UNIVERSITY OF SAINT MARY FOUR-YEAR ACADEMIC PLAN

BIOLOGY

This four-year plan is valid according to the USM Undergraduate Catalog only and is subject to change. This guide is merely a recommendation. Your actual program may vary. Other factors may impact your time to degree and course sequencing. See the current USM Undergraduate Catalog at **http://www.stmary.edu/catalog** for more information, including USM academic policies, curriculum, pre-requisites, and course information.

Sample Four Year Plan for a Biology Major for students entering USM with a Mathematics ACT subscore of 19-24

Note: students should consult a member of the Biology Program faculty early on in their education so that a plan can be specifically tailored for the student.

This will allow the Biology Program faculty to take account of:

- the mathematical competency of the student, which will determine if certain courses can be taken in the students' freshman year or not
- any AP courses, dual credit or college credit courses taken already which will allow certain courses in the sample plan to be omitted

It should be noted that many science courses have pre-requisites. Additionally, some are taught only every two years.

A student's individual interests can be catered for with specific elective courses, and such interests are best discussed with the Biology Program faculty. For some specific pre-professional health program requirements, see notes below.

For students entering in an EVEN year:

Freshman Year	
Fall Even	**Spring Odd**
BI 115 Ecology (3)	BI 212 Diversity of Plants and Animals (3)
GE 114 First Year Experience I (3)	GE 115 First Year Experience II (3)
EN 111 English Composition I (3)	EN 112 English Composition II (3)
MA 115 Intermediate Algebra (3)	MA 210 College Algebra (3)
Gen Ed elective, Theology course (3)	Gen Ed elective, Theology course (3)

Sophomore Year	
Fall Odd	**Spring Even**
CH 121 General Chemistry I (4)	CH 122 General Chemistry II (4)
Gen Ed elective, Philosophy course (3)	Gen Ed elective, History course (3)
SCA 242 Lifetime Wellness (3)	**BI 265 Basic Microbiology (4)**
BI 311 Evolution (3) IS	**BI 312 Biotechnology (3)**

Junior Year	
Fall Even	**Spring Odd**
BI 220 Cell Biology (4)	BI 445 Genetics (4)
CH 330 Organic Chemistry I (4)*	BICH 461 Biochemistry Lecture (3)**
Gen Ed elective, Literature course (3)	Gen Ed elective, Fine Arts course (3)
BI 258 Human Anatomy & Physiology I (5)	**BI 259 Human Anatomy & Physiology II (5)**
BINU 370 Nutrition (3)	**BI 305 Environmental Problems (3)**
BI 265 Basic Microbiology (4)	**BI 265 Basic Microbiology (4)**

Senior Year	
Fall Odd	**Spring Even**
BI 595 Biology Seminar (1)	PHY 216 Physics II (4)
NS 597 Science and Society Seminar (2)	BI 596 Seminar in Ecology & Evolution (1)
PHY 215 Physics I (4)	BI 445 Developmental Biology (4)**
CH 354 Analytical Chemistry (4)*	Gen Ed elective, Social Science course (3)
Gen Ed elective, Behavioral Science course (3)	**BI 259 Human Anatomy & Physiology II (5)**
BI 258 Human Anatomy & Physiology I (5)	**BI 415 Immunology (3)**
BI 311 Evolution (3) IS	**BI 265 Basic Microbiology (4)**
BI 265 Basic Microbiology (4)	**BI 312 Biotechnology (3)**

Courses in bold may be taken as biology electives. A total of 30 hours of biology are required. If Biochemistry Lecture is chosen over Developmental Biology, students need 1 more upper level biology hour to meet the requirement of 12 upper level biology hours for the major.

***Only one of these courses – Organic Chemistry I and Analytical Chemistry - is required for the Biology major. Students should consult Chemistry Program faculty for advice as to which course to take.**

****Only one of these two courses - Developmental Biology and Biochemistry Lecture - is required for the Biology major. Students should consult Biology Program faculty for advice as to which course to take.**

A total of 4 Idea Seminars and 1 Cultural Studies courses are required.

