ASCSPJ

WCC General Education Requirements
Effective Fall 2018

Associate degree programs were updated to meet the revised WCC general education requirements below.

Course Distribution Requirements

Associate degree students must complete courses from each of six General Education content areas. The requirements vary, depending on which degree is being earned. The number of general education credit hours required for each degree is as follows.

	AA	AS	AAS
Writing/Composition	3-4 credits	3-4 credits	3-4 credits
2nd Writing/Composition or Communication	3-4 credits	3 credits	3 credits
Mathematics	3-4 credits	3-4 credits	3-4 credits
Natural Sciences [1]	7-8 credits	7-8 credits	3-4 credits
Social & Behavioral Science [2]	6 credits	6 credits	3 credits
Arts and Humanities [3]	6 credits	6 credits	3 credits
General Education Electives to reach 30 credits	0-2 credits	0-2 credits	N/A
Minimum	30 credits	30 credits	18 credits

[1] Two courses in Natural Science including one with laboratory experience (from two disciplines)
[2] From two disciplines
[3] From two disciplines

Program Information Report

Computer Science: Programming in Java (ASCSPJ)

Associate in Science Degree

Program Effective Term: **Fall 2018**

High Skill Occupation **High Wage Occupation**

This program prepares students to transfer to Eastern Michigan University to complete a bachelor's degree in Computer Science or Applied Computer Science and to pursue careers in computer science fields such as computer systems programming and analysis, software development and maintenance, and applications programming.

Articulation:
Davenport University, BS degree;
Eastern Michigan University, BS degree;
Kaplan University, BS degree.

Copies can be obtained from the Counseling Office, a program advisor, or from the Curriculum and Assessment Office Web site: http://www.wccnet.edu/curriculum/articulation/levelone/colleges/.

Program Admission Requirements:
Students must have:
-Academic Math Level of 3 or higher enroll in CPS 161.
-Academic Math Level of 4 or higher to enroll in MTH 176.

First Semester		(14 credits)
CPS 161	An Introduction to Programming with Java	4
Elective	MTH 176 or higher 4 credit math course	4
Elective	Arts/Human. Elective(s) 1*	3
Elective	Nat. Sci. Elective(s)	3
Second Semester		**(15 credits)**
ENG 111	Composition I	4
CPS 261	Advanced Java Concepts	4
CPS 276	Web Programming Using Apache, MySQL, and PHP	4
Elective	Soc. Sci. Elective(s) 1	3
Third Semester		**(16 credits)**
CIS 282	Database Principles and Application	3
CPS 278	Java Server Programming	4
Elective	Nat. Sci. Lab Elective(s)	3
Elective	Speech/Comp. Elective(s)	3
Elective	Soc. Sci. Elective(s) 2	3
Fourth Semester		**(16 credits)**
CIS 121	Linux/UNIX I: Fundamentals	4
CPS 251	Android Programming Using Java	4
CPS 298	Professional Team Programming	4
Elective	Arts/Human. Elective(s) 2*	3
Elective	General Education Elective(s) (0-1 credit) to reach a minimum 30 General Education Credits	1

Minimum Credits Required for the Program: **61**

Notes:

**Suggest selecting a WCC general education course that satisfies EMU's Diverse World Requirement.*

See an advisor to choose courses that meet the requirements of the program to which you are transferring.

Done 1/12/18 NW

WASHTENAW COMMUNITY COLLEGE
GENERAL EDUCATION REVISION PROGRAM CHANGE FORM
FOR AA AND AS PROGRAMS 2018-2019

Due December 8, 2017

Program Code:	ASCSPJ	**Program Name:**	Computer Science: Programming in Java
Division Code:	BCT	**Department:**	CIS

This form is to be used only for General Education Revision Program Changes for Associate in Arts (AA) and Associate in Science (AS) programs. Any other program changes should be submitted separately using a standard Program Change Form.

Directions:

1. Review each general education area under **Requested Changes** below and respond as needed.
2. Attach the semester program layout showing the current program listing from the WCC catalog.
   a. Indicate any changes to be made on the semester layout.
   b. Draw a line through any courses that should be removed on the semester layout.
   c. Write in any courses that need to be added on the semester layout.
3. Submit this form and semester program layout to the Office of Curriculum and Assessment (SC 257).

Current General Education Requirements AA and AS	
Writing	6 - 7 credits
Speech	3 credits
Mathematics	3 - 4 credits
Natural Sciences	3 - 4 credits
Social & Behavioral Sciences	6 credits
Arts & Humanities	6 credits
Critical Thinking	0 credits
Computer & Information Literacy	3 credits
Total	30 - 33 credits

Revised General Education Requirements 2018-2019 AA and AS	
English Composition	3 - 4 credits
2nd Course in English Composition or one course in Communication	3 - 4 credits
Mathematics	3 - 4 credits
Natural Sciences from 2 disciplines including one lab course	7 - 9 credits
Social & Behavioral Sciences from 2 disciplines	6 credits
Arts & Humanities from 2 disciplines	6 credits
Elective Credits to reach a minimum of 30 credit hours	0 - 3 credits
Total	30 credits

Please review each General Education Area in the chart below, and record the needed changes in the chart and on the attached semester layout.

REQUESTED CHANGES	
	General Education Area
	English Composition – The requirement for one writing/English composition course remains the same. No changes will be made unless specifically requested below. (Use Writing Elective or ENG 111) Optional Change: none
	2nd Course in English Composition or one course in Communication WCC previously required both a second composition/writing course and a communication course. Your options are: 1. Allow students to select any course that meets composition/writing or communication (*recommended*). 2. Require students to take a specific composition course (identify course below and on semester layout). 3. Require students to take a specific communication course (identify course below and on semester layout). Requested Change: Keep requirement for COM 122
	2nd Course in English Composition or one course in Communication Credit Hours Change to speech elective

