# Student Plan of Study – Horticulture & Animal Science

## Current Area of Interest: Agriculture, Food & Natural Resources/Horticulture & Animal Science

This PLAN OF STUDY should serve as a guide for the next four years. **Courses listed in this plan are only recommended coursework and should be individualized to meet each student’s educational and career goals. All plans will meet minimum high school graduation requirements. Applicants to the University System of Georgia and the Technical College System of Georgia institutions should be advised that meeting minimum requirements will not guarantee admission. Postsecondary institutions may set additional requirements.**

<table>
<thead>
<tr>
<th>Grade Level</th>
<th>I. English/Language Arts Total 4 credits</th>
<th>II. Math Total 4 credits</th>
<th>III. Science Total 4 credits</th>
<th>IV. Social Studies Total 3 credits</th>
<th>V. Health/Personal Fitness Total 1 credit</th>
<th>VII. Possible electives in additional pathways (students should check the local course description catalog for these and other electives) Total 4 credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>9th</td>
<td>1 Credit Earned</td>
<td>1 Credit Earned</td>
<td>1 Credit Earned</td>
<td>1 Credit Earned</td>
<td>1 Credit Earned</td>
<td>1 Credit Earned</td>
</tr>
<tr>
<td>10th</td>
<td>1 Credit Earned</td>
<td>1 Credit Earned</td>
<td>1 Credit Earned</td>
<td>1 Credit Earned</td>
<td>1 Credit Earned</td>
<td>1 Credit Earned</td>
</tr>
<tr>
<td>11th</td>
<td>1 Credit Earned</td>
<td>1 Credit Earned</td>
<td>1 Credit Earned</td>
<td>1 Credit Earned</td>
<td>1 Credit Earned</td>
<td>1 Credit Earned</td>
</tr>
</tbody>
</table>

### At the end of the 11th grade, students planning to enter a University System of Georgia Institution or Technical College System of Georgia Institution should take the appropriate admissions test (SAT, ACT, Compass).

**Legend:**

- *Science: Approved 4th Sciences may be used to meet both the required science and required elective in a Career, Technical, and Agricultural Education (CTAE) sequence of courses; see Fourth Science Requirements for more information. Student may take science courses in any sequence.
- *Math: Select Math sequence 1, 2, 3, 4, based on 9th grade entry course.
- **Students must complete two credits of the same world language for admission to University System of Georgia institutions.
- ***Students should complete a CTAE pathway and take the related end of pathway assessment.

### Agriculture, Food & Natural Resources

- **World Language Pathways**
  - A world language pathway may be followed in any one of the five areas listed above. Upon graduation, students complete a world language pathway when they complete three credits in one language. The third course may reflect an AP, IB or Dual Enrollment designation. Georgia Virtual School and ACCEL courses may be available.

- **Advanced Academic Pathways**
  - English/Language Arts, Math, Science, Social Studies
  - AP, Dual Enrollment and Georgia Virtual School courses may be available.

- **Fine Arts/Performing Arts Pathways**
  - Visual Arts, Dance, Music, Journalism, Theatre
  - AP, Dual Enrollment and Georgia Virtual School courses may be available.
SAMPLE Pathway OCCUPATIONS
See *Georgia’s HOT Careers to 2030* for more information on high-skilled, high-wage and high-demand occupations.

<table>
<thead>
<tr>
<th>Occupation Specialties</th>
<th>Entry Level of Education Needed</th>
<th>2012 Annual Wage</th>
<th>Annual Openings 2012-2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nursery and Greenhouse Managers</td>
<td>Bachelor’s Degree</td>
<td>$69,300</td>
<td>450</td>
</tr>
<tr>
<td>Soil and Plant Scientists</td>
<td>Bachelor’s Degree</td>
<td>$68,900</td>
<td>10</td>
</tr>
<tr>
<td>Animal Scientists</td>
<td>Doctoral Degree</td>
<td>$61,700</td>
<td>1</td>
</tr>
</tbody>
</table>

