Requirements (30 credits)</strong></td>
<td></td>
</tr>
<tr>
<td>Students with an MTA endorsement on their community college transcript have satisfied EMU’s General Education Core Requirements and will be required to complete only the General Education Application Requirements of one Perspectives on a Diverse World course, one Learning beyond the Classroom experience, and a writing intensive course in the major. Courses listed below for the MTA also satisfy major requirements at EMU and or WCC. For courses approved to satisfy the MTA go to WCC’s website.</td>
<td></td>
</tr>
<tr>
<td><strong>1. A Course in English Composition</strong></td>
<td><strong>2. A Second Course in English Composition or a Course in Communication</strong></td>
</tr>
<tr>
<td>ENG 111 Composition I .................................4</td>
<td>WRTG 121 Composition II (3)+1 .............................4</td>
</tr>
<tr>
<td><strong>3. A Course in Mathematics</strong></td>
<td><strong>4. Two Courses in Natural Sciences from Different Disciplines (one lab required)</strong></td>
</tr>
<tr>
<td>MTH 176 or higher that meets the MTA ...............4</td>
<td>Choose from the approved MTA list .....................7-8</td>
</tr>
<tr>
<td><strong>5. Two Courses in Humanities from Different Disciplines</strong></td>
<td><strong>6. Two Courses in Social Sciences from Different Disciplines</strong></td>
</tr>
<tr>
<td>Choose from the approved MTA list .................6</td>
<td>Choose from the approved MTA list .....................6</td>
</tr>
<tr>
<td><strong>If needed, complete additional credits in any of the above categories to meet the 30 credit minimum for the MTA.</strong></td>
<td></td>
</tr>
<tr>
<td><strong>EMU “Perspectives on a Diverse World” Requirement:</strong> Complete one course from the following list:</td>
<td><strong>These courses also satisfy an MTA area:</strong> Communication: COM 225; Natural Science: ENV 101, 105; Humanities: ART 143, 150; COM 225; DAN 180; DRA 180; ENG 181, 213, 214, 224, 242; HUM 150, 175, 221; MUS 180; Social Science: ANT 201; ECO 280; GEO 101; HST 123, 150, 210, 230, 235, 240, 270; PLS 211; PSY 107, 251, 270; SOC 205, 216.</td>
</tr>
<tr>
<td><strong>These courses apply, but do not satisfy the MTA:</strong> CCP 251</td>
<td></td>
</tr>
<tr>
<td><strong>WCC Information Systems: Programming in C++ Requirements (24 credits)</strong></td>
<td><strong>EMU Requirements that May be Taken at WCC or EMU (24 credits)</strong></td>
</tr>
<tr>
<td>CIS 121 Linux/Unix I: Fundamentals ..................4</td>
<td>*ACC 111 Principles of Accounting I ..................3</td>
</tr>
<tr>
<td>CPS 171 Intro to Programming with C++ .................4</td>
<td>*ACC 122 Principles of Accounting II ................3</td>
</tr>
<tr>
<td>*CPS 271 Object Features of C++ (4) AND ..</td>
<td>*BMG 207 Business Communication ..................3</td>
</tr>
<tr>
<td>*CPS 272 Data Structures with C++ (4) ..........</td>
<td>*BMG 113 Business Law I ..............................3</td>
</tr>
<tr>
<td>*CPS 275 Web Prog Using Apache, MySQL, &amp; PHP ..</td>
<td>*BMG 140 Introduction to Business (Elective) ........3</td>
</tr>
<tr>
<td></td>
<td>*CIS 110 Intro to Comp Info Systems (Elective) ....3</td>
</tr>
<tr>
<td></td>
<td>*ECON 222 Principles of Economics II ...............3</td>
</tr>
<tr>
<td></td>
<td>Open Electives .........................................4</td>
</tr>
<tr>
<td></td>
<td>University Electives ................................4</td>
</tr>
<tr>
<td><strong>Credits at WCC:</strong> ....................................82</td>
<td><strong>Credits that transfer to EMU</strong> ........................82</td>
</tr>
</tbody>
</table>

* Required for EMU’s BBA in Computer Information Systems program. If not transferred, must be completed at EMU.
Note: Students must complete MTA or MACRAO or (WRTG 121 and CTAC 124 at EMU) or ENG 111 and COM 101 at WCC with a grade of “C” or higher.