For students entering in an ODD year:

Freshman Year	
Fall Odd	**Spring Even**
BI 115 Ecology (3)	BI 212 Diversity of Plants and Animals (3)
GE 114 First Year Experience I (3)	GE 115 First Year Experience II (3)
EN 111 English Composition I (3)	EN 112 English Composition II (3)
MA 115 Intermediate Algebra (3)	MA 210 College Algebra (3)
Gen Ed elective, Theology course (3)	Gen Ed elective, Theology course (3)

Sophomore Year	
Fall Even	**Spring Odd**
CH 121 General Chemistry I (4)	CH 122 General Chemistry II (4)
Gen Ed elective, Philosophy course (3)	Gen Ed elective, History course (3)
SCA 242 Lifetime Wellness (3)	**BI 265 Basic Microbiology (4)**
	BI 305 Environmental Problems (3)

Junior Year	
Fall Odd	**Spring Even**
BI 220 Cell Biology (4)	BI 445 Developmental Biology (4)**
CH 330 Organic Chemistry I (4)* OR CH 354 Analytical Chemistry (4)	Gen Ed elective, Fine Arts course (3)
Gen Ed elective, Literature course (3)	**BI 259 Human Anatomy & Physiology II (5)**
BI 258 Human Anatomy & Physiology I (5)	**BI 265 Basic Microbiology (4)**
BI 311 Evolution (3) IS	**BI 415 Immunology (3)**
BI 265 Basic Microbiology (4)	**BI 312 Biotechnology (3)**

Senior Year	
Fall Even	**Spring Odd**
BI 595 Biology Seminar (1)	PHY 216 Physics II (4)
NS 597 Science and Society Seminar (2)	BI 596 Seminar in Ecology & Evolution (1)
PHY 215 Physics I (4)	BI 445 Genetics (4)
Gen Ed elective, Behavioral Science course (3)	BICH 461 Biochemistry Lecture (3)**
BI 258 Human Anatomy & Physiology I (5)	Gen Ed elective, Social Science course (3)
BINU 370 Nutrition (3)	**BI 259 Human Anatomy & Physiology II (5)**
BI 265 Basic Microbiology (4)	**BI 265 Basic Microbiology (4)**
	BI 305 Environmental Problems (3)

Courses in bold may be taken as biology electives. A total of 30 hours of biology are required. If Biochemistry Lecture is chosen over Developmental Biology, students need 1 more upper level biology hour to meet the requirement of 12 upper level biology hours for the major.

***Only one of these courses – Organic Chemistry I and Analytical Chemistry - is required for the Biology major. Students should consult Chemistry Program faculty for advice as to which course to take.**

****Only one of these two courses - Developmental Biology and Biochemistry Lecture - is required for the Biology major. Students should consult Biology Program faculty for advice as to which course to take.**

A total of 4 Idea Seminars and 1 Cultural Studies courses are required.

Sample Four Year Plan for a Biology Major for students entering USM with a Mathematics ACT subscore of 25 and above

Note: students should consult a member of the Biology Program faculty early on in their education so that a plan can be specifically tailored for the student.

This will allow the Biology Program faculty to take account of:

- the mathematical competency of the student, which will determine if certain courses can be taken in the students' freshman year or not
- any AP courses, dual credit or college credit courses taken already which will allow certain courses in the sample plan to be omitted

It should be noted that many science courses have pre-requisites. Additionally, some are taught only every two years.

A student's individual interests can be catered for with specific elective courses, and such interests are best discussed with the Biology Program faculty. For some specific pre-professional health program requirements, see notes below.

For students entering in an EVEN year:

Freshman Year	
Fall Even	**Spring Odd**
BI 115 Ecology (3)	BI 212 Diversity of Plants and Animals (3)
GE 114 First Year Experience I (3)	GE 115 First Year Experience II (3)
EN 111 English Composition I (3)	EN 112 English Composition II (3)
CH 121 General Chemistry I (4)	CH 122 General Chemistry II (4)
MA 210 College Algebra (3)	Gen Ed elective, Theology course (3)
	BI 265 Basic Microbiology (4)

Sophomore Year	
Fall Odd	**Spring Even**
BI 220 Cell Biology (4)	Gen Ed elective, Philosophy course (3)
CH 330 Organic Chemistry I (4)* OR CH 354 Analytical Chemistry (4)*	Gen Ed elective, History course (3)
Gen Ed elective, Theology course (3)	BI 445 Developmental Biology (4)**
SCA 242 Lifetime Wellness (3)	**BI 265 Basic Microbiology (4)**
BI 265 Basic Microbiology (4)	**BI 312 Biotechnology (3)**
BI 311 Evolution (3) IS	**BI 259 Human Anatomy & Physiology II (5)**
BI 258 Human Anatomy & Physiology I (5)	**BI 415 Immunology (3)**

Junior Year	
Fall Even	**Spring Odd**
Gen Ed elective, Literature course (3)	BI 445 Genetics (4)
PHY 215 Physics I (4)	BICH 461 Biochemistry Lecture (3)**
BI 258 Human Anatomy & Physiology I (5)	PHY 216 Physics II (4)
BINU 370 Nutrition (3)	Gen Ed elective, Fine Arts course (3)
BI 265 Basic Microbiology (4)	**BI 259 Human Anatomy & Physiology II (5)**
	BI 305 Environmental Problems (3)
	BI 265 Basic Microbiology (4)

