**Program Concentration: Agriculture**

**Career Pathway: Agriscience**

**Course Title: Plant Science and Biotechnology**

**Teacher: Mrs. Chansi Coleman**

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Plant science is a basic component of the agriscience pathway. This course introduces students to the scientific theories, principles, and practices involved in the production and management of plants for food, feed, fiber, conservation and ornamental use. Classroom and laboratory activities are supplemented through supervised agricultural experiences and leadership programs and activities.

**AG-PSB-1: The student defines, explains, and demonstrates the importance of plant science, agriscience and biotechnology in agriculture and society.**

**AG-PSB-2: The student differentiates between plants utilizing scientific plant classification.**

**AG-PSB-3: The student identifies the major structures of plants and describes their functions.**

**AG-PSB-4: The student identifies the parts of plant cells and demonstrates their growth and solute movements.**

**AG-PSB-5: The student explains technological advancements in plant development, reproduction and protection.**

**AG-PSB-6: The student identifies and describes plant nutritional needs, essential nutrients and prescribes nutritional programs for plants.**

**AG-PSB-7: The student evaluates soil characteristics, factors and components that influence plant growth and evaluates land plots and soil types for production capability.**

**AG-PSB-8: The student diagrams the life cycles of plants explains the functions of plant reproductive parts and demonstrates methods of seed dissemination and germination.**

**AG-PSB-9: The student explains the use and importance of genetics in plant breeding.**

**AG-PSB-10: The student describes environmental effects on plants, demonstrates ways to manage the environment for production and ornamental use of plants, and match plants to given growing conditions.**

**AG-PSB-11: The student explains the uses of plants in medicine, food crops, animal feeds, and ornamental applications.**

**AG-PSB-12: The student propagates plants using methods of vegetative cloning and sexual reproduction.**

**AG-PSB-13: The student identifies and classifies weeds, prescribes control methods, and describes the economic and environmental effects that weeds have on agricultural production.**

**AG-PSB-14: The student identifies, determines control methods, and defines the environmental and economic impact that insects have on plant production.**

**AG-PSB-15: The student identifies diseases, related organisms, and physiological disorders affecting plants, and prescribes methods of prevention and control.**

**AG-PSB-16: The student explains the water-plant relationship and describes how water and other materials move through the plant.**

**AG-PSB-17: The student describes environmentally controlled plant growth systems and prescribes their use based on plant environmental needs and economic factors.**

**AG-PSB-18: The student analyzes the affect of plant production on the environment and quality of life factors.**

**AG-PSB-19: The student becomes oriented to the comprehensive program of agricultural education, learns to work safely in the agriculture lab and work sites, demonstrates selected competencies in leadership through the FFA and agricultural industry organizations, and develops plans for a supervised agricultural experience program.**

**Special Assignments and Projects:** Students are required to spend 20 hours **outside** of class per semester developing a Supervised Agricultural Experience Project. This will account for 15% of their overall grade and is due at the end of the semester.

**Classroom Rules and Discipline Procedures:**

1. **Come to class prepared each day. Bring notebook, pen or pencil, and paper.**
2. **Do not request hall passes except in cases of emergencies.**
3. **Respect the facilities and equipment that we have to work with. Return all materials to the proper place when finished with them. Notify Mrs. Coleman of any damaged or broken materials and equipment immediately.**
4. **Students are to remain with the class group when moving to or working in other instructional areas. Leaving the greenhouse or outdoor classroom without permission is the same as leaving class without permission.**

The student handbook will be followed where applicable. Otherwise, the following will be used:

##  *-First Infraction— Warning*

##  *-Second Infraction— Parent Contact*

#### *-Third Infraction— Detention (before or after school) Parent Contact*

 *-Fourth Infraction— Office Referral*

**Make-up Policy:** It is the student’s responsibility to make arrangements to catch up on work missed due to **excused** absences. Work needs to be made up within 3 days of your return to school. Failure to meet the deadline will result in a zero for each assignment missed.

**Grading System:**

 **Classroom 20%**

1. Daily Assignments
2. Lab Activities
3. Notebook
4. Quizzes
5. Work Ethic

**Laboratory 25%**

 **Unit Tests/Performance Assessment 40%**

**Individual Project (SAE) 15%**

1. SAE Plan
2. Records
3. Presentation

 **Final Exam 20%**

I have read and understand all of the objectives, requirements, and expectations for the course in Plant Science taught by Mrs. Coleman.

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**Student name Date**

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**Parent signature Date**