Sign up with us: If you let us know you are using this articulation agreement we can stay in touch with you and provide information and advising to you while you are still at your community college.

Eastern Michigan University
Community College Relations  
March 6, 2019
Page 1 of 3
Completion of the BBA in Computer Information Systems at EMU

Business Administration Core (15 credits)
- FIN 350 Principles of Finance ......................................... 3
- MGMT 386 Organizational Behavior & Theory ...................... 3
- MGMT 490 Business Policy ............................................. 3
- MKTG 380 Principles of Marketing .................................... 3
- OM 374 Introduction to Operations Management .................. 3

Discipline Requirements (24 credits)
- IS 320 Business Data Comm & Information Security ............. 3
- IS 350 Enterprise Resource Planning and Architecture ............ 3
- IS 380 Data and Information Management .......................... 3
- IS 417 Systems Analysis and Design ................................ 3
- IS 425 IS Project and Risk Management ............................ 3
- IS 449W IS Strategy, Management & Acquisition .................... 3

Restricted Electives (choose 2 courses): .............................. 6
- IS 310 Social Media for Business (3)
- IS 365 Data Warehousing (3)
- IS 405 Web Content Mining (3)
- IS 410 Data Mining (3)
- IS 415 Business Mobile Application Development (3)
- IS 422 Social Media Network Analysis (3)
- IS 427 Business Process and Identify Management (3)
- IS 437 Intro to Business Info Technology Audit (3)

LBC Requirement (0-3 credits)
One Learning beyond the Classroom (LBC) course or noncredit experience must be completed at EMU. Consult College of Business advisor for options.

University Electives (3 credits)
Complete enough credits to bring the minimum at the four-year college level to 42 credits. Additional electives may be required at EMU if fewer than 82 credits are transferred.

Sample Sequence for completing the program:
Courses may not be offered every semester. Consult with a COB advisor to make a course plan.

First Semester (12 credits)
- FIN 350 F,W,S, prereq: ACC 240 .................................... 3
- IS 320 F,W,S, online .................................................. 3
- IS 380 F,W,S, prereq: IS 215 ........................................ 3
- IS 417 F,W, prereq: IS 247 ........................................... 3

Second Semester (12 credits)
- MGMT 386 F,W,S, online .............................................. 3
- IS 380 F,W,S, prereq: IS 247 ........................................ 3
- IS 417 F,W, prereq: IS 247 ........................................... 3

Third Semester (12 credits)
- MGMT 490 F,W,S, online, Concur Prereq: OM 374 .............. 3
- IS 350 F, prereq: IS 215 ............................................. 3
- IS 425 F,W, prereq: IS 380 ......................................... 3
- IS Restricted Elective ................................................... 3

Fourth Semester (6 credits)
- IS 449W F,W, pre-req: IS 417 and IS 425 ........................... 3

University Elective or LBC Requirement ............................. 3

Transfer Credits: ......................................................... 82
Minimum Credits at EMU: ............................................. 42
Minimum Credits to Graduate: ..................................... 124
## COMPUTER INFORMATION SYSTEMS ARTICULATION AGREEMENT GUIDE

Washtenaw Community College – AS in Computer Science: Programming in Java  
Eastern Michigan University – BBA in Computer Information Systems

<table>
<thead>
<tr>
<th>Michigan Transfer Agreement (MTA) Requirements (30 credits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students with an MTA endorsement on their community college transcript have satisfied EMU's General Education Core Requirements and will be required to complete only the General Education Application Requirements of one Perspectives on a Diverse World course, one Learning beyond the Classroom experience, and a writing intensive course in the major. Courses listed below for the MTA also satisfy major requirements at EMU and at WCC. For courses approved to satisfy the MTA go to <a href="http://www.wccnet.edu/services/transferresources/mta">http://www.wccnet.edu/services/transferresources/mta</a>.</td>
</tr>
</tbody>
</table>

1. **A Course in English Composition**  
   ENG 111 Composition I ........................................... 4  
   WRTG 121 Composition II (3)+1 ................................. 4