logged 12/15/17

	Because of this change, an extra 3 – 4 credit hours may be available in the program. Please specify how you would like to use those credit hours. Your options are: 1. Reduce the number of credit hours if the program total is over 60 *(recommended)*. 2. Replace the course with elective credits as needed to reach a minimum of 60 credit hours. 3. Add a specific program-related course *(please add the course in the semester it should be taken on the semester layout)*. Requested Change: Drop ENG-226 Add computer ~~[illegible]~~ class CIS-121
	Mathematics – The requirement for one mathematics course remains the same. However, the courses that meet the MTA requirement have changed slightly. MTH 148, 149 and 167 do not meet the general education requirement for AA or AS degrees. Please identify an alternate course or list "Math elective". Optional Change: none
	Natural Sciences from 2 disciplines including one lab course WCC previously required one natural science course. Your options are: 1. No change needed – a second natural science course is already included in my program. 2. Add a second natural science course in the semester shown on the semester layout attached. Unless specific courses are required, include one course identified as a lab science course. Requested Change: none
	Social & Behavioral Sciences from 2 disciplines – The requirement for two social and behavioral science courses remains the same. No changes will be made unless specifically requested below. Optional Change: none
	Arts & Humanities from 2 disciplines – The requirement for two arts and humanities courses remains the same. No changes will be made unless specifically requested below. (Note: A department can designate a COM course as a requirement here. The same course cannot be counted in two areas.) Optional Change: none
	Computer and Information Literacy The requirement for computer and information literacy has been removed. Your options are: 1. Continue to require a specific computer course. If a specific course is required in your program, we will leave it there. If you previously used "Computer and Information Literacy Course," you will need to specify either a specific course or a list of courses from which to choose. 2. Remove the computer and information literacy course if the program will still meet the minimum of 60 credit hours. 3. Remove the computer and information literacy course and replace the course with elective or other credits as needed to meet the minimum of 60 credit hours. Required Change: none - Was not listed separately
	Elective Credits to reach a minimum of 30 credit hours – A course titled "General Education Credit(s) to Reach a Minimum of 30 Credit Hours" will be created and then added as needed to the program.

Reviewer	Print Name	Signature	Date
Initiator	Phil Geyer	Phil Geyer	12-7-17
Department Chair	Phil Geyer	Phil Geyer	12-7-17
Division Dean/ Administrator	Eva Samulski	Eva Samulski	12-12-17
Vice President for Instruction			1/9/18

Office use only

Entered in: ☑ Banner 1/12/18 ☑ C&A Database 1/12/18 ☐ Log File

Program Information Report

Computer Science: Programming in Java (ASCSPJ)

Associate in Science Degree

Program Effective Term: Fall 2016

High Skill Occupation High Wage Occupation

This program prepares students to transfer to Eastern Michigan University to complete a bachelor's degree in Computer Science or Applied Computer Science and to pursue careers in computer science fields such as computer systems programming and analysis, software development and maintenance, and applications programming.

Articulation:
Eastern Michigan University, BS degree;
Kaplan University, BS degree.

Copies can be obtained from the Counseling Office, a program advisor, or from the Curriculum and Assessment Office Web site: http://www.wccnet.edu/departments/curriculum/articulation.php?levelone=colleges.

Program Admission Requirements:
Students need an Academic Math Level of 4 or higher to enroll in MTH 176 and CPS 161.

First Semester		**(14 credits)**
CPS 161	An Introduction to Programming with Java	4
Elective	MTH 176 or higher 4 credit math course	4
	Arts/Human. 1 Elective(s)	3
	Nat. Sci. 1 Elective(s)	3-4
Second Semester		**(15 credits)**
ENG 111	Composition I	4
CPS 261	Advanced Java Concepts	4
CPS 276	Web Programming Using Apache, MySQL, and PHP	4
	Soc. Sci. 1 Elective(s)	3
Third Semester		**(17 credits)**
COM 225	Intercultural Communication*	3
CPS 278	Java Server Programming	4
	Nat. Sci. 2 Elective(s)	4
	Soc. Sci. 2 Elective(s)	3
CIS 282	Database Principles and Application	3
Fourth Semester		**(14 credits)**
CPS 251	Android Programming Using Java	4
CPS 298	Professional Team Programming	4
ENG 226	Composition II	3
	Arts/Human. 2 Elective(s)	3
Minimum Credits Required for the Program:		**60**

Notes:

**Satisfies EMU's Diverse World Requirement.*

See an advisor to choose courses that meet the requirements of the program to which you are transferring.

WASHTENAW COMMUNITY COLLEGE

PROGRAM CHANGE OR DISCONTINUATION FORM

Program Code: ~~ASCS~~ ASCSPJ **Program Name:** Java Programming in ^ **Effective Term:** Fall 2016

Division Code: BCT **Department:** CIS/CPS

Directions:

1. Attach the current program listing from the WCC catalog or Web site and indicate any changes to be made.
2. Draw lines through any text that should be deleted and write in additions. Extensive narrative changes can be included on a separate sheet.
3. Check the boxes below for each type of change being proposed. Changes to courses, discontinuing a course, or adding new courses as part of the proposed program change, must be approved separately using a Master Syllabus form, but should be submitted at the same time as the program change form.

Requested Changes:

- ☐ Review
- ☒ ~~Remove course(s): cps 276~~
- ☒ Add course(s): CPS 298, CIS 282
- ☐ Program title (title was _____)
- ☐ Description
- ☐ Type of award
- ☐ Advisors
- ☐ Articulation information
- ☒ Program admission requirements
- ☐ Continuing eligibility requirements
- ☐ Program outcomes
- ☐ Accreditation information
- ☐ Discontinuation (attach program discontinuation plan that includes transition of students and timetable for phasing out courses)
- ☐ Other _____

Show all changes on the attached page from the catalog.

Rationale for proposed changes or discontinuation:

~~The cps 276 course will move over to the Web Database Programming Professional Associate's degree~~. We are adding CPS 298 Professional team programming & CIS 282 Relational database based on industry demands..

Financial/staffing/equipment/space implications:

List departments that have been consulted regarding their use of this program.

Signatures:

Reviewer	Print Name	Signature	Date
Initiator	Clem Hasselbach/ ~~Stakeholder~~	Clarence (Clem) Hasselbach	12/7/15
Department Chair	John Trame	John Trame	12/14/2015
Division Dean/Administrator	Kim Hurns	Kim Hurns	12/15/15
Vice President for Instruction	Michael Nealon	Michael Nealon	2/12/16
President	Rose Bellanca		

Do not write in shaded area. Entered in: Banner 2/22/16 C&A Database ✓ Log File ✓ Board Approval N/A

Please submit completed form to the Office of Curriculum and Assessment (SC 257).

