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:	Programming in Java	**Program Code:**
Division and Department:	BCT - CISD	CVJAV
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	11.0202

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 an effort to consolidate and streamline certificate offerings of the CIS Department. It replaces the Java Developer Advanced Certificate.
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. 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. 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. 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.	**Major/Area Requirements** **(11-12 Credits)** 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 Object Feature of C++ (4) CIS 221 Linux/Unix Programming/Scripting I (3) INP 150 Web Coding I (3) **Minimum Credits Required for the Program:** **(11-12) Credits** *Transfers to Eastern Michigan University as COSC 111 **Transfers to Eastern Michigan University as COSC 211

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 is intended for students who need to acquire skills in the Java programming language. The program also gives students skills that can be applied to the related jobs of programmer/analyst.
Program Information	**Accreditation/Licensure** - None **Advisors** – Clarence Hasselbach, Philip Geyer, Khaled Mansour **Advisory Committee** - CIS Advisory Committee **Admission requirements** - Completion of Foundations of Information Systems Certificate of equivalent degree or experience. **Articulation agreements** - Eastern Michigan University in progress **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,	Common final examination to be prepared by the CIS department	Beginning Fall 2011 and every three years thereafter	All sections of CPS 261	Random sample of 50% of students

exceptions, overloading, etc.				
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	Beginning Fall 2011 and every three years thereafter	All sections of CPS 261	Random sample of 50% of 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	Beginning Fall 2011 and every three years thereafter	All sections of CPS 261	Random sample of 50% of 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	Beginning Fall 2011 and every three years thereafter	All sections of CPS 261	Random sample of 50% of 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 blind-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.

   The department will review the program if the standard of success is not met.

REVIEWER	PRINT NAME	SIGNATURE	DATE
Department Chair/Area Director	Clarence Hasselbach	Clarence Hasselbach	11/13/2008
Dean	Rosemary Wilson	Rosemary Wilson	11/14/08
Vice President for Instruction ☐ Approved for Development ☒ Final Approval	Roger M. Palay	Roger M. Palay	12/22/08
President	Larry Whitworth	Larry Whitworth	4/28/09
Board Approval			04/28/09

Logged 11/17/08 sjv 1/6/09 sjv
Office of Curriculum & Assessment

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 forensics or learn how to run a successful e-business, 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.

Programming in Java (CVJAV)

Advanced Certificate

Program Effective Term: Fall 2009

This program is intended for students who need to acquire skills in the Java programming language. The program also gives students skills that can be applied to the related jobs of programmer/analyst.

Program Admission Requirements:
Completion of the Foundations of Information Systems certificate or equivalent.

Major/Area Requirements		(11 credits)
CPS 161	An Introduction to Programming with Java*	4
CPS 261	Programming Data Structures in Java*	4
	Complete one course from the following: CIS 121, CIS 221, CIS 282, CPS 120, CPS 171, CPS 271, CPS 293 or INP 150.	3-4

Minimum Credits Required for the Program: **11**

Notes:

**See the Eastern Michigan University Web site for transfer equivalency: http://it.emich.edu/service/online/tranequiv/.*

Programming in Java

Advanced Certificate

Program requirements shown below are for catalog year: 2009-2010

Description:
This program is intended for students who need to acquire skills in the Java programming language. The program also gives students skills that can be applied to the related jobs of programmer/analyst.

Contact Information:
Division: Business and Computer Technologies
School: School of Information Technology
Department: Computer Instruction
Advisors: Clarence Hasselbach, Khaled Mansour

Major/Area Requirements		**(11-12 Credits)**
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 Object Feature of C++ (4)	
	CIS 221 Linux/Unix Programming/Scripting I (3)	
	INP 150 Web Coding I (3)	

Minimum Credits Required for the Program: **(11-12) Credits**

*Transfers to Eastern Michigan University as COSC 111

**Transfers to Eastern Michigan University as COSC 211