2. **A Second Course in English Composition or a Course in Communication**  
   Choose from the approved MTA list .......................... 3  
   University Elective .................................................. 3

3. **A Course in Mathematics**  
   MTH 176 or higher that meets the MTA ......................... 4  
   MATH 105 or University Elective .................................... 4

4. **Two Courses in Natural Sciences from Different Disciplines (one lab required)**  
   Choose from the approved MTA list .......................... 7-8  
   University Electives .................................................. 7-8

5. **Two Courses in Humanities from Different Disciplines**  
   Choose from the approved MTA list .......................... 6  
   University Electives .................................................. 6

6. **Two Courses in Social Sciences from Different Disciplines**  
   * ECO 211 Principles of Economics I ......................... 3  
   ECON 201 Principles of Macroeconomics ....................... 3  
   Choose from the approved MTA list .......................... 3  
   University Elective .................................................. 3

   If needed, complete additional credits in any of the above categories to meet the 30 credit minimum for the MTA.

**EMU "Perspectives on a Diverse World" Requirement:** Complete one course from the following list:  

* These courses also satisfy an MTA area: Communication: COM 225; Natural Science: ENV 101, 105; Humanities: ART 143, 150; COM 225; DAN 180; DRA 180; ENG 181, 213, 214, 224, 242; HUM 150, 175, 221; MUS 180; Social Science: ANT 201; ECO 280; GEO 101; HST 123, 150, 210, 230, 235, 240, 270; PLS 211; PSY 107, 251, 270; SOC 205, 216.

**These courses apply, but do not satisfy the MTA:** CCP 251

### WCC Computer Science: Programming in Java Requirements (31 credits)

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIS 121</td>
<td>Linux/Unix I: Fundamentals</td>
<td>4</td>
</tr>
<tr>
<td>CIS 282</td>
<td>Database Principles and Application</td>
<td>3</td>
</tr>
<tr>
<td>CPS 161</td>
<td>Introduction to Programming with Java</td>
<td>4</td>
</tr>
<tr>
<td>CPS 251</td>
<td>Android Programming Using Java</td>
<td>4</td>
</tr>
<tr>
<td>*CPS 276</td>
<td>Web Prog Using Apache, MySQL, &amp; PHP</td>
<td>4</td>
</tr>
<tr>
<td>*CPS 261</td>
<td>Advanced Java Concepts (4) AND</td>
<td></td>
</tr>
<tr>
<td>*CPS 278</td>
<td>Java Server Programming (4)</td>
<td>8</td>
</tr>
<tr>
<td>CPS 298</td>
<td>Professional Team Programming</td>
<td>4</td>
</tr>
<tr>
<td>IA 212</td>
<td>University Elective</td>
<td>4</td>
</tr>
<tr>
<td>IS 000</td>
<td>University Elective</td>
<td>3</td>
</tr>
<tr>
<td>BMT 000</td>
<td>University Elective</td>
<td>3</td>
</tr>
<tr>
<td>COSC 000</td>
<td>University Elective</td>
<td>4</td>
</tr>
<tr>
<td>IS 247</td>
<td>Intro to Web Application Development (3)+1</td>
<td>4</td>
</tr>
<tr>
<td>sub for IS 315</td>
<td>Object-Oriented Application Dev (3)+5</td>
<td>8</td>
</tr>
<tr>
<td>COSC 000</td>
<td>University Elective</td>
<td>4</td>
</tr>
</tbody>
</table>

