

# Biology

## Associate of Science

Effective beginning Academic Year 2019-20 (Last revised June 6, 2019)

GENERAL EDUCATION REQUIREMENTS/OHIO TRANSFER MODULE		Course Number	Credit Hours
ENGLISH COMPOSITION AND ORAL COMMUNICATION:			3-4
Course 1:	Any OTM approved First Writing (TME001) course	ENG 111 or ENG 111P	3-4
MATHEMATICS, STATISTICS, AND LOGIC:			5
Course 1:	Calculus I (TMM005) <sup>1</sup>	MTH 180	5
ARTS AND HUMANITIES:			6
+ Course 1:	Any OTM approved Arts and Humanities course	HUM 275	3
+ Course 2:	Any OTM approved Arts and Humanities course	OTM Elective (see list on last page)	3
SOCIAL AND BEHAVIORAL SCIENCES:			6
+ Course 1:	Any OTM approved Social and Behavioral Sciences course [Introduction to Psychology (OSS015) recommended for pre-medicine]	PSY 101	3
+ Course 2:	Any OTM approved Social and Behavioral Sciences course [Introduction to Sociology (OSS021) recommended for pre-medicine]	SOC 101 or SOC 220	3
NATURAL SCIENCES:			10
Course 1:	General Chemistry I with lab (OSC008)	CHM 121	5
Course 2:	General Chemistry II with lab (OSC009)	CHM 122	5
ADDITIONAL CREDITS: <sup>2</sup>			8
Course 1:	Any OTM approved Second Writing (TME002) course	ENG 112 or HON 201	3
Courses:	Up to 7 additional hours of OTM approved courses	MTH 175	5
GENERAL EDUCATION/OHIO TRANSFER MODULE TOTAL:			38-39

**Advising Notes:**

Where it indicates "Any OTM approved," students should work closely with their advisors.

(+) indicates that the courses chosen should be from two different areas within that category.

<sup>1</sup> A prerequisite, such as College Algebra (TMM001), may be needed for a student to reach Calculus I (TMM005). The math requirement may vary by institution, and students planning to pursue a Bachelor of Arts in Biology may only need Pre-Calculus (TMM002). Check with your academic advisor and your receiving institution to determine the appropriate mathematics course.

<sup>2</sup> Due to the variability across institutions, students should work with their academic advisor to determine an appropriate program of study and appropriate amount of additional credits to satisfy the OTM.

### SPECIAL NOTES

Students with plans of pursuing a pre-professional or graduate studies track in the future should work closely with their academic advisor and receiving institution starting in the first year of their program in order to adequately prepare themselves for those types of tracks. Some pre-professional degrees include pre-medicine, pre-veterinary, pre-law, and pre-dentistry.

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PRE-MAJOR/BEGINNING MAJOR		Course Number	Credit Hours
Course 1:	Biology I (OSC003)	BIO 201	5
Course 2:	Biology II (OSC004)	BIO 202	5
Course 3:	Calculus-based Physics I with lab (OSC016) or Algebra-based Physics I with lab (OSC014) or biology course <sup>1</sup>	PHY 221 or PHY 201	5
<b>PRE-MAJOR/BEGINNING MAJOR TOTAL:</b>			<b>15</b>
Advising Notes: <sup>1</sup> The amount and type of physics (calculus or non-calculus-based) required in the biological sciences varies from institution to institution. Many institutions require at least one semester of physics, others none. If physics is not a program requirement, an appropriate biology course should be selected with the guidance of your academic advisor. Please consult with your academic advisor and your receiving institution within the first year of study to determine an appropriate course of study.			