Done 2/22/16 ML

logged 12/17/15 tj mo

ACADEMICS

Associate in Science Degree 2013 - 2014 2014 - 2015 2015 - 2016

Description

This program prepares students to transfer to Eastern Michigan University to complete a bachelor's degree in Computer Science or Applied Computer Science and to pursue careers in computer science fields such as computer systems programming and analysis, software development and maintenance, and applications programming.

Articulation

Eastern Michigan University, BS degree;
Kaplan University, BS degree.

Copies can be obtained from the Counseling Office, a program advisor, or from the Curriculum and Assessment Office Web site: www.wccnet.edu/departments/curriculum/articulation.php?levelone=colleges

Admissions Requirements

Students need an Academic Math Level of 4 or higher to enroll in MTH 176. and CPS 161

Contact Information

Division: Business/Computer Technologies
Department: Computer Instruction Dept
Advisors:

Requirements

(Items marked in are available online.)

First Semester

Class	Title	Credits
	An Introduction to Programming with Java	4
	MTH 176 or higher 4 credit math course	4
Elective(s)		3
Elective(s)	Natural Science	3 -4
Total		**14 -15**

Second Semester

Class	Title	Credits
	Composition I	4
	Advanced Java Concepts	4
CPS 276	Web Programming Using Apache, MySQL, and PHP	4
Elective(s)		3
Total		**15**

Third Semester

Class	Title	Credits
	Intercultural Communication *	3
	Java Server Programming	4
Elective(s)	Natural Sciences	4
Elective(s)		3
CIS 282	Students must complete 100-level or above transferrable courses to reach a minimum of 60 credits. Possible CIS/CPS electives include: CIS 121, CIS 282, CPS 171, CPS 271 or CPS 272.	3
Total		**17**

Fourth Semester

Class	Title	Credits
	Android Programming Using Java	4
	Composition II	3
	[illegible]	3
CPS 298	Students following the Michigan Transfer Agreement (MTA) should complete a second natural science course. MACRAO students should complete a Soc. Sci. 3 Elective(s). ***	3 - 4 4
	Students must complete 100-level or above transferrable courses to reach a minimum of 60 credits. Possible CIS/CPS electives include: CIS 121, CIS 282, CPS 171, CPS 271 or CPS 272.	3 - 12
Total		14 ~~16-26~~
	Total Credits Required:	~~62 - 72~~ 60

Footnotes

*Satisfies EMU's Diverse World Requirement.
~~**Students transferring to a four-year institution should choose a lab-based, MTA-approved science course.~~
~~***Choose three courses from at least two Social and Behavioral Science disciplines.~~

See an advisor to choose courses that meet the requirements of the program to which you are transferring.

WASHTENAW COMMUNITY COLLEGE

PROGRAM CHANGE OR DISCONTINUATION FORM

Program Code: ASCSPJ **Program Name:** Computer Science: Programming in Java **Effective Term:** Winter 2014

Division Code: BCT **Department:** Computer Instruction Dept. (CIS/CPS/etc.)

Directions:

1. Attach the current program listing from the WCC catalog or Web site and indicate any changes to be made.
2. Draw lines through any text that should be deleted and write in additions. Extensive narrative changes can be included on a separate sheet.
3. Check the boxes below for each type of change being proposed. Changes to courses, discontinuing a course, or adding new courses as part of the proposed program change, must be approved separately using a Master Syllabus form, but should be submitted at the same time as the program change form.

Requested Changes:

- ☐ Review
- ☐ Remove course(s): _____
- ☒ Add course(s): CPS255 - IOS/Objective C – Apple Ipad/Iphone____
- ☐ Program title (title was _____)
- ☐ Description
- ☐ Type of award
- ☐ Advisors
- ☐ Articulation information
- ☐ Program admission requirements
- ☐ Continuing eligibility requirements
- ☐ Program outcomes
- ☐ Accreditation information
- ☐ Discontinuation (attach program discontinuation plan that includes transition of students and timetable for phasing out courses)
- ☐ Other _____

Show all changes on the attached page from the catalog.

Rationale for proposed changes or discontinuation:

Adding CPS255 (IOS/Objective C – Apple Ipad/Iphone) class to the program.

Financial/staffing/equipment/space implications:

List departments that have been consulted regarding their use of this program.

Signatures:

Reviewer	Print Name	Signature	Date
Initiator	Clarence Hasselbach	Clarence Hasselbach	2/19/2013
Department Chair	John Trame	John Trame	2/19/2013
Division Dean/Administrator	Rosemary Wilson	Rosemary Wilson	2/20/13
Vice President for Instruction	William Abernethy		3/22/13
President	N/A		

Do not write in shaded area. Entered in: Banner _____ C&A Database 3/30/13 Log File 9/20/13 Board Approval _____

Please submit completed form to the Office of Curriculum and Assessment and email an electronic copy to sjohn@wccnet.edu for posting on the website.

logged 2/20/13 sjf

Program Information Report

Computer Science: Programming in Java (ASCSPJ)

Associate in Science Degree

Program Effective Term: Fall 2013

This program prepares students to transfer to Eastern Michigan University to complete a bachelor's degree in Computer Science or Applied Computer Science and to pursue careers in computer science fields such as computer systems programming and analysis, software development and maintenance, and applications programming.

Articulation:
Eastern Michigan University, BS degree;
Kaplan University, BS degree.

Copies can be obtained from the Counseling Office, a program advisor, or from the Curriculum and Assessment Office Web site: http://www.wccnet.edu/departments/curriculum/articulation.php?levelone=colleges.

Program Admission Requirements:
Students need an Academic Math Level of 4 or higher to enroll in MTH 176.

