Curriculum Course Request WES Change Course CS 4910 - A-2018-CS-99;
effective term: 202040

Steven M Carr
Thu 12/20/2018 9:32 AM

To: Raja G Aravamuthan <raja.aravamuthan@wmich.edu>; Said M Abubakr <said.abubakr@wmich.edu>
Cc: Holly Blanks <holly.blanks@wmich.edu>

2 attachments (45 KB)
CS 4910 WES Syllabus.docx; CS 4910 WMU Essential Studies Assessment - Fall 2020.docx

Please verify your data for New Curriculum Course Request for department: CS; college: A.
Go to the following URL to complete your worklist items: https://bwfp31.cc.wmich.edu:7102/wfbprod

Date of request: 12-NOV-2018
College: A
Department: CS
Initiator name: Steve Carr
Initiator email: steve.carr@wmich.edu
Proposed effective term: 202040
Does course need General Education approval?: Y
Will course be used in teacher education?: N
If 5000 level course, prerequisites apply to: U
Proposed course data:
WES Change Course CS 4910
Specific Course Change type selected: WMU Essential Studies - Level 3: Connections

1. Existing course prefix and number:
CS 4910

2. Level 3: Connections:
   Indicate which course category the course should be placed in:
   Local and National Perspectives

3. Indicate which ONE additional required student learning outcome the course will assess:
https://outlook.office.com/owa/?realm=WMICH.EDU&exsvurl=1&ll-cc=1033&modurl=0
CS 4910 is already required for the BS in Computer Science. The course is already offered each semester.

J. Effects on enrolled students: are program conflicts avoided? Will your proposal make it easier or harder for students to meet graduation requirements? Can students complete the program in a reasonable time? Show that you have considered scheduling needs and demands on students' time. If a required course will be offered during summer only, provide a rationale. This change will keep graduation requirements the same as they are currently, so there is no change for student ability to meet those requirements.

K. Student or external market demand. What is your anticipated student audience? What evidence of student or market demand exist? What is the estimated enrollment? What other factors make your proposal beneficial to students? All seniors in CS must take this course. No other students may take it. This is no change in the audience from previous.

L. Effects on resources. Explain how your proposal would affect department and University resources, including faculty, equipment, space, technology, and library holdings. Tell how you will staff additions to the program. If more advising will be needed, how will you provide for it? How often will course(s) be offered? What will be the initial one-time costs and the ongoing base-funding costs for the proposed program? (Attach additional pages, as necessary.)

There is no effect on resources. As done beginning with the approved change for Fall 2019, one section of CS 4910 is offered each semester. 1 credit of the course will be online. No new resources are needed.

M. With the change from General Education to WMU Essential Studies, this question is no longer used.

For courses requesting approval as a WMU Essential Studies course, a syllabus identifying the student learning outcomes and an action plan for assessing the student learning outcomes must be attached in the Banner Workflow system.

Not Applicable

N. (Undergraduate proposals only) Describe, in detail, how this curriculum change affects transfer articulation for Michigan community colleges. For course changes, include detail on necessary changes to transfer articulation from Michigan community college courses. For new majors or minors, describe transfer guidelines to be developed with Michigan community colleges. For revisions to majors or minors, describe necessary revisions to Michigan community college guidelines. Department chairs should seek assistance from college advising directors or from the admissions office in completing this section.

There is no effect on articulation agreements.

O. Current catalog copy:

From the approved Fall 2019 catalog copy:

This course is the second of a capstone project sequence required for all computer science majors. Students are placed into teams and assigned to complete an existing project for a client. The teams implement and debug code according to a design produced earlier. They produce a testing plan, carry out testing, record test results and summarize them. Prototype demonstrations and periodic progress reports are required to help assure steady progress. Individuals and teams produce a variety of documents throughout the course. These documents include a testing plan, a testing log, a summary of testing, a maintenance manual and a user manual. Teams also deliver a public demonstration at the end of the course. Discussion of the role of the computer scientist in society and current social and ethical issues related to computing and software development will be integrated into the course. Topics covered are designed to promote awareness of professional, ethical, and societal issues in the field of computer science.

P. Proposed catalog copy:

This course is the second of a capstone project sequence required for all computer science majors. Students are placed into teams and assigned to complete an existing project for a client. The teams implement and debug code according to a design produced earlier. They produce a testing plan, carry out testing, record test results and summarize them. Prototype demonstrations and periodic progress reports are required to help assure steady progress. Individuals and teams produce a variety of documents throughout the course. These documents include a testing plan, a testing log, a summary of testing, a maintenance manual and a user manual. Teams also deliver a public demonstration at the end of the course. Discussion of the role of the computer scientist in society and current social and ethical issues related to computing and software development

https://outlook.office.com/owa/?realm=WMICH.EDU&exsvurl=1&ll-cc=1033&modurl=0
Course Syllabus
CS4910 – Software Systems Development II: Implementation, Testing
College of Engineering and Applied Sciences
Fall 2020

Instructor Information
Instructor: John Kapenga, Associate Professor
Office Location: B254 Floyd Hall
Telephone: Office – (269) 276-3108
E-mail: john.kapenga@wmich.edu
Office Hours: TR 3:30 – 5pm

