Course Edit Proposal

For delivery to the Oregon Coast Community College Instructional Leadership Team (ILT).

Course information can be found in the online Oregon Coast Community College catalog, and the full Course Content and Outcomes Guides (CCOGs) can be requested from the Department of Academics and Workforce. Substantial changes may require submission of the New Course Proposal form.

Course to be changed:

Course Number: *Math 252*

Course Title: *Calculus II*

Is this course currently a pre- or co-requisite for another course: *No*

If yes, list all relevant courses: *N/A*

What programs/certificates include this course, if any: *This course fulfills the following GE requirements: Science, Math, Computer Science/ASOT-B, Science, Math, Computer Science/AS, Science, Math, Computer Science/AAS, Science, Math, Computer Science/AGS, Science, Math, Computer Science/AAOT.*

Does this course require a special additional fee: *No*

Does this course satisfy a General Education or Cultural Literacy requirement (list): *No*

Requested Change:

- ☐ Course number
- ☐ Course title
- ■ Credit Hours
- ■ Contact Hours
- ☐ Pre-Requisites
- ☐ Co-Requisites
- ■ Description
- ☐ Outcomes
- ☐ Assessment Strategies
- ☐ Grading Option
- ☐ Gen Ed Requirement
- ☐ Fees
- ☐ Other

Detail your changes:

Course Number: MTH 252
Course Title: Calculus II

Credit Hours: 5
Lecture Hours: 55
Lecture/Lab Hours: 0
Lab Hours: 0

Course Description
Includes antiderivatives, the definite integral, topics of integration, improper integrals, and applications of differentiation and integration. Graphing technology is required, such as Desmos and/or GeoGebra, which are available at no cost.

This class is a foundational course for many STEM majors. Some topics are of particular importance for students continuing into MTH 253 including: using L'Hospital's rule to evaluate limits, improper integrals, and error estimates for definite integrals. Students may be taking this course concurrently with calculus based physics courses. It can be beneficial for these students if the integral symbol is introduced early on to represent anti-derivatives. Partial fractions are a particularly important technique for engineering students (which will be revisited in MTH 253 and MTH 256). Students should be able to do simple partial fraction expansions by hand, but may use the "expand" command on their CAS for more complicated problems. Because this course is also a pre-requisite for MTH 261, logic and correct application of theorems should be emphasized.

~~Lab time shall be used by students to work on group activities.~~
~~Effective Summer 2018~~, Students will ~~no longer~~ not be required to have physical graphing calculators in MTH 252. Where physically possible instructors will demonstrate using Desmos, GeoGebra, or other online programs in class. Assessments requiring the use of a graphing calculator will be done outside of the proctored exam grade component.

What is the need and impact of these course changes:

These changes were made by PCC and unfortunately we were never able to run the class as intended because of the hours needed. This change makes the entire Calculus sequence the same credits for each class and lines up with how other colleges run the sequence.

Academic year and term course change intended to go into effect:

Year: *2021* ☐ Fall ☐ Winter ■ Spring ☐ Summer

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Proposer/s Name/s:

Alison Williams

Department: *Math*

Date of Submission: *11/20/20*

See curriculum webpage for process flowchart, deadlines calendar, and General Education Philosophy Statement and definitions. Any additional questions can be sent to officeofinstruction@oregoncoastcc.org.