CPS 161	An Introduction to Programming with Java	4
Elective	MTH 176 or higher 4 credit math course	4
	Arts/Human. 1 Elective(s)	3
	Computer Lit. Elective(s)	3
ENG 111	Composition I	4
CPS 261	Advanced Java Concepts	4
CPS 276	Web Programming Using Apache, MySQL, and PHP	4
	Soc. Sci. 1 Elective(s)***	3
COM 225	Intercultural Communication*	3
CPS 278	Java Server Programming	4
	Nat. Sci. Elective(s)**	4
	Soc. Sci. 2 Elective(s)***	3
Elective	Students must complete 100-level or above transferrable courses to reach a minimum of 60 credits. Possible CIS/CPS electives include: CIS 121, CIS 282, CPS 171, CPS 255, CPS 271 or CPS 272.	3
CPS 251	Android Programming Using Java	4
ENG 226	Composition II	3
	Arts/Human. 2 Elective(s)	3
	Soc. Sci. 3 Elective(s)***	3
Elective	Students must complete 100-level or above transferrable courses to reach a minimum of 60 credits. Possible CIS/CPS electives include: CIS 121, CIS 282, CPS 171, CPS 255, CPS 271 or CPS 272.	3-12

Minimum Credits Required for the Program: **62**

Notes:

**Satisfies EMU's Diverse World Requirement.*
***Students transferring to a four-year institution should choose a lab-based, MACRAO-approved science course.*
****Choose three courses from at least two disciplines.*

See an advisor to choose courses that meet the requirements of the program to which you are transferring.

Computer Science: Programming in Java (ASCSPJ)

Associate in Science Degree 2010 - 2011 2011 - 2012 2012 - 2013

Description

This program prepares students to transfer to Eastern Michigan University to complete a bachelor's degree in Computer Science or Applied Computer Science and to pursue careers in computer science fields such as computer systems programming and analysis, software development and maintenance, and applications programming.

Articulation

Eastern Michigan University, BS degree;
Kaplan University, BS degree.

Copies can be obtained from the Counseling Office, a program advisor, or from the Curriculum and Assessment Office Web site: www.wccnet.edu/departments/curriculum/articulation.php?levelone=colleges.

Admissions Requirements

Students need an Academic Math Level of 4 or higher to enroll in MTH 176.

Contact Information

Division: Business/Computer Technologies
Department: Computer Instruction Dept
Advisors: Philip Geyer, Clarence Hasselbach, Khaled Mansour

Requirements

First Semester

Class	Title	Credits
CPS 161	An Introduction to Programming with Java	4
	MTH 176 or higher 4 credit math course	4
Elective(s)	Arts and Humanities 1	3
Elective(s)	Computer and Information Literacy	3
Total		**14**

Second Semester

Class	Title	Credits
ENG 111	Composition I	4
CPS 261	Advanced Java Concepts	4
CPS 276	Web Programming Using Apache, MySQL, and PHP	4
Elective(s)	Social and Behavioral Science 1 ***	3
Total		**15**

Third Semester

Class	Title	Credits
COM 225	Intercultural Communication *	3
CPS 278	Java Server Programming	4
Elective(s)	Natural Sciences **	4
Elective(s)	Social and Behavioral Science 2 ***	3
	Students must complete 100-level or above transferrable courses to reach a minimum of 60 credits. Possible CIS/CPS electives include: CIS 121, CIS 282, CPS 171, CPS 271 or CPS 272.	3
Total		**17**

add to the list of electives CPS 255

Fourth Semester

Class	Title	Credits
CPS 251	Android Programming Using Java	4
ENG 226	Composition II	3
Elective(s)	Arts and Humanities 2	3
Elective(s)	Social and Behavioral Science 3 ***	3
	Students must complete 100-level or above transferrable courses to reach a minimum of 60 credits. Possible CIS/CPS electives include: CIS 121, CIS 282, CPS 171, CPS 271 or CPS 272.	3 - 12
Total		16 - 25
	Total Credits Required:	62 - 71

add to the list of electives CPS 255

Footnotes

*Satisfies EMU's Diverse World Requirement.
**Students transferring to a four-year institution should choose a lab-based, MACRAO-approved science course.
***Choose three courses from at least two disciplines.

See an advisor to choose courses that meet the requirements of the program to which you are transferring.

WASHTENAW COMMUNITY COLLEGE

PROGRAM CHANGE OR DISCONTINUATION FORM

Program Code: ASCPJ **Program Name: Computer Science: Programming in Java** **Effective Term: 201209**

Division Code: BCTD **Department: CIS**

Directions:

1. Attach the current program listing from the WCC catalog or Web site and indicate any changes to be made.
2. Draw lines through any text that should be deleted and write in additions. Extensive narrative changes can be included on a separate sheet.
3. Check the boxes below for each type of change being proposed. Changes to courses, discontinuing a course, or adding new courses as part of the proposed program change, must be approved separately using a Master Syllabus form, but should be submitted at the same time as the program change form.

Requested Changes:

- ☐ Review
- ☒ Remove course(s): See program edits, attached.
- ☒ Add course(s): See program edits, attached.
- ☐ Program title (title was _____)
- ☐ Description
- ☐ Type of award
- ☐ Advisors
- ☐ Articulation information
- ☐ Program admission requirements
- ☐ Continuing eligibility requirements
- ☐ Program outcomes
- ☐ Accreditation information
- ☐ Discontinuation (attach program discontinuation plan that includes transition of students and timetable for phasing out courses)
- ☒ Other: Articulation notes.

Show all changes on the attached page from the catalog.

Rationale for proposed changes or discontinuation:

General education requirements for the ASCPJ Programming in Java degree have been changed to be consistent with the general education requirements for the ASISPC Programming in C++ degree. Electives for the Major/area requirements have been eliminated in favor of an expanded five course series in Java Programming. This series of courses will provide students with more thorough skills in Java programming that will prepare them better for transfer into Java-based undergraduate computer science programs and for work as Java programmers/software developers.

Financial/staffing/equipment/space implications:

None

List departments that have been consulted regarding their use of this program.

NA

Signatures:

Reviewer	Print Name	Signature	Date
Initiator	Clarence Hasselbach	Clarence Hasselbach	2/15/12
Department Chair	Clarence Hasselbach	Clarence Hasselbach	2/15/12
Division Dean/Administrator	Rosemary Wilson		2/15/12
Vice President for Instruction	Stuart Blacklaw		2/15/12
President	Rose Bellanca		

Do not write in shaded area. Entered in: Banner_____ C&A Database_____ Log File _____ Board Approval _____

Please submit completed form to the Office of Curriculum and Assessment and email an electronic copy to sjohn@wccnet.edu for posting on the website.

logged 2/15/12 sjj

Program Information Report

School of Information Technology

The School of Information Technology gathers the diverse areas that make up the computer technology of today. From basic programming languages to systems development through networking, these programs provide the core of information technology. Develop skills in computer networking or programming in the growing field of applied information technology.