### EMU Requirements that May be Taken at WCC or EMU (24 credits)

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>*ACC 111</td>
<td>Principles of Accounting I</td>
<td>3</td>
</tr>
<tr>
<td>*ACC 122</td>
<td>Principles of Accounting II</td>
<td>3</td>
</tr>
<tr>
<td>*BMG 140</td>
<td>Introduction to Business</td>
<td>3</td>
</tr>
<tr>
<td>*BMG 207</td>
<td>Business Communication</td>
<td>3</td>
</tr>
<tr>
<td>*BMG 111</td>
<td>Business Law I</td>
<td>3</td>
</tr>
<tr>
<td>*BMG 265</td>
<td>Business Statistics</td>
<td>3</td>
</tr>
<tr>
<td>*CIS 110</td>
<td>Intro to Computer Information Systems</td>
<td>3</td>
</tr>
<tr>
<td>*ECC 222</td>
<td>Principles of Microeconomics</td>
<td>3</td>
</tr>
<tr>
<td>ACC 240</td>
<td>Principles of Financial Accounting</td>
<td>3</td>
</tr>
<tr>
<td>ACC 241</td>
<td>Principles of Managerial Accounting</td>
<td>3</td>
</tr>
<tr>
<td>COB 200</td>
<td>Introduction to Business</td>
<td>3</td>
</tr>
<tr>
<td>MGMT 202</td>
<td>Business Communication</td>
<td>3</td>
</tr>
<tr>
<td>LAW 293</td>
<td>Legal Environment of Business</td>
<td>3</td>
</tr>
<tr>
<td>DS 265</td>
<td>Business Statistics</td>
<td>3</td>
</tr>
<tr>
<td>IS 215</td>
<td>Information Systems for Business</td>
<td>3</td>
</tr>
<tr>
<td>ECON 202</td>
<td>Principles of Microeconomics</td>
<td>3</td>
</tr>
</tbody>
</table>

### Credits at WCC: 85  
### Credits that transfer to EMU: 82

*Required for EMU's BBA in Computer Information Systems program.  
Note: Students must complete MTA or MACRAO or (WRTG 121 and CTAC 124 at EMU) or ENG 111 and COM 101 at WCC with a grade of "C" or higher.

**Sign up with us:** If you let us know you are using this articulation agreement we can stay in touch with you and provide information and advising to you while you are still at your community college.
Completion of the BBA in Computer Information Systems at EMU

**Business Administration Core (15 credits)**
- FIN 350 Principles of Finance ........................................... 3
- MGMT 386 Organizational Behavior & Theory ........................................... 3
- MGMT 490 Business Policy ........................................... 3
- MKTG 360 Principles of Marketing ........................................... 3
- OM 374 Introduction to Operations Management ........................................... 3

**Discipline Requirements (24 credits)**
- IS 320 Business Data Comm & Information Security ........................................... 3
- IS 350 Enterprise Resource Planning and Architecture ........................................... 3
- IS 380 Data and Information Management ........................................... 3
- IS 417 Systems Analysis and Design ........................................... 3
- IS 425 IS Project and Risk Management ........................................... 3
- IS 449W IS Strategy, Management & Acquisition ........................................... 3

Restricted Electives (choose 2 courses): ........................................... 6
- IS 310 Social Media for Business ........................................... 3
- IS 385 Data Warehousing ........................................... 3
- IS 405 Web Content Mining ........................................... 3
- IS 410 Data Mining ........................................... 3
- IS 415 Business Mobile Application Development ........................................... 3
- IS 422 Social Media Network Analysis ........................................... 3
- IS 427 Business Process and Identity Management ........................................... 3
- IS 437 Intro to Business Info Technology Audit ........................................... 3

**LBC Requirement (0-3 credits)**
One Learning beyond the Classroom (LBC) course or noncredit experience must be completed at EMU. Consult College of Business advisor for options.

**University Electives (0-3 credits)**
Complete enough credits to bring the minimum at the four-year college level to 42 credits. Additional electives may be required at EMU if fewer than 82 credits are transferred.

**Sample Sequence for completing the program:**
Courses may not be offered every semester. Consult with a COB advisor to make a course plan.

**First Semester (12 credits)**
- FIN 350 F,W,S, prereq: ACC 240 ........................................... 3
- MKTG 360 F,W,S, online ........................................... 3
- IS 320 F,W, prereq: IS 215 ........................................... 3
- IS Restricted Electives ........................................... 3

**Second Semester (12 credits)**
- MGMT 386 F,W,S, online ........................................... 3
- OM 374 F,W,S, online, prereq: DS 251 or 265 ........................................... 3
- IS 380 F,W,S, prereq: IS 247 ........................................... 3
- IS 417 F,W, prereq: IS 247 ........................................... 3

