# PROGRAM CHANGE OR DISCONTINUATION FORM

**Program Code:** CVXPR    **Program Name: XML Programming**    **Effective Term: 200809**

**Division Code:** BCT    **Department:** CISD

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### 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.

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### Requested Changes:

☐ Review
☐ Remove course(s): _____
☐ Add course(s): _____
☐ 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 <u>attached page from the catalog</u>.

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**Rationale for proposed changes or discontinuation: <u>Insufficient enrollments.</u>**

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**Financial/staffing/equipment/space implications: None**

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

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### Signatures:

| Reviewer | Print Name | Signature | Date |
|---|---|---|---|
| Initiator | Clarence Hasselbach | *Clarence Hasselbach* | 2/19/2008 |
| Department Chair | Clarence Hasselbach | *Clarence Hasselbach* | 2/19/2008 |
| Division Dean/Administrator | Rosemary Wilson | *Rosemary Wilson* | 2/19/08 |
| Vice President for Instruction | Roger Palay | *Roger M. Palay* | 3/11/08 |
| President | Larry Whitworth | *Larry Whitworth* | 4/28/08 |

Do not write in shaded area. Entered in: Banner 3/12 C&A Database 3/12 Log File 2/21/08 Board Approval _____ 3/12 RJ

**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.**

Washtenaw Community College.
**Certificates and Degrees A to Z.**
http://www.wccnet.edu/academicinfo/creditofferings/programs/atoz/atoz.php?code=CVXPR

## Program: XML Programming (CVXPR)
Advanced Certificate

Program requirements shown below are for catalog year: | 2007 - 2008 ▼ | | Change Year |

**Description:**
This program trains programmers in XML skills, including: details of XML structure; XSLT; XPath; interfacing XML with database and communications systems; and application program interfaces (API's) for handling XML in widely used programming languages.

**Division:** Business and Computer Technologies

**Department:** Computer Instruction

**Advisors:** Clarence Hasselbach

**Admission Requirements:**
Certificate in XML Data Analysis or equivalent experience with permission of advisor.

**Continuing Eligibility:**
Students must earn a minimum grade of "C" in all courses.

| Major/Area Requirements | | (12 Credits) |
|---|---|---|
| CPS 171 or | Introduction to Programming with C++ | |
| CPS 185 | Introduction to Visual Basic .Net Programming | 4 |
| CIS 269 or | Java Certification Preparation | |
| CPS 161 | An Introduction to Programming with Java | 4 |
| CIS 279 | XML Programming | 4 |

**Minimum Credits Required for the Program:**　　　　**12 Credits**

This website is for informational purposes only and is not to be construed as a binding offer or contract between WCC and the student. The information presented here is believed accurate, but is NOT guaranteed and is subject to change without notice.

For official information, see an Advisor.

**Discontinuation Plan:**

Capstone course CIS 279 XML Programming will continue to be offered through Winte2009. The balance of courses of this certificate will continue to be taught on a regular basis for the next several semesters.

# Computer Programming

## XML Programming (CVXPR)
## Advanced Certificate

**Program Effective Term: Fall 2006**

This program trains programmers in XML skills, including: details of XML structure; XSLT; XPath; interfacing XML with database and communications systems; and application program interfaces (API's) for handling XML in widely used programming languages.

**Program Admission Requirements:**
Certificate in XML Data Analysis or equivalent experience with permission of advisor.

**Continuing Eligibility Requirements:**
Students must earn a minimum grade of "C" in all courses.

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| CPS 171 or | Introduction to Programming with C++ | |
| CPS 185 | Introduction to Visual Basic .Net Programming | 4 |
| CIS 269 or | Java Certification Preparation | |
| CPS 161 | An Introduction to Programming with Java | 4 |
| CIS 279 | XML Programming | 4 |
| | **Total Credit Hours** | **12** |

**Minimum Credits Required for the Program**          **12**

# 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:** | XML Programming | **Program Code:** |
| **Division and Department:** | BCT / Computer Instruction | CVXPR |
| **Type of Award:** | ☐ AA  ☐ AS  ☐ AAS  <br> ☐ Cert.  ☒ Adv. Cert.  ☐ Post-Assoc. Cert.  ☐ Cert. of Comp. | |
| **Effective Term/Year:** | 2006 Fall | **CIP Code:** |
| **Initiator:** | Laurence Krieg | 11.0202 |

| Program Features | Description / Admission Requirements / Audience |
|---|---|
| **Program Features**<br>Program's purpose and its goals.<br><br>Criteria for entry into the program, along with projected enrollment figures.<br><br>Connection to other WCC programs, as well as accrediting agencies or professional organizations.<br><br>Special features of the program. | **Description**: The use of XML is becoming very widespread, leading to a need for programmers to process XML-based storage and transaction records. This certificate will equip students to analyze and use Java, XSLT, and other widely-used programming languages to create software for interfacing XML data with databases and network transmission systems.<br><br>**Admission Requirements**:<br><br>• Certificate in XML Data Analysis<br>  – or –<br>• Equivalent coursework or experience with permission of advisor<br><br>**Audience:**<br>• Career programmers who need to code software for XML-based data handling. |
| **Need**<br><br>Need for the program with evidence to support the stated need. | A Needs Assessment Survey was conducted in November, 2005. Of eleven employers responding, nine (82%) indicated a definite need for this program. Useful curricular suggestions were collected, which are included in this proposal. |

| Program Outcomes/Assessment | Outcomes | Assessment method |
|---|---|---|
| State the knowledge to be gained, skills to be learned, and attitudes to be developed by students in the program.<br><br>Include assessment methods that will be used to determine the effectiveness of the program. | **Technical Outcomes:**<br><br>1. Work effectively with XML structure in detail<br>2. Code effectively using XSLT and XPath<br>3. Create interfaces of XML-coded data with database systems | Final projects from courses will be assessed for clarity and accuracy by outside practitioners; or, if adequate funding is not available, a team of CIS faculty. |

