# TROY UNIVERSITY
## College of Arts and Sciences Recommended Academic Plan
### Bachelor of Science in Biology - Program Year 2015-2016

<table>
<thead>
<tr>
<th>Term 1</th>
<th>Term 2</th>
<th>Term 3</th>
<th>Term 4</th>
<th>Term 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENG 1101/03</td>
<td>3</td>
<td>BIO 1100/LAB</td>
<td>3/1</td>
<td>ENG 1102/04</td>
</tr>
<tr>
<td>MTH 1125</td>
<td>4</td>
<td>IS 2241</td>
<td>3</td>
<td>AREA IV LAB</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>7</td>
<td>4</td>
<td><strong>TOTAL</strong></td>
<td>6</td>
</tr>
</tbody>
</table>

**1st Year**

**Fall Semester**
- TROY 1101  1
- BIO 1100/LAB  3/1
- ENG 1102/04  3 |
- MTH 1125  4
- **TOTAL**  15

**Spring Semester**
- AREA IV SS COURSE  3
- BIO 1101/LAB  3/1
- IS 2241  3
- **TOTAL**  13

**Summer Semester**
- Select courses that have not been completed from previous terms or semesters as prerequisite courses or courses to be retaken

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<tbody>
<tr>
<td>CHM 1142/LAB</td>
<td>3/1</td>
<td>AREA II FINE ARTS COURSE</td>
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</tr>
<tr>
<td>AREA II LIT COURSE</td>
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<td>AREA IV SS COURSE</td>
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<tr>
<td>MTH 2210</td>
<td>3</td>
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<td><strong>TOTAL</strong></td>
<td>7</td>
<td>6</td>
<td><strong>TOTAL</strong></td>
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</tbody>
</table>

**2nd Year**

**Fall Semester**
- AREA II LIT COURSE  3
- AREA II FINE ARTS COURSE  3
- MTH 2210  3 |
- CHM 1142/LAB  3/1
- MINOR COURSE  3 |
- **TOTAL**  16

**Spring Semester**
- AREA II LIT COURSE  3
- AREA II FINE ARTS COURSE  3
- MTH 2210  3 |
- CHM 1143/LAB  3/1
- MINOR COURSE  3 |
- **TOTAL**  14

**Summer Semester**
- Select courses that have not been completed from previous terms or semesters as prerequisite courses or courses to be retaken

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</tr>
</thead>
<tbody>
<tr>
<td>AREA V PHYSICS/LAB</td>
<td>3/1</td>
<td>CHM 3342/LAB</td>
<td>3/1</td>
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<tr>
<td>BIO 2229/LAB</td>
<td>3/1</td>
<td>REQ BOTANY ELEC</td>
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<td><strong>TOTAL</strong></td>
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**3rd Year**

**Fall Semester**
- AREA V PHYSICS/LAB  3/1
- CHM 3342/LAB  3/1
- AREA V PHYSICS/LAB  3/1
- BIO 3320/LAB  3/1
- **TOTAL**  16

**Spring Semester**
- AREA V PHYSICS/LAB  3/1
- CHM 3343/LAB  3/1
- REQ ZOOLOGY ELEC  3/1
- **TOTAL**  16

**Summer Semester**
- Select courses that have not been completed from previous terms or semesters as prerequisite courses or courses to be retaken

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<tbody>
<tr>
<td>REQ ECOL/ENV ELEC</td>
<td>3/1</td>
<td>REQ PHY/CELL/MOL ELEC</td>
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</tr>
<tr>
<td>AREA II HUM/FA COURSE</td>
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<td>MINOR COURSE</td>
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<tr>
<td>MINOR COURSE</td>
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</tr>
<tr>
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<td>7</td>
<td><strong>TOTAL</strong></td>
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**4th Year**

**Fall Semester**
- REQ ECOL/ENV ELEC  3/1
- REQ PHY/CELL/MOL ELEC  3/1
- MINOR COURSE  3 |
- AREA IV SS COURSE  3 |
- **TOTAL**  17

