

Student Plan of Study – Animal and Mechanical Systems

Name _____ Date _____ School _____

Parent/Guardian Signature _____ Date _____ Advisor/Counselor Signature _____ Date _____

*Current Area of Interest: **Agriculture, Food & Natural Resources/Animal and Mechanical Systems** - 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.***

Grade Level	I. English/Language Arts Total 4 credits	II. Math Total 4 credits	III. Science Total 4 credits	IV. Social Studies Total 3 credits	V. Health/Personal Fitness Total 1 credit	VII. Possible electives in additional pathways (students should check the local course description catalog for these and other electives) Total 4 credits
9	9 th Literature & Composition or Approved Dual Enrollment Course 1 credit Credit Earned <input type="checkbox"/>	1 CCGPS Cord Algebra 2 CCGPS Analytic Geom 3 CCGPS Accel Cord Alg/Analytic Geom 4 CCGPS Accel Analytic Geom B/Adv Alg 1 credit * Credit Earned <input type="checkbox"/>	Biology or Approved Dual Enrollment Course 1 credit Credit Earned <input type="checkbox"/>	American Government/Civics or AP Government/ Politics US or Approved Dual Enrollment Course ½ credit Credit Earned <input type="checkbox"/>	Health ½ credit Credit Earned <input type="checkbox"/> Personal Fitness ½ credit Credit Earned <input type="checkbox"/> VI. CTAE Pathway Total 3 credits	Advanced Academic Pathways English/Language Arts, Math, Science, Social Studies An advanced academic pathway may be followed in any one of the content subjects listed above. Upon graduation, students earn an advanced academic pathway when they complete the required coursework to include at least one AP or one IB or one Dual Enrollment course. An advanced academic pathway should also include at least two credits in one world language. AP, Dual Enrollment and Georgia Virtual School courses may be available.
	10 th Literature & Composition or World Literature & Composition or Approved Dual Enrollment Course 1 credit Credit Earned <input type="checkbox"/>	1 CCGPS Analytic Geometry 2 CCGPS Advanced Alg 3 CCGPS Accel Analytic Geometry/Adv. Algebra 4 CCGPS Pre-Calculus 1 credit * Credit Earned <input type="checkbox"/>	Physical Science or Physics or AP Physics or Approved Dual Enrollment Course 1 credit * Credit Earned <input type="checkbox"/>	World History or AP World History or Approved Dual Enrollment Course 1 credit Credit Earned <input type="checkbox"/>	02.47100 Basic Ag Science or Approved Dual Enrollment Course 1 credit Credit Earned <input type="checkbox"/>	
11	American Literature/Composition or AP English Language & Composition/American Lit or Approved Dual Enrollment Course 1 credit Credit Earned <input type="checkbox"/>	1 CCGPS Adv. Algebra 2 CCGPS Pre-Calculus 3 CCGPS Accel Pre-Cal 4 CCGPS Cal or AP Cal 1 credit * Credit Earned <input type="checkbox"/>	Chemistry or Environmental Science or Earth Systems or AP/IB or Dual Enrollment Course 1 credit * Credit Earned <input type="checkbox"/>	United States History or AP US History or IB History of the Americas or Dual Enrollment Course 1 credit Credit Earned <input type="checkbox"/>	01.43200 Ag Animal Production or Approved Dual Enrollment Course 1 credit Credit Earned <input type="checkbox"/>	Fine Arts/Performing Arts Pathways Visual Arts, Dance, Music, Journalism, Theatre A fine arts pathway may be followed in any one of the five areas listed above. Upon graduation, students complete a fine arts/performing arts pathway when three courses have been successfully completed in any one of the five areas. A student should consult a counselor or advisor for related coursework. AP, Dual Enrollment and Georgia Virtual School courses may be available.
	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).					
12	Advanced Composition or British Literature or AP/IB English Literature & Composition or Approved Dual Enrollment Course 1 credit Credit Earned <input type="checkbox"/>	CCGPS Pre-Cal or Adv Math Decision Making or Math of Ind & Govern or AP Statistics or IB Math or Approved Dual Enrollment Course 1 credit * Credit Earned <input type="checkbox"/>	Any other of the previous courses or Zoology or Ecology or Approved Dual Enrollment Course 1 credit * Credit Earned <input type="checkbox"/>	Econ/Business/Free Enterprise or AP Macro Econ or AP Micro Econ or IB Econ or Approved Dual Enrollment ½ credit Credit Earned <input type="checkbox"/>	01.42100 Ag Mechanics I or Approved Dual Enrollment Course 1 credit Credit Earned <input type="checkbox"/>	NOTE: Local systems may core courses in a different sequence; not all local systems offer every pathway. Students should explore all credit possibilities including Georgia's Virtual School Program , Dual Enrollment , Advanced Placement (AP), International Baccalaureate (IB) and Work-Based Learning (WBL) to reach their educational and career goals.
Sample Elective Courses	Other English Elective Courses: Literary Types/Composition Journalism Oral/Written Communication Speech	Other Math Elective Courses: Calculus AP Calculus Math of Finance	Other Science Elective Courses: Genetics or AP/B Science or Microbiology or Entomology	Other Social Studies Elective Courses: Current Issues or AP/IB Soc. Studies or Sociology or World Geography	Other CTAE Elective Courses: Other CTAE electives are available to complete a related pathway	

