

Academy of Agriculture Technology

Career Cluster: Agriculture, Food & Natural Resources

Program Strand: Plant Biotechnology

Students who choose a career in Plant Biotechnology investigate and utilize basic scientific skills and principles in plant science to give plants new traits that benefit agricultural production, the environment, and human nutrition and health.

Secondary Career Academy Development Timetable (academy classes are listed in bold type)

| Pre-Academy Grades 6 – 8 | Grade 9 | Grade 10 | Grade 11 | Grade 12 |
|---|--|---|--|---|
| 6 th grade—Middle Moves 7 th grade—Career Preparation Requirement 8 th grade—Transition Tools Introduction to Agriscience 810012002 Orientation to Agriscience 810011011 Exploration of Agriscience 810021002 | English I | English II | English III | English IV |
| | Algebra or higher | Geometry or higher | Algebra II or higher | Pre-calculus or Other Mathematics Course |
| | Earth & Space Science or Biology | Biology or Chemistry | Chemistry or Physics or Physical Science | Science Elective or Other Elective |
| | World History | Elective | American History | American Government / Economics |
| | 9 th Grade Transition | Foreign Language or Other Elective | Foreign Language or Other Elective | Foreign Language or Other Elective |
| | Agriscience Foundations 1 8106810 | Agricultural Biotechnology 2 8106850 | Plant Biotechnology 3 8106510 | Advanced Concepts of Agriscience 8100330 |
| | Elective | Elective | Elective | Elective |
| Elective | Elective | Elective | Elective | |

Suggested Electives:

- Students may in their Junior or Senior year opt to participate in the Career Experience Opportunity (CEO) internship program using the following course numbers: Workplace Essentials – 83003101A (Honors .5) and CEO internship – 0500330CE (Honors .5).
- Students may complete more than one program within the Academy of Agriculture Technology providing courses are offered at the school site.
- In addition, students can choose to enroll in Advanced Concepts of Agriscience, Agricultural Education Directed Study, AP Environmental Science, Botany, Computer-Aided Design classes to enhance their marketability.

To find a Miami-Dade County Public High School with this Program Strand, please link to http://ssr.dadeschools.net/acad_tally_schls.pdf

| Internship Opportunities | Student Organizations / Clubs | Earn Upon Completion |
|---|--|---|
| <ul style="list-style-type: none"> • Scientific Research Internship (U of F Tropical Research Education Center; USDA Chapman Field Research Facility) • FIU Environmental & Computer Sciences – AgroEcology Dept. | <ul style="list-style-type: none"> • School-Based Enterprise • Service Learning • Dual Enrollment (MDC, FIU) • Cooperative Education • Job Shadowing • Portal to CEO | <ul style="list-style-type: none"> • The National FFA Organization • Miami-Dade County Fair & Exposition Agriculture Ambassadors Program • United States Department of Agriculture – Ambassador Program • 4-H Club |
| | | <ul style="list-style-type: none"> • Industry Title & FLDOE OCP's correlated to the individual areas. • For more information on the Florida Department of Education Bright Futures Scholarship Programs: Florida Academic Scholars Award (FAS), Florida Medallion Scholars Award (FMS), and Florida Gold Seal Vocational Scholars Award (GSV) please contact a guidance counselor or visit: http://www.floridastudentfinancialaid.org/ssfad/factsheets/BF.htm. • For more information on advanced standing at local public and private post secondary institutions as established per articulation agreements please contact a guidance counselor. |

POSTSECONDARY OPTIONS

| Certification Programs | Community College (A.A./A.S.) or Proprietary Programs | Four-Year College and University Programs |
|---|--|--|
| American Biofuels Council | <ul style="list-style-type: none"> • Horticultural Science • Biochemical Development Engineering • Laboratory Assisting • Assay Analyst • Instrumentation/Calibration Technology • Manufacturing Technology • Agricultural & Biological Sciences • Microbiology • Santa Fe Community College Biotechnology Program • Lake City Community College Agricultural Programs • Miami Dade College Agricultural Programs | <ul style="list-style-type: none"> • Agricultural Engineer • Plant Biotechnology • Animal Biotechnology • Molecular Biology • Plant and Environmental Biotechnology • Environmental and Microbial Biotechnology • Insect and Pathogen Biotechnology |
| | | <ul style="list-style-type: none"> • University of Florida College of Agricultural and Life Sciences • Florida Agricultural and Mechanical University Agricultural Programs • University of Central Florida Biotechnology |

CAREER OPTIONS

| Entry Level | After Post-Secondary Education |
|--|--|
| <ul style="list-style-type: none"> • Plant Propagator • Greenhouse Assistant • Lab Technician • Plant Tissue Culture Lab Asst. | <ul style="list-style-type: none"> • Independent Business Owner • Food Processing Technician • Quality Assurance Specialist • Waste Management Specialist |
| | <ul style="list-style-type: none"> • Molecular Geneticist • Plant Biotechnology Manager • Environmental Monitoring • Biological Scientist • Microbial Ecologist |
| | <ul style="list-style-type: none"> • Biotechnology Specialist • Pharmacology • Molecular Geneticist • Bacteriologist • Research Scientist |