OTHER REQUIREMENTS		Course Number	Credit Hours
Courses 1 and 2:	Full-Year Sequence of Organic Chemistry with lab (OSC010) <sup>1</sup> [Not required but highly recommended for pre-medicine]	CHM 201 CHM 202	10
Electives:	General Electives as needed (May include FYE or Orientation course) <sup>2</sup>	Varies	0-1
<b>OTHER REQUIREMENTS TOTAL:</b>			<b>10-11</b>
Advising Notes: <sup>1</sup> The statewide transfer guarantee applies to the full-year sequence. All non-sequence coursework will be reviewed on a course-by-course basis by the receiving institution for transfer and application to the major. Not all institutions require Organic Chemistry, although it may be required for students who are pre-medicine. Consult with your academic advisor and your receiving institution. <sup>2</sup> Certain institutions may require two semesters or more of foreign language for Bachelor of Arts and Bachelor of Science degrees. If so, foreign language should be taken – check with your receiving institution. Additional recommended pre-major/major coursework may include courses in cell biology, microbiology, or genetics. Consult with your academic advisor and your receiving institution to determine an appropriate program of study.			

ASSOCIATE DEGREE	Total Credit Hours
<b>ASSOCIATE DEGREE TOTAL:</b>	<b>63-65</b>

SPECIAL NOTES
<p>Some bachelor-degree granting programs may be competitive and admission into the program is not guaranteed. Students should check with individual institutions for their program admission requirements.</p> <p>Some bachelor-degree granting institutions require additional general education courses outside of the Ohio Transfer Module and students may be required to take these courses in their junior or senior year. Students will still be able to follow this pathway and complete their bachelor's degree in approximately 60 additional credit hours.</p> <p>For additional information, please contact:            Owens Science Department            majid_sawtarie@owens.edu            (567) 661-7770            www.owens.edu</p>

### SAMPLE DEGREE MAP

#### FIRST YEAR

SEMESTER 1		SEMESTER 2	
Course Name & Number	Credit Hours	Course Name & Number	Credit Hours
BIO 201 General Biology I	5	BIO 202 General Biology II	5
CHM 121 General Chemistry I	5	CHM 122 General Chemistry II	5
ENG 111 Composition I or ENG 111 Composition I Plus	3-4	ENG 112 Composition II or HON 201 Interpretations Seminar	3
PSY 101 General Psychology	3	SOC 101 Sociology or SOC 220 Multicultural Diversity	3
<b>Total Semester 1 Credit Hours</b>	<b>16-17</b>	<b>Total Semester 2 Credit Hours</b>	<b>16</b>

#### SECOND YEAR

SEMESTER 3		SEMESTER 4	
Course Name & Number	Credit Hours	Course Name & Number	Credit Hours
CHM 201 Organic Chemistry I	5	CHM 202 Organic Chemistry II	5
MTH 175 Pre-Calculus	5	MTH 180 Calculus I	5
OTM Arts and Humanities Elective	3	PHY 201 General Physics I	5
HUM 275 World Religions	3	Elective	0-1
<b>Total Semester 3 Credit Hours</b>	<b>16</b>	<b>Total Semester 4 Credit Hours</b>	<b>15-16</b>

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### OHIO TRANSFER MODULE AND GENERAL EDUCATION ELECTIVES

Please work closely with your advisor when selecting courses.

OTM ARTS AND HUMANITIES	Course Number	Credit Hours
Art Appreciation	ART 101	3
History of Western Art	ART 105	3
Introduction to Literature	ENG 200	3
Introduction to Fiction	ENG 210	3
American Multicultural Lit	ENG 215	3
Introduction to Poetry	ENG 220	3
Women in Literature	ENG 225	3
American Literature I	ENG 266	3
American Literature II	ENG 267	3
World Civilization I	HIS 151	3
World Civilization II	HIS 152	3
Amer History I (Begin to 1877)	HIS 201	3
Amer Hist II (1877 - Present)	HIS 202	3
World War II	HIS 250	3
History of Women in America	HIS 270	3
Intro to the Humanities	HUM 100	3
World Religions	HUM 275	3
Music Appreciation	MUS 101	3
Survey of Jazz Styles	MUS 102	3
History of Popular Music	MUS 103	3
Music of World Cultures	MUS 105	3
Music History I	MUS 201	3
Music History II	MUS 202	3
Intro to Philosophy	PHL 101	3
Principles of Ethics	PHL 102	3
Introduction to Film	THE 261	3