Washtenaw Community College offers programs at several levels for students who want to begin new careers, or advance in their existing careers. The first level is the certificate, which can vary from nine to thirty-six credits, depending on the field. Certificates generally prepare students for entry-level jobs.

After completing a certificate, students can progress to the next level, the advanced certificate. The credit hours required for these programs also vary. This type of certificate provides a more specialized level of skill development, and often allows students to upgrade their positions at their places of employment.

The next level, an Associate in Applied Science, is available for some programs. For some career fields, it is possible to earn a certificate, advanced certificate, and an Associate in Applied Science degree in the same field. In these cases, the credit hours from the certificate and advanced certificate can be applied to the credit hours needed for the Associate in Applied Science degree.

Alternatively, students can earn an AAS in Occupational Studies by completing a certificate, advanced certificate and General Education requirements.

Programming

Learn the foundation of computer programming or specialize in a programming language through these programs.

Program Information Report

Computer Science: Programming in Java (ASCSPJ)

Associate in Science Degree

Program Effective Term: Fall 2012

This program prepares students to transfer to Eastern Michigan University to complete a bachelor's degree in Computer Science or Applied Computer Science and to pursue careers in computer science fields such as computer systems programming and analysis, software development and maintenance, and applications programming.

Articulation:
Eastern Michigan University, BS degree;
Kaplan University, BS degree.

Copies can be obtained from the Counseling Office, a program advisor, or from the Curriculum and Assessment Office Web site: http://www.wccnet.edu/departments/curriculum/articulation.php?levelone=colleges.

Program Admission Requirements:
Students need an Academic Math Level of 4 or higher to enroll in MTH 176.

CPS 161	An Introduction to Programming with Java	4
Elective	MTH 176 or higher 4 credit math course	4
	Arts/Human. 1 Elective(s)	3
	Computer Lit. Elective(s)	3
ENG 111	Composition I	4
CPS 261	Advanced Java Concepts	4
CPS 276	Web Programming Using Apache, MySQL, and PHP	4
	Soc. Sci. 1 Elective(s)	3
COM 225	Intercultural Communication*	3
CPS 278	Java Server Programming	4
	Nat. Sci. Elective(s)**	4
	Soc. Sci. 2 Elective(s)	3
Elective	Students must complete 100-level or above transferrable courses to reach a minimum of 60 credits. Possible CIS/CPS electives include: CIS 121, CIS 282, CPS 171, CPS 271 or CPS 272.	3
CPS 251	Android Programming Using Java	4
ENG 226	Composition II	3
	Arts/Human. 2 Elective(s)	3
	Soc. Sci. 3 Elective(s)	3
Elective	Students must complete 100-level or above transferrable courses to reach a minimum of 60 credits. Possible CIS/CPS electives include: CIS 121, CIS 282, CPS 171, CPS 271 or CPS 272.	3-12

Minimum Credits Required for the Concentration or Option:

Minimum Credits Required for the Program: **62**

Notes:

**Satisfies EMU's Diverse World Requirement.*
***Students transferring to a four-year institution should choose a lab-based, MACRAO-approved science course.*

See an advisor to choose courses that meet the requirements of the program to which you are transferring.

WASHTENAW COMMUNITY COLLEGE

PROGRAM CHANGE OR DISCONTINUATION FORM

Program Code: **Program Name: Computer Science: Programming in Java(ASCSPJ)** **Effective Term: Fall 2011**

Division Code: **Department:** CPS

Directions:

1. Attach the current program listing from the WCC catalog or Web site and indicate any changes to be made.
2. Draw lines through any text that should be deleted and write in additions. Extensive narrative changes can be included on a separate sheet.
3. Check the boxes below for each type of change being proposed. Changes to courses, discontinuing a course, or adding new courses as part of the proposed program change, must be approved separately using a Master Syllabus form, but should be submitted at the same time as the program change form.

Requested Changes:

- ☐ Review
- ☐ Remove course(s): _____
- ☒ Add course(s): CPS251 and CPS278 to the list of options
- ☐ Program title (title was _____)
- ☐ Description
- ☐ Type of award
- ☐ Advisors
- ☐ Articulation information
- ☐ Program admission requirements
- ☐ Continuing eligibility requirements
- ☐ Program outcomes
- ☐ Accreditation information
- ☐ Discontinuation (attach program discontinuation plan that includes transition of students and timetable for phasing out courses)
- ☐ Other _____

Show all changes on the attached page from the catalog.

Rationale for proposed changes or discontinuation:

For the elective under the Major/Area Requirements section, we would like to add CPS251, and CPS278 to the list of courses that can be chosen for the elective.

Financial/staffing/equipment/space implications:

None

List departments that have been consulted regarding their use of this program.

None

Signatures:

Reviewer	Print Name	Signature	Date
Initiator	Clarence Hasselbach	Clarence Hasselbach	11/24/10
Department Chair	Clarence Hasselbach	Clarence Hasselbach	11/24/10
Division Dean/Administrator	Rosemary Wilson	Rosemary Wilson	11/29/10
Vice President for Instruction	Stuart Blacklaw		1/18/11
President			

Do not write in shaded area. Entered in: Banner_____ C&A Database 3/4/11 Log File 12/10 S/18 Board Approval 3/4/11 Bd

Please submit completed form to the Office of Curriculum and Assessment and email an electronic copy to sjohn@wccnet.edu for posting on the website.

Program Information Report

School of Information Technology

The School of Information Technology gathers the diverse areas that make up the computer technology of today. From basic programming languages to systems development through networking, these programs provide the core of information technology. Develop skills in computer security or data recovery analysis, the growing field of applied information technology is waiting for you.

Washtenaw Community College offers programs at several levels for students who want to begin new careers, or advance in their existing careers. The first level is the certificate, which can vary from nine to thirty-six credits, depending on the field. Certificates generally prepare students for entry-level jobs.

After completing a certificate, students can progress to the next level, the advanced certificate. The credit hours required for these programs also vary. This type of certificate provides a more specialized level of skill development, and often allows students to upgrade their positions at their places of employment.

