

## UMBC UGC Change in Existing Course: BIOL 456 Plant Molecular Biology

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Proposed Effective Date: Spring 2016

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**COURSE INFORMATION:** (please provide all information in the "current" column, and only the information changing in the "proposed" column)

change		current	proposed
<input type="checkbox"/>	Course Number(s)	BIOL 456	
<input type="checkbox"/>	Formal Title	Plant Molecular Biology	
<input type="checkbox"/>	Transcript Title (≤30c)	Plant Molecular Biology	
<input checked="" type="checkbox"/>	Recommended Course Preparation	You must have completed BIOL 303 with a grade of "C" or better.	
<input checked="" type="checkbox"/>	Prerequisite <b>NOTE:</b> Unless otherwise indicated, a prerequisite is assumed to be passed with a "D" or better.		You must have completed BIOL 302 and BIOL 303 with a grade of "C" or better.
<input type="checkbox"/>	Credits	4.00	
<input type="checkbox"/>	Repeatable?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/>	Max. Total Credits	4.00	<b>Max. Total Credits:</b> This should be equal to the number of credits for courses that cannot be repeated for credit. For courses that may be repeated for credit, enter the maximum total number of credits a student can receive from this course. E.g., enter 6 credits for a 3 credit course that may be taken a second time for credit, but not for a third time. Please note that this does NOT refer to how many times a class may be retaken for a higher grade.
<input type="checkbox"/>	Grading Method(s)	<input checked="" type="checkbox"/> Reg (A-F) <input type="checkbox"/> Audit <input type="checkbox"/> Pass-Fail	<input type="checkbox"/> Reg (A-F) <input type="checkbox"/> Audit <input type="checkbox"/> Pass-Fail

### CURRENT CATALOG DESCRIPTION:

This course is focused on exploring the molecular mechanisms underlying plant physiology and development and is designed to foster interactive learning. The course begins with a brief review of some important principles and techniques in Molecular Biology and Genetics. A session focusing on familiarizing students with multiple bioinformatics tools via a comprehensive group project is followed. Then the course pursues in depth several topics, such as meristems, flower and embryo development, the circadian clock, signal transduction of environmental cues, hormonal regulation of gene expression and development, host-pathogen interactions, applications of genetic engineering, and other current/hot topics. Molecular genetic approaches using model plant systems are stressed throughout the course.

**PROPOSED CATALOG DESCRIPTION** (no longer than 75 words): leave blank if no changes are being proposed to the catalog description. NOTE: information about prerequisites should NOT appear in the catalog description.)

### RATIONALE FOR CHANGE

"The BIOL core courses are in a sequence BIOL 141-> BIOL 142 -> BIOL 302 -> BIOL 303, with BIOL 303 serving as a capstone course for the Biology core. The curriculum was designed such that only after completing this course and showing mastery of the core course content, would students move on in the major and take 400 level courses. However, we have a number of 400 level courses offered that do not explicitly require the content of BIOL 303 for student success in the course and therefore do not currently have it listed as an academic prerequisite. Some students have been taking

these courses before completing BIOL 303 and the core, and some of these students have gone on to fail BIOL 303 two times, showing that they do not have mastery of the material and perhaps should be in another major. We would like to make BIOL 303 a prerequisite for all of our 400 level courses, regardless of content, to make this maneuver impossible. We prefer students to show they should be in the major before taking these upper level courses.”