Senior Year	
Fall Odd	**Spring Even**
BI 595 Biology Seminar (1)	BI 596 Seminar in Ecology & Evolution (1)
NS 597 Science and Society Seminar (2)	BI 445 Developmental Biology (4)**
BI 258 Human Anatomy & Physiology I (5)	Gen Ed elective, Social Science course (3)
BI 265 Basic Microbiology (4)	**BI 259 Human Anatomy & Physiology II (5)**
BI 311 Evolution (3) IS	**BI 415 Immunology (3)**
	BI 265 Basic Microbiology (4)
	BI 312 Biotechnology (3)

Courses in red may be taken as biology electives. A total of 30 hours of biology are required. If Biochemistry Lecture is chosen over Developmental Biology, students need 1 more upper level biology hour to meet the requirement of 12 upper level biology hours for the major.

***Only one of these courses – Organic Chemistry I and Analytical Chemistry - is required for the Biology major. Students should consult Chemistry Program faculty for advice as to which course to take.**

****Only one of these two courses - Developmental Biology and Biochemistry Lecture - is required for the Biology major. Students should consult Biology Program faculty for advice as to which course to take.**

Note: Students can take Developmental Biology either in their sophomore or senior year.

A total of 4 Idea Seminars and 1 Cultural Studies courses are required.

For students entering in an ODD year:

Freshman Year	
Fall Odd	**Spring Even**
BI 115 Ecology (3)	BI 212 Diversity of Plants and Animals (3)
GE 114 First Year Experience I (3)	GE 115 First Year Experience II (3)
EN 111 English Composition I (3)	EN 112 English Composition II (3)
MA 210 College Algebra (3)	CH 122 General Chemistry II (4)
CH 121 General Chemistry I (4)	Gen Ed elective, Theology course (3)
	BI 265 Basic Microbiology (4)

Sophomore Year	
Fall Even	**Spring Odd**
BI 220 Cell Biology (4)	BI 445 Genetics (4)
CH 330 Organic Chemistry I (4)*	BICH 461 Biochemistry Lecture (3)**
SCA 242 Lifetime Wellness (3)	Gen Ed elective, Philosophy course (3)
Gen Ed elective, Theology course (3)	Gen Ed elective, History course (3)
BI 258 Human Anatomy & Physiology I (5)	**BI 258 Human Anatomy & Physiology I (5)**
BI 265 Basic Microbiology (4)	**BI 265 Basic Microbiology (4)**
BINU 370 Nutrition (3)	**BI 305 Environmental Problems (3)**

Junior Year	
Fall Odd	**Spring Even**
CH 354 Analytical Chemistry (4)*	BI 445 Developmental Biology (4)**
PHY 215 Physics I (4)	PHY 216 Physics II (4)
Gen Ed elective, Literature course (3)	Gen Ed elective, Fine Arts course (3)
BI 258 Human Anatomy & Physiology I (5)	**BI 259 Human Anatomy & Physiology II (5)**
BI 311 Evolution (3) IS	**BI 265 Basic Microbiology (4)**
BI 265 Basic Microbiology (4)	**BI 415 Immunology (3)**
	BI 312 Biotechnology (3)

Senior Year	
Fall Even	**Spring Odd**
BI 595 Biology Seminar (1)	BI 445 Genetics (4)
NS 597 Science and Society Seminar (2)	BICH 461 Biochemistry Lecture (3)**
Gen Ed elective, Behavioral Science course (3)	BI 596 Seminar in Ecology & Evolution (1)
BI 258 Human Anatomy & Physiology I (5)	Gen Ed elective, Social Science course (3)
BI 265 Basic Microbiology (4)	**BI 259 Human Anatomy & Physiology II (5)**
BINU 370 Nutrition (3)	**BI 265 Basic Microbiology (4)**
	BI 305 Environmental Problems (3)

Courses in red may be taken as biology electives. A total of 30 hours of biology are required. If Biochemistry Lecture is chosen over Developmental Biology, students need 1 more upper level biology hour to meet the requirement of 12 upper level biology hours for the major.

***Only one of these courses – Organic Chemistry I and Analytical Chemistry - is required for the Biology major. Students should consult Chemistry Program faculty for advice as to which course to take.**

****Only one of these two courses - Developmental Biology and Biochemistry Lecture - is required for the Biology major. Students should consult Biology Program faculty for advice as to which course to take.**

Note: Students can take Genetics and Biochemistry Lecture either in their sophomore or senior year.

A total of 4 Idea Seminars and 1 Cultural Studies courses are required