Portland Community College

New Course

Career Technical Education (CTE)

Save this document as the course prefix and number

Send completed form electronically to [curriculum@pcc.edu](mailto:curriculum@pcc.edu)

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| Section #1 General Information | | | | |
| Department: | MMT | Submitter: | Patrick Kraft | |
| Prefix and Course Number: | MCH 290 | Submitter Phone and Email: | x8170  pkraft@pcc.edu | |
| Course Title: (60 characters max) | Mastercam Fundamentals Orientation | Credits: | 1.0 | |
| Transcript Title (30 characters max) | Mastercam Fundamentals Orient. | Contact hours:  2 hours per week | Lecture:  Lec/lab: 1.0  Lab: | |
| Grading option. Check all that apply | X A-F  X P-NP  X Audit with faculty consultation | Can this class be repeated? | X Yes  No | How many times?  One time |
| Is this course equivalent to another? They must have the same description, outcomes and credit. | | Yes  X No | Prefix, number and title: | |
| Course or program fee: (Identify only fees which are independent of the standard lab fee) | | none |  | |
| Course Description:  (the field expands as needed) | Introduces the use of Mastercam CAD/CAM software for community members, engineering, and art students to acquire skills to access additional technology in manufacturing labs, such as CNC machines, Additive type RP machines, and laser systems. Create wireframe and limited solid geometry, and output of CNC code as well as STL and DXF formatted files | | | |
| Begin the course description with an active verb. Include course recommendations in the description. | | | | |

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| Identify prerequisite, corequisite and concurrent course(s)  (double click on check box to activate dialog box) | | | | |
| Standard Prerequisites - WR 115, RD 115 and MTH 20 or equivalent placement test scores | | | | |
| Placement into: | | Placement into: | | |
| course prefix & number: | | Prerequisite | Corequisite | pre/co |
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| Addendum to course description: | Requires basic computer operational skills literacy. Instructor approval required. | | | |

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| LEARNING OUTCOMES: Describe what the student will be able to do “out there” (in their life roles as worker, family member, community citizen, global citizen or lifelong learners), not in the classroom outcomes. Three to six outcomes are recommended. See course outcomes guidelines on the curriculum website for more [guidance on writing good outcomes](http://www.pcc.edu/resources/academic/eac/curriculum/course-outcomes-guidelines.html). | |
| Outcomes: **(Use observable and measurable verbs)** | 1. **Apply understanding in the use of Mastercam CAD/CAM software to complete wire frame designs.** 2. **Create design of solid models using basic solid model functions.** 3. **Output of CNC “G” code, STL formatted files, and DXF formatted files.** 4. **Apply knowledge of Mastercam on future projects.** |
| Course activities and design: **(from CCOG)** | **The course will be taught through structured training activities using computers and Mastercam CAD/CAM software to reach the defined outcomes.** |
| Outcomes assessment strategies:  **(from CCOG)** | 1. **PRACTICE - Completion of tasks and projects identified in the course outline with an emphasis on creation of correct geometry and output of correct file formats.** 2. **LAB ACTIVITIES - Participation in both structured and student selected laboratory exercises with the emphasis on developing skills or increasing expertise in the areas of study identified in the course outline.** 3. **FINAL ASSESSMENT - An assessment in the form of a written exam and/or practical application that addresses the subject areas identified in the course outline.** |
| Course Content: Themes, Concepts, Issues and Skills: (**from CCOG they should be connected to the outcomes)** | **Skills from this course will be the ability to use Mastercam at a basic level to draw parts in wireframe format, use basic solid modeling techniques in conjunction with the wireframe skills, and convert or output data in a variety of formats for future manufacture of a part or product. This is a short term class to expose the user to this technology.** |

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| Section #2 Function of the new course within an existing and/or new program(s) | | |
| New CTE courses must be attached to a degree and/or certificate. They cannot be offered until the degree or certificate is approved. Please answer below, as appropriate. | | |
| Rationale for the new course. | Recommended by MMT Industrial Advisory Committee. The course focuses on giving the student a fundamental understanding of how to use the software in a short time span. | |
| Will this new course be part of an existing, currently approved PCC certificate and/or degree? | | X Yes  No |
| Name of certificate(s): |  | # credit: |
| Name of degree(s): | AAS Machine Manufacturing Technology | # credit: 90 |
| Will this new course be part of a new, proposed PCC certificate or degree? | | Yes  X No |
| Name of new certificate(s): |  | # credit: |
| Name of new degree(s): |  | # credit: |
| Briefly explain how this course fits into the above program(s), i.e. requirement or elective: | This will be an elective course within the program. |  |

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| Is this course used to supply related instruction for a certificate? | Yes  X No |
| If **no** is selected continue to part three.  If **yes** is selected complete the related instruction form available on the curriculum office website, www.pcc.edu/curriculm. | |

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| Section #3 Additional Information for new CTE courses | |
| How or where will the course be taught. Check all that apply | X on campus  hybrid  on-line (complete DL Modality form, obtain signature and submit to the DL office)  other (explain) |
| Transferability: Will this course transfer to another academic institution? Identify | Possibly.  To OIT’s Manufacturing Engineering Technology BS degree as a technical elective. |
| Impact on other Programs and Departments | |
| Are there degrees and/or certificated that are affected by the instruction of this course? If so, provide details. | No |
| Are there similar courses existing in other programs or disciplines at PCC? If yes, provide details and/or describe the nature of acknowledgments and/or agreements that have been reached. | No |
| Identify and consult with SAC chairs who may be impacted by this course such as content overlap, course duplication, prerequisite, enrollment, etc. | |
| If yes, explain and/or describe the nature of acknowledgments and/or agreements that have been reached | None |
| Is there any potential impact on another department of campus? | |
| If yes, explain and/or describe the nature of acknowledgments and/or agreements that have been reached | No |
| Implementation term: | X Next available term after approval  Specific term: |
| Allow 3-4 months to complete the new course approval process before the course can be scheduled. | |

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| Section # 4 Department Review | | |
| This proposal has be reviewed at the SAC level and approved for submission. | | |
| SAC Chair | Email | Date |
| Joe Huddleston | Joe.huddleston@pcc.edu |  |
| SAC Admin Liaison | Email | Date |
| Daniel E Findley | dfindley@pcc.edu |  |