The next level, an Associate in Applied Science, is available for some programs. For some career fields, it is possible to earn a certificate, advanced certificate, and an Associate in Applied Science degree in the same field. In these cases, the credit hours from the certificate and advanced certificate can be applied to the credit hours needed for the Associate in Applied Science degree.

Alternatively, students can earn an AAS in Occupational Studies by completing a certificate, advanced certificate and General Education requirements.

Programming

Learn the foundation of computer programming or specialize in a programming language through these programs.

Computer Science: Programming in Java (ASCSPJ)

Associate in Science Degree

Program Effective Term: Fall 2011

This program prepares students to transfer to Eastern Michigan University to complete a bachelor's degree in Computer Science or Applied Computer Science and to pursue careers in computer science fields such as computer systems programming and analysis, software development and maintenance, and applications programming.

Articulation:
Eastern Michigan University, BS degree.

Copies can be obtained from the Counseling Office, a program advisor, or from the Curriculum and Assessment Office Web site: http://www.wccnet.edu/departments/curriculum/articulation.php?levelone=colleges.

Program Admission Requirements:
Students need an Academic Math Level of 4 or higher to enroll in MTH 176.

General Education Requirements		**(36 credits)**
ENG 111 and	Composition I	4
ENG 226	Composition II	3
COM 225	Intercultural Communication	3
MTH 176	College Algebra	4
CEM 111 or	General Chemistry I	
GLG 114 or	Physical Geology	
PHY 211	Analytical Physics I	4-5
Soc. Sci.	Elective(s)***	9
Arts/Human.	Elective(s)****	6
CIS 100	Introduction to Computers and Software Applications	3
Major/Area Requirements		**(11 credits)**
CPS 161	An Introduction to Programming with Java	4
CPS 261	Programming Data Structures in Java	4
Elective	Complete one course from: CIS 121, CIS 221, CIS 282, CPS 120, CPS 171, CPS 251, CPS 271, CPS 278, CPS 293 or INP 150.	3-4
Required Support Courses		**(5 credits)**
MTH 191	Calculus I	5
Required Courses		**(12 credits)**
Elective	Students must complete 100-level or above transferrable courses.*****	12-15

Program Information Report

Minimum Credits Required for the Program: **64**

Notes:

**Satisfies EMU's Diverse World Requirement.*
***MTH 176 should be completed at WCC to satisfy EMU's Quantitative Reasoning Requirement. If completed at EMU, MATH 110 will be required unless waived by ACT/SAT or math placement score.*
****Choose three courses from at least two disciplines.*
*****Students transferring to a four-year institution should choose a lab-based, MACRAO-approved science course.*
******Students intending to transfer to EMU to complete the Comprehensive Computer Science Degree must take the following courses: MTH 192, MTH 197 and a second course in a sequence: CEM 122, GLG 125 or PHY 222.*

WASHTENAW COMMUNITY COLLEGE

PROGRAM CHANGE OR DISCONTINUATION FORM

Program Code: ASCSCT

Program Name: Computer Science: Programming in Java

Effective Term: Fall 2010

Division Code: BCT

Department: CISD

Directions:

1. Attach the current program listing from the WCC catalog or Web site and indicate any changes to be made.
2. Draw lines through any text that should be deleted and write in additions. Extensive narrative changes can be included on a separate sheet.
3. Check the boxes below for each type of change being proposed. Changes to courses, discontinuing a course, or adding new courses as part of the proposed program change, must be approved separately using a Master Syllabus form, but should be submitted at the same time as the program change form.

Requested Changes:

- ☐ Review
- ☐ Remove course(s): _____
- ☐ Add course(s): _____
- ☒ Program title (title was Computer Science Transfer)
- ☒ Description
- ☐ Type of award
- ☐ Advisors
- ☐ Articulation information
- ☐ Program admission requirements
- ☐ Continuing eligibility requirements
- ☐ Program outcomes
- ☐ Accreditation information
- ☐ Discontinuation (attach program discontinuation plan that includes transition of students and timetable for phasing out courses)
- ☐ Other _____

Show all changes on the attached page from the catalog.

Rationale for proposed changes or discontinuation:

To facilitate search engines looking for our computer programming degrees.

Financial/staffing/equipment/space implications:

None

List departments that have been consulted regarding their use of this program.

None

Signatures:

Reviewer	Print Name	Signature	Date
Initiator	Clarence Hasselbach	Clarence Hasselbach	2/10/10
Department Chair	Clarence Hasselbach	Clarence Hasselbach	2/10/10
Division Dean/Administrator	Rosemary Wilson	Rosemary Wilson	2/10/10
Vice President for Instruction	Phyllis Grzegorczyk	Phyllis Grzegorczyk	3-24-10
President			

Do not write in shaded area. Entered in: Banner_____ C&A Database_____ Log File _____ Board Approval _____

Please submit completed form to the Office of Curriculum and Assessment and email an electronic copy to sjohn@wccnet.edu for posting on the website.

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Computer Science: Programming in Java (ASCSCT)
This degree introduces students to Java computer programming. Students are prepared to transfer to Eastern Michigan University to complete a bachelor's degree in Computer Science or Applied Computer Science and to pursue careers in computer science fields such as computer systems programming and analysis, software development and maintenance, and applications programming.

Articulation: Eastern Michigan University, BS degree.

Program Admission Requirements: Students need an Academic Math Level of 4 or higher to enroll in MTH 176.

