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 254*

Course Title: *Vector Calculus I*

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

Other

Detail your changes:

Course Number: MTH 254
Course Title: Vector Calculus I
Credit Hours: 5
Lecture Hours: 55
Lecture/Lab Hours: 0
Lab Hours: 0

Course Description includes multivariate and vector-valued functions from a graphical, numerical, and symbolic perspective. Applies integration and differentiation of both types of functions to solve real world problems.

Prerequisites: MTH 253 and (WR 115 and RD 115) or IRW 115 or equivalent placement. Audit available.

Math 254 Course Outcomes
Upon successful completion students should be able to:

1. Analyze real world scenarios to recognize when partial derivatives or multiple integrals of multivariate and vector valued functions are appropriate, formulate problems about the scenarios, creatively model these scenarios (using technology, if appropriate) in order to solve the problems using multiple approaches, judge if the results are reasonable, and then interpret and clearly communicate the results.
2. Recognize partial derivative and multiple integral concepts that are encountered in the real world, understand and be able to communicate the underlying mathematics involved to help another person gain insight into the situation.
3. Work with partial derivatives and multiple integrals in various situations and use correct mathematical terminology, notation, and symbolic processes in order to engage in work, study, and conversation on topics involving partial derivatives and multiple integrals with colleagues in the field of mathematics, science or engineering.

What is the need and impact of these course changes:

We are looking to expand our STEM offerings in our department to better support the transfer/degree needs of our students.

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

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

Contact Email: *alison.williams@oregoncoastcc.org*

Proposer/s Name/s:

Alison Williams

Department: *Math*

Date of Submission: *11/5/20*

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.