**Spring Semester**
- AREA II HUM/FA COURSE  3 |
- APPROVED BIO/LAB ELEC  3/1
- MINOR COURSE  3 |
- **TOTAL**  16

**Summer Semester**
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<td>AREA II HUM/FA COURSE</td>
<td>3</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>MINOR COURSE</td>
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**Total Program 123**
**TROY UNIVERSITY™**

**College of Arts and Sciences Recommended Academic Plan**

**Biology Program-General Biology Program- Program Year 2015-2016**

**Complete All 6 Sub-requirements**

(62 hours)

**A. Area I:**

**Take the following courses:**

- Minimum Grade of "C" required
  - ENG-1101 Comp and Modern English I  
  - ENG-1102 Comp and Modern English II  

3 hours

**B. Area II:**

- Take any 1000-2000 level course in literature  
- Take any 1000-2000 level course with an expanded historical and cultural scope in fine arts, including the disciplines of art, music, theatre, film, or other fine arts area.  
- Take any two 1000-2000 level courses with an expanded historical and cultural scope in the humanities/fine arts disciplines, including English, foreign languages, religion, philosophy, classics, theatre, music, dance, communication, sign language, interdisciplinary studies, or other humanities/fine arts areas.  

3 hours

**C. Area III:**

**Take the following courses:**

- BIO 1100/L100 Principles of Biology W/Lab  
- CHM 1142/L142 General Chemistry I W/Lab  
- Take MTH 1125 Calculus I ("C" or better)  

4 hours

**D. Area IV:**

**Take the following courses:**

- Take any 1000-2000 level course with a primary focus in history  
- Take any three 1000-2000 level course from the following social science disciplines: anthropology, business, criminal justice, economics, geography, history, human services, leadership, interdisciplinary studies, nursing, political science, psychology, religion, social work, sociology, or other social science areas.  

9 hours

**E. Area V:**

**Take the following courses:**

- BIO 1101/L101 Organismal Biology W/Lab  
- CHM 1143/L143 General Chemistry II W/Lab  
- IS 2241 Computer Concepts & Applications  
- TROY 1101 University Orientation  

4 hours

**Area V Continued:**

- Take one Physics sequence:  
  - PHY 2252/Lab General Physics I AND PHY 2253/Lab General Physics II  
  - OR  
  - PHY 2262/Lab General Physics I With Calculus AND PHY 2263/Lab General Physics II With Calculus  

8 hours

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*Every reasonable attempt to ensure accuracy has been made. Some courses (such as developmental or pre-requisite courses) are not reflected in this degree map. Completion of degree requirements is based on the specific catalog year for each student.*

A minimum of 120 hours is required for all baccalaureate degree programs.

At least 50% of required coursework must be earned at a senior institution.

At least 25% of the credit hours required for the degree must be completed in residency with Troy University.

At least 12 semester hours of residency must be completed in each major field(s) of study.

A minimum GPA of 2.0 overall and in the major is required to graduate.

**Note:** Please consult the College of Arts & Sciences or current catalog for other requirements not covered in this document.

**Notes:** A sequence in literature or history is required. When selecting coursework in Areas II or IV, please consider this requirement.
BIOLOGY MAJOR/GENERAL CONCENTRATION  (24 HOURS)

MINIMUM 2.0 OVERALL GPA REQUIRED

TAKE THE FOLLOWING COURSES:

- BIO 2220/L220 PRIN CELL BIOLOGY W/LAB  4 HOURS
- BIO 2229/L229 GENERAL ECOCY W/LAB  4 HOURS
- BIO 3320/L320 GENETICS W/LAB  4 HOURS
- BIO 4484 SENIOR SEMINAR IN BIOLOGICAL & ENVIRONMENTAL SCIENCE  1 HOUR
- CHM 3342/L342 ORGANIC CHEMISTRY I W/LAB  4 HOURS
- CHM-3343/L343 ORGANIC CHEMISTRY II W/LAB  4 HOURS
- MTH-2210 APPLIED STATISTICS  3 HOURS

