MOLECULAR, CELLULAR, AND GENOMIC BOTANY OPTION

This option is offered within the following major(s):

- Botany - College of Agricultural Sciences (http://catalog.oregonstate.edu/college-departments/agricultural-sciences/botany-plant-pathology/botany-bs-hbs/)

The option in Molecular, Cellular, and Genomic Botany (MCG) is designed for Botany undergraduates with career interests in molecular, cellular and genomic biology, by providing a curriculum that provides them with specialized knowledge and skills for work and graduate school.

Option Code: 935

In addition to the general Botany curriculum, the MCG option requires 6 credits of advanced background courses in biochemistry and bio-computing (list A); a choice of two advanced BOT courses in plant genomics and biochemistry (6–7 credits) (list B); and a choice of 3 courses (9 credits) drawn from a menu of advanced BOT, BI, BB courses in cell biology, molecular biology and genomics (lists B and C). To encourage students in the option to learn actively and obtain practical skills, up to 3 credits of approved Experiential Learning can be applied to the option. Other courses may be substituted for list C with approval of a BOT advisor. The required course, BOT 476, can also be used to fulfill the major requirement for 'additional quantitative skills'. The core course requirements of the BOT major are not changed by doing the option, and no additional course credits are required to complete it.

Code	Title	Credits
A. Required Background Courses		
BB 451	GENERAL BIOCHEMISTRY (BB 450 is a pre-requisite)	3
BOT 476	INTRODUCTION TO COMPUTING IN THE LIFE SCIENCES	3
B. Select at least two Advanced Plant Molecular, Cellular, and Genomic Botany (MCG) from the following:		6-7
BOT 458	ECOSYSTEMS GENOMICS	
BOT 460	FUNCTIONAL GENOMICS	
BOT 475	COMPARATIVE GENOMICS	
BOT 480	PHOTOSYNTHESIS AND PHOTOBIOLOGY	
C. Select at least 9 credits of Advanced General Molecular & Cellular Biology (MCB) from the following:		9
BB 315/BI 315	MOLECULAR BIOLOGY LABORATORY	
or BB 493	BIOCHEMISTRY LABORATORY MOLECULAR TECHNIQUES 1	
BB 460	ADVANCED CELL BIOLOGY	
BB 484	CHROMATIN AND EPIGENETICS	
BB 486	ADVANCED MOLECULAR GENETICS	
Another BOT class from the 'B list'		
Up to 3 credits of approved Experiential Learning		
Other courses with advisor approval		
Total Credits		21-22

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