Agriculture, Food & Natural Resources

SAMPLE Pathway OCCUPATIONS			
See * Georgia's HOT Careers to 2020 for more information on high-skilled, high-wage and high-demand occupations.			
Occupation Specialties	Entry Level of Education Needed	2012 Annual Wage	Annual Openings 2012-2020
Mechanical Engineers	Bachelor's Degree	\$74,800	110
Agricultural Supervisors	High School Diploma	\$48,690	56
Farm / Ranch Managers	High School Diploma	\$73,730	179

Source: Georgia Department of Labor/ONET

<p>*Related Pathway Occupations:</p> <p>Mechanical Engineers Control and Valve Installers & Repairers Mechanical Engineering Technologists Farm/ Ranch Manager Advisors Animal Scientists Agricultural Technician Animal Breeders</p>	<p>Other Related Agriculture, Food, & Natural Resources Occupations:</p> <p>Agricultural Sciences Teachers Crop Farmworkers and Laborers Soil/Plant Scientists Aquacultural Managers</p> <p style="text-align: right;">*ONET Online</p>
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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			
Coursework	Credits	Coursework	Credits
I. English/Language Arts	4	V. Health & Physical Education	1
II. Math	4	VI. **Career, Technical & Agricultural Education and/or ***World Languages, and/or Fine Arts	3
III. *Science	4	VII. Electives	4
IV. Social Studies	3	TOTAL	23
<p>*Selected 4th Science courses may be used to meet both the required science and required elective in a CTAE sequence of courses.</p> <p>**Students must complete three credits to complete a CTAE pathway and take the end of pathway assessment.</p> <p>***Students must complete two credits of the same world languages for admission to Georgia Board of Regents colleges/universities.</p> <p>**** Current graduation requirements should be met in all content areas.</p> <p>NOTE: This plan represents minimum graduation requirements. Local systems may require additional coursework.</p>			

Postsecondary Transition:
<ul style="list-style-type: none"> 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. (www.usg.edu/student_affairs/documents/Staying_on_Course.pdf) 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:
<p>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</p>

Animal and Mechanical Systems
<p>This pathway is a great combination for students who are interested in animal science & agriculture mechanics. A strong understanding of agriculture mechanics is necessary with all farm work, including food and animal farms. Workers in Agricultural Mechanics are responsible for the efficient operation of farm machinery. Opportunities in the farm equipment industry will grow as farms merge and grow larger. Agricultural and farm equipment mechanics are responsible for the maintenance, repair, and installation of machines that increase the efficiency of farming activities, such as planting, harvesting, and irrigating crops. Agricultural mechanics also service and repair smaller lawn and garden equipment operated by suburban homeowners.</p> <p>Students interested in animal science have many career options. Farm or ranch workers and managers are needed to ensure the production of food animal products for a growing population. Animal scientists conduct research to develop better ways to produce and process meat, poultry, eggs, and milk. 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. Some animal scientists inspect and grade livestock and food products. Others develop special foods for animals, purchase livestock, or work in technical sales or marketing. Scientists may also advise producers on optimizing animal housing, handling waste matter, or lowering mortality rates of livestock and other animals. They recommend methods to improve disease control and increase the quality and quantity of animal production.</p> <p>The farming and food production industry spends much money on breeding, raising, and feeding animals. The industry will continue to be interested in more efficient, less costly methods of raising animals. Therefore, employment of animal scientists with agriculture mechanics skills will be needed to study new methods of more efficient farming and develop healthier animals.</p>