Source: Georgia Department of Labor/ONET

*Related Pathway Occupations:*
Agricultural Sciences Teachers
Nursery and Greenhouse Managers
Soil and Plant Scientists
Animal Scientists
Animal Breeders
Nonfarm Animal Caretakers
Nursery Workers
Animal Trainers

*ONET Online

**Horticulture & Animal Science**

Animal scientists conduct research to develop better ways to produce and process meat, poultry, eggs, and milk. Much of the research focuses on the health and breeding of livestock, but domestic animals, such as cats and dogs, are also a research concern. Animal scientists are experts in genetics, nutrition, reproduction, and animal production management. Developing new characteristics to introduce into animals (such as chickens that lay more eggs) and reducing the cost of raising animals and processing animal products are other goals of workers in this pathway.

Employment opportunities in the horticulture field should be good, with more job openings than job seekers. Employment is expected to increase in response to the increasing demand for both products and services by commercial producers, landscape contractors, turf managers and the general public. New avenues of research in biotechnology to develop plant and food crops that require less fertilizer, fewer pesticides and herbicides, and less water will also increase the demand for careers in plant science and horticulture. Because most jobs in this field are research-based, a bachelor’s degree in animal or agriculture science is required. A doctoral degree (Ph.D.) is necessary for leading research projects or teaching on the university level.

For more information about your education and career planning, including valuable financial aid information that includes grants and scholarships, see your school counselor.

**Current Georgia Graduation Rule**

<table>
<thead>
<tr>
<th>Coursework</th>
<th>Credits</th>
<th>Coursework</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. English/Language Arts</td>
<td>4</td>
<td>V. Health &amp; Physical Education</td>
<td>1</td>
</tr>
<tr>
<td>II. Math</td>
<td>4</td>
<td>VI. **Career, Technical &amp; Agricultural Education and/or Research</td>
<td>3</td>
</tr>
<tr>
<td>III. <em>Science</em></td>
<td>4</td>
<td>***World Languages, and/or Fine Arts</td>
<td>3</td>
</tr>
<tr>
<td>IV. Social Studies</td>
<td>3</td>
<td>VII. Electives</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TOTAL</td>
<td>23</td>
</tr>
</tbody>
</table>

*Selected 4th Science* courses may be used to meet both the required science and required elective in a CTAE sequence of courses.
**Students must complete three credits to complete a CTAE pathway and take the end of pathway assessment.
***Students must complete two credits of the same world languages for admission to Georgia Board of Regents colleges/universities.
****Current graduation requirements should be met in all content areas.

NOTE: This plan represents minimum graduation requirements. Local systems may require additional coursework.

Postsecondary Transition:

- Students who will continue their education in a Program of Study at one of the University System of Georgia institutions should prepare to take the ACT or SAT for admissions. Tests for admission may vary from institution to institution. Contact the selected institution for specific testing information. Additional admissions information can be found at [Staying On Course](http://www.gadoe.org/Curriculum-Instruction-and-Assessment/CTAE/Pages/CTAE-Georgia-Assessments.aspx).
- Students who will continue their education in a Program of Study at one of the Technical College System of Georgia institutions should prepare to take the COMPASS test for admissions.
- Students who will continue their education and training in the US Military should take the ASVAB assessment.
- Students should utilize electronic college and career data bases to select the most appropriate postsecondary opportunities to match their selected career field, including registered apprenticeships.
- Georgia’s dual-credit programs have been combined into one program entitled Move on When Ready, in which high school students may earn their high school course credits while taking college courses.

Possible Student Pathway Credentialing Opportunities:

Students completing a pathway are eligible to take a Credentialing/End of Pathway Assessment (EOPA) upon successful completion of the three required courses in the pathway. For specific assessment information, refer to [http://www.gadoe.org/Curriculum-Instruction-and-Assessment/CTAE/Pages/CTAE-Georgia-Assessments.aspx](http://www.gadoe.org/Curriculum-Instruction-and-Assessment/CTAE/Pages/CTAE-Georgia-Assessments.aspx)