

MBB Major Course Checklist

Name _____ Class _____

Course	Credit	Grades
FIRST YEAR		
General Biology (119:101,102)	4,4	_____
Intro. To Research (694:215) if Honors student w AP Biology		
General Chemistry (160:161,162 or 163,164)	4,4	_____
Intro to Experimentation (160:171)	1	_____
Calculus (640:151,152-rec or 135,138), or other Calc I & II	4,4	_____
Basic Statistics (960:401) can be substituted for Calc II		
SECOND YEAR		
Genetics (447:380) [Sp, Su, Fa]	4	_____
Organic Chemistry (160:315, 316-rec or 307, 308)	4,4	_____
Organic Chemistry Lab (160:309-rec or 311)	2	_____
General Physics (750:203,204)	3,3	_____
General Physics Lab (750:205,206)	1,1	_____
Course Option I: Calculus III (640:251) [Sp, Su, Fa]	4	_____
MBB Research- (encouraged but optional) (694:281,282)	_____	_____
THIRD YEAR		
Molecular Biology & Biochemistry (694:407,408)	3,3	_____
Introduction MBB Lab (694:315) [Sp] (694:215 can substitute)	3	_____
MBB or DLS Elective (optional) (see list below)	_____	_____
MBB Research (encouraged but optional) (694:381,382)	_____	_____
FOURTH YEAR		
MBB Research (required) (694:481,482 or 495,496)	_____	_____
MBB Seminar (694:483,484)	1,1	_____
Course Option I: Physical Chemistry (160:341/342 or 327/328)	3,3	_____
and One MBB elective (see list below)	3	_____
Course Option II: two MBB <u>and</u> one MBB or DLS elective	3,3	_____
	3	_____

MBB ELECTIVE CLASSES:

- 694:411 Molecular Pathways (Fall)
- 694:412 Proteomics & Structural Genomics (Spring)
- 694:413 Chromatin and Epigenomics: The science of chromatin modifications in development and disease (Fall)
- 694:492 Molecular Biology of Gene Regulation & Development (Spring)

Division of Life Sciences Elective Courses: MBB students choosing Course Option II (no Physical Chemistry) may choose a 400 level Elective Course offered by the Department of Genetics (447) or Cell Biology and Neuroscience (146) in the Division of Life Sciences that will count towards the MBB major. Some of the suggested DLS elective courses are shown below. A full list of the DLS courses can be found at <http://biology.rutgers.edu/synopses.htm>

- [146:474](#) Immunology (Sp, Su)
- [146:470](#) Adv. Cell Bio. - Note: MBB 694:407 replaces prereq Intro Cell Bio
- [146:472](#) Adv. Dev. Bio. - Note: MBB 694:407 replaces prereq Intro Cell Bio
- [146:445](#) Adv. Neurobiology. - Must take 146:245 Fund. Neurobiology., which does not count as MBB elective, to get into 146:445 which does count.
- [447:495](#) Cancer (Fa)
- 447:420 Evolutionary Genetics: Humans and other Primates
- 447:451 Genomes
- 447:460 Genetics of Compulsive Behavior
- 447:481 Topics in Human Genetics
- 447:484 Behavioral & Neural Genetics
- 447:486 Evolutionary Genetics

RESEARCH REQUIREMENTS:

LAB OPTION I students need a total of 12 credits of research

LAB OPTION II students need only 6 credits of research and must take one additional MBB elective.

NON-LAB OPTION: Non-lab students must take 694:490-492] Literature Research in MBB, 6 credits.

All students doing research must submit a paper to the department office describing the work done, before credit will be given.

- 694:381-2 Undergrad. research (usually Lab Option I) (3-6 credits) _____
- 694:481-2 Adv. Undergrad. research, non-honors (3-6 credits) _____
- 694:495-6 MBB honors, two semesters, 6 credits each _____

Students are able to take either of the three Lab Options with both Course Option I and Course Option II. The number of electives required for the different combination of the Course and Lab Options is shown in the table below.

	Course Option I (Calc III & P. Chem)	Course Option II (MBB electives)
Lab Option I (12 or more credits)	1 MBB Elective	2 MBB Electives & 1 MBB or DLS Elective
Lab Option II (6-11 credits)	2 MBB Electives	3 MBB Electives & 1 MBB or DLS Elective