BOTANY  (4 HOURS)

TAKE ONE OF THE FOLLOWING BOTANY COURSES WITH ITS CORRESPONDING LAB:

- BIO 3325/L325 PLANT FORM AND FUNCTION W/LAB  4 HOURS
- BIO 4425 FIELD BOTANY  4 HOURS

ZOLOGY:  (4 HOURS)

TAKE ONE OF THE FOLLOWING ZOOLOGY COURSES WITH ITS CORRESPONDING LAB:

- BIO 3307/L307 INVERTEBRATE ZOOLOGY W/LAB  4 HOURS
- BIO 3308/L308 VERTEBRATE ZOOLOGY W/LAB  4 HOURS
- BIO 4405/L405 ENTOMOLOGY W/LAB  4 HOURS
- BIO 4420 FIELD VERTEBRATE ZOOLOGY  4 HOURS
- BIO 4445/L445 ICHTHYOLOGY W/LAB  4 HOURS
- BIO 4446/L446 HERPETOLOGY W/LAB  4 HOURS
- BIO 4447/L447 ORNITHOLOGY W/LAB  4 HOURS
- BIO 4448/L448 MAMMALOGY W/LAB  4 HOURS
- BIO 4471/L471 PARASITOLOGY W/LAB  4 HOURS

ECOLOGY/ENVIRONMENTAL:  (4 HOURS)

TAKE ONE OF THE FOLLOWING ECOLOGY/ENVIRONMENTAL COURSES WITH ITS CORRESPONDING LAB:

- BIO 4413/L413 LIMNOLOGY W/LAB  4 HOURS
- BIO 4416/L416 MICROBIAL ECOCY W/LAB  4 HOURS
- BIO 4421/L421 POPULATION ECOCY W/LAB  4 HOURS
- BIO 4479/L479 ENVIRONMENTAL ASSESSMENT W/LAB  4 HOURS

PHYSIOLOGY/CELL/MOLECULAR:  (4 HOURS)

TAKE ONE OF THE FOLLOWING PHYSIOLOGY/CELL/MOLECULAR BIOLOGY COURSES WITH ITS CORRESPONDING LAB:

- BIO 3347/L347 HUMAN ANATOMY AND PHYSIOLOGY I W/LAB  4 HOURS
- BIO 3348/L348 HUMAN ANATOMY AND PHYSIOLOGY II W/LAB  4 HOURS
- BIO 3372/L372 MICROBIOLOGY W/LAB  4 HOURS
- BIO 3382/L382 IMMUNOLOGY W/LAB  4 HOURS
- BIO 3386/L386 HEMATOLOGY W/LAB  4 HOURS
- BIO 4414/L414 FOOD MICROBIOLOGY W/LAB  4 HOURS
- BIO 4430/L430 APPLIED GENETICS W/LAB  4 HOURS
- BIO 4451/L451 TOXICOLOGY W/LAB  4 HOURS
- BIO 4480/L480 HISTOLOGY W/LAB  4 HOURS
- BIO 4482/L482 MOLECULAR BIOLOGY W/LAB  4 HOURS

MAJOR ELECTIVES:  (16 HOURS)

TAKE 16 ADDITIONAL HOURS OF BIO OR MB COURSES. THE 16 HOURS CHosen SHOULD BE BASED ON STUDENT'S FUTURE PLANS FOR EMPLOYMENT, GRADUATE OR PROFESSIONAL SCHOOL.

NOTE: SPECIALS TOPICS IN BIOLOGY (BIO 4476), GUIDED INDEPENDENT STUDIES AND GUIDED INDEPENDENT RESEARCH (BIO 4491/4492/4493/4494) MAY BE TAKEN FOR A MAXIMUM OF 6 HOURS

FREE ELECTIVES REQUIREMENT  (2 HOURS)

TAKE 2 SEMESTER HOURS OF FREE ELECTIVE CREDIT.