ENG 111 and Composition I		4
ENG 226 Composition II		3
COM 225 Intercultural Communication*		3
MTH 176 College Algebra**	4	
CEM 111 General Chemistry I		
OR GLG 114 Physical Geology		
OR PHY 211 Analytical Physics I		4-5
Soc. Sci. Elective(s)***		9
Arts/Human. Elective(s)****	6	
Major/Area Requirements	**(14 credits)**	
CIS 100 Introduction to Computers and Software Applications	3	
CPS 161 An Introduction to Programming with Java	4	
CPS 261 Programming Data Structures in Java	4	
Elective Complete one course from: CIS 121, CIS 221, CIS 282, CPS 120, CPS 171, CPS 271, CPS 293, or INP 150		3-4
Required Support Courses	**(5 credits)**	
MTH 191 Calculus I		5
Requirements (12 – 15 credits)		
Minimum Credits Required for the Program.		
Elective Students must complete 100-level or above transferrable courses.*****	12 – 15	
Minimum Credits Required for the Program:		**64**

Notes:
**Satisfies EMU's Diverse World Requirement.*
***MTH 176 should be completed at WCC to satisfy EMU's Quantitative Reasoning requirement. If completed at EMU, MATH 110 will be required unless waived by ACT/SAT or math placement score.*
****Choose three courses from at least two disciplines.*
*****Students transferring to a four-year institution should choose a lab-based, MACRAO approved science course. Students must meet the Computer and Information Literacy Graduation Requirement. See General Education Graduation Requirements in the WCC Bulletin.*
****** Students intending to transfer to EMU to complete the Comprehensive Computer Science Degree must take the following courses: MTH 192, MTH 197 and a second course in a sequence: CEM 122, GLG 125 or PHY 222.Students must meet the Computer and Information Literacy Graduation Requirement. See General Education Graduation Requirements in the WCC Bulletin.*

PROGRAM PROPOSAL FORM

☐ **Preliminary Approval** – Check here when using this form for preliminary approval of a program proposal, and respond to the items in general terms.

☒ **Final Approval** – Check here when completing this form after the Vice President for Instruction has given preliminary approval to a program proposal. For final approval, complete information must be provided for each item.

Program Name:	Computer Science Transfer Degree	**Program Code:**
Division and Department:	BCT - CISD	ASCSCT
Type of Award:	☐ AA ☒ AS ☐ AAS ☐ Cert. ☐ Adv. Cert. ☐ Post-Assoc. Cert. ☐ Cert. of Comp.	
Effective Term/Year:	200901	**CIP Code:**
Initiator:	Clarence Hasselbach and Neil Gudsen	11.0201

Program Features Program's purpose and its goals. Criteria for entry into the program, along with projected enrollment figures. Connection to other WCC programs, as well as accrediting agencies or professional organizations. Special features of the program.	This program has been developed in cooperation with the Computer Science Department of Eastern Michigan University and is intended to serve primarily as a transfer degree into the undergraduate Computer Science and Applied Computer Science programs at EMU. The requirements for this program have been kept simple, and it is the objective of this program to allow students to complete the program as rapidly as possible and thus enable a quick transition to the undergraduate programs in Computer Science at EMU.
Need Need for the program with evidence to support the stated need.	"Research from **Robert Half International** and others suggests that not only will **IT salaries** increase slightly in 2009, but also that IT professionals with key skills could find themselves in demand .... The professional staffing and consulting firm estimates that IT salaries could increase by about 3.7 percent next year...." Source: CIO Magazine, October 24, 2008 http://www.cio.com/article/456568/IT_Salaries_Expected_to_Rise_in_

Program Outcomes/Assessment State the knowledge to be gained, skills to be learned, and attitudes to be developed by students in the program. Include assessment methods that will be used to determine the effectiveness of the program.	Outcomes	Assessment method
	1. Object Oriented Foundations: At the conclusion of this program, students will be able to identify and analyze java foundational concepts such as inheritance, polymorphism, interfaces, abstract classes, exceptions, overloading, etc.	Common departmentally created final exam.
	2. Data Structures: At the conclusion of this program, students will be able to identify and analyze java data structures such as ArrayList, LinkedList, TreeMap, HashMap, etc.	Common departmentally created final exam.
	3. Advanced Topics: At the conclusion of this program, students will be able to identify and analyze Multi-tasking concepts, I/O streams, and networking.	Common departmentally created final exam.
	4. Sound Programming Practices: At the conclusion of this program, students will demonstrate sound software engineering techniques in developing a working software program. This will include creating a program that is logical, easy to understand, with properly indented code to solve a stated problem.	Common departmentally created final exam.

Please return completed form to the Office of Curriculum & Assessment and email an electronic copy to **sjohn@wccnet.edu** for posting on the website.

Curriculum List the courses in the program as they should appear in the catalog. List minimum credits required. Include any notes that should appear below the course list.	**General Education and MACRAO Requirements:**		**33-34 Credits**
	ENG 111 Composition I	4	
	ENG 226 Composition II	3	
	COM 225[i] [1]Intercultural Communication	3	
	MTH 176[ii] College Algebra (Must complete at WCC)	4	
	Complete one of the following	4-5	
	CEM 111 General Chemistry (4)		
	GLG 114 Physical Geology (4)		
	PHY 211 Analytical Physics I (5)		
	Soc. Sci. Elective(s) *	9	
	Arts and Humanities Elective(s) **	6	
	Major/Area requirements		**14-15 credits**
	CIS 100 intro to Software Applications	3	
	CPS 161 An Introduction to Programming with Java	4	
	CPS 261 Programming Data Structures in Java	4	
	Complete one course:	3-4	
	CIS 121 Unix/Linux Fundamentals (3)		
	CIS 282 Relational Database Concepts & Application (3)		
	CPS 120 Intro to Computer Science (3)		
	CPS 293 C# .Net (4)		
	CPS 171 Introduction to Programming with C++ (4)		
	CPS 271 Programming with C++ (4)		
	CIS 221 Linux/Unix Programming/Scripting I (3)		
	INP 150 Web coding I (3)		
	Support Courses:		**8 credits**
	MTH 191 Calculus I	5	
	Open Elective	3	
	Minimum Options credits for program (select one)		**9 credits**
	EMU's Comprehensive Comp. Sci. Degree:	**12credits**	
	MTH 192 Calculus II	4	
	MTH 197 Linear Algebra	4	
	Complete a second course in a sequence	4-5	
	CEM 122 General Chemistry II (4)		
	GLG 125 Historical Geology (4)		
	PHY 222 Analytical Physics II (5)		
	EMU's Applied Computer Science Major :	**9 Credits**	
	Open Electives	9-12	
	Other Institution Option:	**9 credits**	
	Open Electives	9 – 12 credits	
	Total Program Credit Hours		**64-70 Credits**
	*Complete 3 courses from at least 2 disciplines. Choose from courses approved by WCC to satisfy the MACRAO social science requirement **Choose from courses approved by WCC to satisfy the MACRAO humanities requirement		