Course Identification
Course Number: CS 4910
Course Name: Software Systems Development II: Implementation, Testing
Course Location: C-141 Floyd Hall
Class Times: M 6:30 – 8:10pm, online also
Prerequisites: CS 4900

Course Description/Overview
This course is the second of a capstone project sequence required for all computer science majors. Students are placed into teams and assigned to complete an existing project for a client. The teams implement and debug code according to a design produced earlier. They produce a testing plan, carry out testing, record test results and summarize them. Prototype demonstrations and periodic progress reports are required to help assure steady progress. Individuals and teams produce a variety of documents throughout the course. These documents include a testing plan, a testing log, a summary of testing, a maintenance manual and a user manual. Teams also deliver a public demonstration at the end of the course. Discussion of the role of the computer scientist in society and current social and ethical issues related to computing and software development will be integrated into the course. Topics covered are designed to promote awareness of professional, ethical, and societal issues in the field of computer science. This course meets the student learning outcomes in the WMU Essential Studies Level 3- Connections, Local and National Perspectives Course Category.

Course Learning Objectives
Students will be able to:

a) work in small teams to deliver a project using Agile methodologies and modern tools.
Late Assignments

All assignments are due on the due date. No late work will be accepted.

University Policies

Academic regulations and procedures are governed by University policy. Academic dishonesty cases will be handled in accordance with the University’s policies.

If you have a disability that could affect your performance in this class or that requires an accommodation under the Americans with Disabilities Act, please see me as soon as possible so that we can make appropriate arrangements.

Academic Honesty: [http://www.wmich.edu/conduct/academichonesty/index.html](http://www.wmich.edu/conduct/academichonesty/index.html)
Office of Institutional Equity: [http://www.wmich.edu/equity](http://www.wmich.edu/equity)

Course Outline

<table>
<thead>
<tr>
<th>Week</th>
<th>Monday</th>
<th>Online</th>
<th>Assignments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Tracking Projects with Stories (TPS)</td>
<td>The CS Profession</td>
<td>Profession online quiz&lt;br&gt;Team project/presentation assigned</td>
</tr>
<tr>
<td>2</td>
<td>Project Maintenance</td>
<td>Lifelong Learning</td>
<td>TPS Report 1&lt;br&gt;Lifelong learning online quiz</td>
</tr>
<tr>
<td>3</td>
<td>Identifying and Solving Problems in Projects</td>
<td></td>
<td>TPS Report 2</td>
</tr>
<tr>
<td>4</td>
<td>Effect teams and team-client communication</td>
<td>Professional Ethics and Privacy in Computing</td>
<td>TPS Report 3&lt;br&gt;Paper on privacy in computing assigned</td>
</tr>
<tr>
<td>5</td>
<td>Effective Consulting Practices</td>
<td></td>
<td>TPS Report 4&lt;br&gt;Ethics online quiz</td>
</tr>
<tr>
<td>6</td>
<td>Version Control</td>
<td>Globalization of Computing</td>
<td>TPS Report 5</td>
</tr>
<tr>
<td>7</td>
<td>Unit Testing</td>
<td></td>
<td>TPS Report 6</td>
</tr>
<tr>
<td>8</td>
<td>Security and privacy in web applications</td>
<td>Practicing Lifelong Learning</td>
<td>TPS Report 7&lt;br&gt;Draft paper on</td>
</tr>
</tbody>
</table>
## CS 4910 WMU Essential Studies Assessment

### Level III-Connections

#### Local and National Perspectives

<table>
<thead>
<tr>
<th>WMU Essential Studies Student Learning Outcome</th>
<th>Assignments and/or Learning Activities that meet the criteria within the rubric that is aligned with the SLO</th>
<th>When the SLO assessment will take place</th>
</tr>
</thead>
</table>
| **X** Apply ethical, critical, and informed thought within and across disciplines | Privacy in Computing Paper - focused on the ethical requirements for computer scientists in dealing with the processing, storage and protection of personal information  
  Senior Design Oral Presentation - Final oral project report that brings together technical, security and privacy issues in computing and their relation to the students' senior design project. | Content delivery  
  Weeks 3 and 4  
  Draft due week 5;  
  Final due week 6  
  Assigned week 1  
  Progress Reports  
  Draft presentation weeks 11 - 13  
  Final public presentation week 14. |

#### Choose One Student Learning Outcome From Below

<table>
<thead>
<tr>
<th>WMU Essential Studies Student Learning Outcome</th>
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</tr>
</thead>
<tbody>
<tr>
<td>□ Apply different methods of intellectual inquiry, investigation and discovery</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| **X** Work both independently and in collaboration with others to achieve goals | Senior design project - work in teams to develop software to solve a problem from industry or the community. Security and privacy of data are required aspects of this projects | Assigned week 1  
  Weekly TPS reports on project progress  
  Due week 14 - a final project that performs the desired tasks correctly and with security and privacy included. |
| □ Develop sensitivity to diversity and inclusion | | |
| □ Develop practices for planetary sustainability | | |