**Third Semester (12 credits)**
- MGMT 490 F,W,S, online, Concur Prereq: OM 374 ........................................... 3
- IS 350 F, prereq: IS 215 ........................................... 3
- IS 425 F,W, prereq: IS 380 ........................................... 3
- IS Restricted Elective ........................................... 3

**Fourth Semester (6 credits)**
- IS 449W F,W, prereq: IS 417 and IS 425 ........................................... 3
- University Elective or LBC Requirement ........................................... 3

Transfer Credits: ........................................... 82
Minimum Credits at EMU: ........................................... 42
Minimum Credits to Graduate: ........................................... 124
COMPUTER INFORMATION SYSTEMS ARTICULATION AGREEMENT GUIDE

Washtenaw Community College – AS in Computer Science: Programming in Java or AS in Information Systems: Programming in C++
Eastern Michigan University – BBA in Computer Information Systems

Additional Information:

1. Each institution will determine the satisfaction of their individual program and degree requirements. Both institutions agree to accept transferrable courses from each other and from other regionally accredited institutions. WCC courses indicated with an * are required for EMU’s BBA in Computer Information Systems. Substitutions for these courses must be approved by the EMU program coordinator.

2. Students with the MTA endorsement on their community college transcript have satisfied EMU’s General Education Core Requirements and will be required to complete only the General Education Application Requirements of one “Perspectives on a Diverse World” course, one “Learning Beyond the Classroom” experience, and a “Writing Intensive” course in the major. The Perspectives on a Diverse World requirement may be transferred to EMU.

To use the Michigan Transfer Agreement (MTA), students must have an official community college transcript, with the “MTA Satisfied” endorsement sent to EMU’s Admissions Office. Students who do not have “MTA Satisfied” on their community college transcript, will be required to satisfy EMU’s general education requirements as applied to transfer students. The MTA may be completed after admission to EMU, however, students should inform their advisors or they may be advised to complete additional courses for the general education program. If already on the transcript, the MACRAO designation will be accepted at EMU after August 2019.

3. Only courses with a grade of “C” or better (2.0 on a 4.0 scale) will be accepted for transfer to either institution.

4. Under this agreement, EMU will waive the 60-hour rule and require that a minimum of 42 credit hours must be completed at the four year college level with a minimum of 30 hours in EMU courses, with at least 15 hours in the program at the 300-level or above. Of the last 30 hours completed before graduating, a minimum of 10 credit hours must be in courses offered by EMU. A minimum of 124 credit hours, completed in-residence or accepted in transfer, is required for graduation.

5. To be admitted to the COB, students must have completed all 12 pre-admission courses and have an EMU GPA of a 2.5 or higher. Students that have completed all of the pre-admission business foundation courses except DS 265 or DS 251 will need to successfully complete DS 265 or DS 251 in the first semester at EMU. Students missing pre-admissions business foundation courses beyond DS 265 or DS 251 should consult with an EMU advisor to plan how to complete those courses.

6. Students must satisfy all admission requirements at the time of application for admission to EMU, including submitting transcripts from all previously attended colleges. WCC students will receive equal consideration with other students for course registration and financial aid.

7. Students are encouraged to contact EMU’s BBA in Computer Information Systems program coordinator before applying to EMU. To facilitate advising and the evaluation of transcripts, sign up for this articulation agreement and bring a copy of this articulation guide to all advising sessions.

Effective Dates: September 1, 2019 until August 31, 2022.
This is a renewal of an agreement made in February 1999 and renewed in 2003, 2006, 2009, 2012 and 2015. This agreement is consistent with the 2019-2020 catalog. Students have until summer 2027 to graduate from Eastern Michigan University following this agreement. In the event that a student does not complete the program within seven years, they may be required to have their credits reevaluated using the requirements of the current articulation guide.

Contacts:

Washtenaw Community College
Business and Computer Technologies
Philip Geyer, pgeyer@wccnet.edu; 734.973.3604
Khaled Mansour, kmansour@wccnet.edu; 734.677.5113

Eastern Michigan University
COB Undergraduate Advising Center
306 Owen Bldg, 734.487.2344
cob.undergraduate@emich.edu

Eastern Michigan University
Community College Relations
March 6, 2019
Page 3 of 3