[i] *Satisfies EMU's Perspectives on a Diverse World Requirement.*

ii *MTH 176 should be completed at WCC to satisfy EMU's Quantitative Reasoning Requirement. If completed at EMU, MATH 110 will be required unless waived by ACT/SAT or math placement score.*

Budget Specify program costs in the following areas, per academic year:		START-UP COSTS	ONGOING COSTS
	Faculty	No new costs	No new costs
	Training/Travel	No new costs	No new costs
	Materials/Resources	No new costs	No new costs
	Facilities/Equipment	No new costs	No new costs
	Other	No new costs	No new costs
	TOTALS:	No new costs	No new costs
Program Description for Catalog and Web site	This program prepares students to transfer to complete a bachelor's degree in Computer Science or Applied Computer Science and to pursue careers in computer science fields such as computer systems programming and analysis, software development and maintenance, and applications programming.		
Program Information	**Accreditation/Licensure** - None **Advisors** – Clarence Hasselbach, Philip Geyer, Khaled Mansour **Advisory Committee** - CIS Advisory Committee **Admission requirements** – Academic Math Level 4 or higher to enroll in MTH 176 **Articulation agreements** – In progress with Eastern Michigan University **Continuing eligibility requirements** – None		

Assessment plan:

Program outcomes to be assessed	Assessment tool	When assessment will take place	Courses/other populations	Number students to be assessed
Object Oriented Foundations: At the conclusion of this program, students will be able to identify and analyze java foundational concepts such as inheritance, polymorphism, interfaces, abstract classes, exceptions, overloading, etc.	Common final examination to be prepared by the CIS department	Once every three years beginning Fall 2011.	Minimum of one section of CPS 261	Random assortment of 10 or more students.
Data Structures: At the conclusion of this program students will be able to identify and analyze java data structures such as ArrayList, LinkedList, TreeMap, HashMap, etc.	Common final examination to be prepared by the CIS department	Once every three years beginning Fall 2011	Minimum of one section of CPS 261	Random assortment of 10 or more students.
Advanced Topics: At the conclusion of this program, students will be able to identify and analyze Multi-tasking concepts, I/O streams, and networking.	Common final examination to be prepared by the CIS department	Once every three years beginning Fall 2011	Minimum of one section of CPS 261	Random assortment of 10 or more students.
Sound Programming Practices: At the conclusion of this program, students will demonstrate sound software engineering techniques in developing a working software program. This will include creating a program that is logical, easy to understand, with properly indented code to solve a stated problem.	Common final examination to be prepared by the CIS department	Once every three years beginning Fall 2011	Minimum of one section of CPS 261	Random assortment of 10 or more students.

Scoring and analysis plan:

1. Indicate how the above assessment(s) will be scored and evaluated (e.g. departmentally developed rubric, external evaluation, other). Attach the rubric.

   Departmentally developed rubric. See attached.

2. Indicate the standard of success to be used for this assessment.

   At least 75% of students must score at least 70% or better on all learning outcome evaluations.

3. Indicate who will score and analyze the data.

   Assessment materials will be analyzed by the CIS Department.

4. Explain how and when the assessment results will be used for program improvement.

   If the standard of success is not achieved then the program will be evaluated.

REVIEWER	PRINT NAME	SIGNATURE	DATE
Department Chair/Area Director	Clarence Hasselbach	Clarence Hasselbach	10/31/2008
Dean	Rosemary Wilson	Rosemary Wilson	10/31/08
Vice President for Instruction ☐ Approved for Development ☒ Final Approval	Roger M. Paulay	Roger M. Paulay	12/3/08
President	Larry Whitworth	Larry Whitworth	4/28/09
Board Approval			04/28/09

Logged 11/3/08 SJ/gv
Office of Curriculum & Assessment

Program Information Report

Computer Science Transfer (ASCSCT)

Associate in Science Degree

Program Effective Term: Fall 2009

This program prepares students to transfer to Eastern Michigan University to complete a bachelor's degree in Computer Science or Applied Computer Science and to pursue careers in computer science fields such as computer systems programming and analysis, software development and maintenance, and applications programming.

Articulation:
Eastern Michigan University, BS degree.

Copies can be obtained from the Counseling Office, a program advisor, or from the Curriculum and Assessment Office Web site: http://www.wccnet.edu/departments/curriculum/articulation.php?levelone=colleges.

Program Admission Requirements:
Students need an Academic Math Level of 4 or higher to enroll in MTH 176.

General Education Requirements		**(33 credits)**
ENG 111 and	Composition I	4
ENG 226	Composition II	3
COM 225	Intercultural Communication*	3
MTH 176	College Algebra**	4
CEM 111 or	General Chemistry I	
GLG 114 or	Physical Geology	
PHY 211	Analytical Physics I	4-5
Soc. Sci.	Elective(s)***	9
Arts/Human.	Elective(s)****	6
Major/Area Requirements		**(14 credits)**
CIS 100	Introduction to Computers and Software Applications	3
CPS 161	An Introduction to Programming with Java	4
CPS 261	Programming Data Structures in Java	4
Elective	Complete one course from: CIS 121, CIS 221, CIS 282, CPS 120, CPS 171, CPS 271, CPS 293, or INP 150.	3-4
Required Support Courses		**(5 credits)**
MTH 191	Calculus I	5
Required Courses		**(12 credits)**
Elective	Minimum elective credits required for the program. Students must complete 100-level or above transferrable courses. *****	12-15

Minimum Credits Required for the Program: **64**

Notes:

**Satisfies EMU's Diverse World Requirement.*
***MTH 176 should be completed at WCC to satisfy EMU's Quantitative Reasoning Requirement. If completed at EMU, MATH 110 will be required unless waived by ACT/SAT or math placement score.*
****Choose three courses from at least two disciplines.*
*****Students transferring to a four-year institution should choose a lab-based, MACRAO-approved science course.*
******Students intending to transfer to EMU to complete the Comprehensive Computer Science Degree must take the following courses: MTH 192, MTH 197 and a second course in a sequence: CEM 122, GLG 125, or PHY 222.*

Students must meet the Computer and Information Literacy Graduation Requirement. See General Education Graduation Requirements in the WCC Bulletin.