<table>
<tr><td></td><td>

4. Create Interface for XML-coded data to be transmitted over data communication systems
5. Productively use Application Program Interfaces (APIs) in widely-used programming languages to write software for handling XML

**Points of Attention:**

1. Solve problems
2. Give attention to detail
3. Meet deadlines
4. Use open source resources
5. Handle multiple tasks
6. Analyze and manage data
7. Ask the right questions
8. Communicate skillfully and effectively
9. Determine where an individual's contributions would be the most beneficial
10. Develop a work plan
11. Work effectively through understanding specific fields ("communities of interest")to which XML is applied
12. Understand project assignments
13. Understand what customers want

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</table>

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 | Number | Course | Credits |
|---|---|---|---|
| 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. | *Either:* CPS 171 | Introduction to Programming with C++ | 04 |
| | *or* CPS 185 | Introduction to Visual Basic .Net Programming | |
| | *Either* CPS 161 | An Introduction to Programming with Java | 04 |
| | *or* CIS 269 | Java Certification Preparation | |
| | CIS 279 | XML Programming | 04 |
| | | **Total credits:** | **12** |

| Budget | No new budget required. | START-UP COSTS | ONGOING COSTS |
|---|---|---|---|
| Specify program costs in the following areas, per academic year: | Faculty | $ 0.00 | $ 0.00 |
| | Training/Travel | 0.00 | 0.00 |
| | Materials/Resources | 0.00 | 0.00 |
| | Facilities/Equipment | 0.00 | 0.00 |
| | Other | 0.00 | 0.00 |
| | TOTALS: | $ 0.00 | $ 0.00 |
| Program Description for Catalog and Web site | This certificate program trains programmers in XML skills, including details of XML structure, XSLT, XPath, interfacing XML with database and communication systems, and application program interfaces (APIs) for handling XML in widely-used programming languages. | | |
| Program Information | **Accreditation/Licensure** – n/a<br><br>**Advisors** – L. Krieg, C. Hasselbach<br><br>**Advisory Committee** – CIS Advisory Committee<br><br>**Admission requirements** –<br><br>&bull; Certificate in XML Data Analysis<br>– or –<br>&bull; Equivalent coursework or experience, with permission of advisor<br><br>**Articulation agreements** – n/a<br><br>**Continuing eligibility requirements** – Grade of "C" or better in all courses | | |

Assessment plan:

| Program outcomes to be assessed | Assessment tool | When assessment will take place | Courses/other populations | Number students to be assessed |
|---|---|---|---|---|
| **Technical Outcomes:**<br><br>1. XML structure in detail<br>2. XSLT and XPath coding<br>3. Interfacing XML with database systems<br>4. Interfacing XML with data communication systems<br>5. Application Program Interfaces (APIs) for handling XML in | Survey of employer satisfaction with graduates | Third year after program initiation, and every third year thereafter | Employers of certificate recipients | All certificate recipients |

| widely-used programming languages<br><br>**General Outcomes:**<br>1. Problem-solving<br>2. Attention to detail<br>3. Meeting deadlines<br>6. Analyzing and managing data<br>11. Understanding specific fields, or "communities of interest" | | | | |
|---|---|---|---|---|

**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 (below)

    ### Survey Questions for Employers of Certificate Receivers

    *These questions relate to your employee(s)*
    *[list employees here]*
    *who during the last three-year period received an "XML Programmer" Certificate from Washtenaw Community College. Please rate*
    *employee(s) on a scale of 1 - 5, where 5 is best. Mark "N/A" if the question is not relevant to the work done by the employee(s) listed.*

    1.  Problem-solving, especially related to XML programming:
    2.  Attention to detail:
    3.  Meeting deadlines:
    4.  Details of XML structure:
    5.  XSLT and XPath coding
    6.  Interfacing XML with database systems
    7.  Interfacing XML with data communication systems
    8.  Using application program interfaces (APIs) for handling XML in programming language(s) used by your organization:
    9.  What skill area should be added to the "XML Data Analyst" certificate program? (Write in)

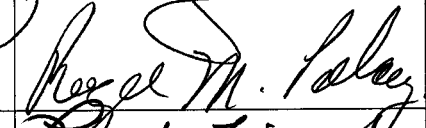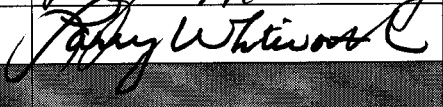2.  Indicate the standard of success to be used for this assessment.

    In general 70% or better responses of 4 or 5 will be taken to indicate success for any objective.
    *Notes:*
    - Answers marked "N/A" will not be counted.

3.  Indicate who will score and analyze the data.

    Program advisor(s).

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

    The assessment will be done every three years, prior to the re-evaluation of the syllabus. Results of the assessment will be used to modify either syllabus objectives or teaching methods.

| REVIEWER | PRINT NAME | SIGNATURE | DATE |
|---|---|---|---|
| Department Chair/Area Director | Philip Geyer | *(signature)* | 3-30-06 |
| Dean | Rosemary Wilson | *(signature)* | 3/30/06 |
| Vice President for Instruction<br>☐ Approved for Development<br>☐ Final Approval | Roger Palay | *(signature)* | 4/3/06 |
| President | Larry Whitworth | *(signature)* | 4/4/06 |
| Board Approval | | | |