INTEGRATED AGRICULTURE TECHNOLOGIES MAJOR

Program Curriculum

Code	Title	Credits
Degree Core Requirements		
ALS 1234	CALS First Year Seminar	1
ALCE 3634	Communicating Ag and Life Sciences in Speaking	3
or ALCE 3624	Communicating Ag and Life Sciences in Writing	
BIOL 1105	Principles of Biology	3
BIOL 1106	Principles of Biology	3
ENSC 1015	Foundations of Environmental Science	3
HORT/BIOL 2304	Plant Biology	3
PPWS 2104	Plants, Genes, and People	3
PPWS 4104	Plant Pathology	4
Subtotal		23
Major Requirements		
CSES 2444	Agronomic Crops	3
or HORT 2234	Environmental Factors in Horticulture	
or CSES 2564	Turfgrass Management	
CSES 3114	Soils	3
CSES 3124	Soils Laboratory	1
CSES 2224	Foundations of Precision Agriculture	3
CSES 4224	Applied Concepts in Precision Agriculture	3
CSES 4234	Agro Data Integration	3
CSES 4524	Drone Applications in Ag Systems	3
CSES 4534	Internet of Things (IoT) for Smart Farming	3
GEOG 2084	Principles of Geographic Information Systems	3
Subtotal		25
Restricted Electives		
Select an Approved Minor or a minimum of 18 credits of the following:		18
AAEC 2104	Personal Financial Planning	
AAEC 2434	Foundations of Agribusiness	
AAEC 3004	Agricultural Production and Consumption Economics	
AAEC 3314	Environmental Law	
AAEC 3504	Marketing Agricultural Products	
AAEC 3604	Agricultural Law	
ALS 3404	Ecological Agriculture: Theory and Practice	
BIOL 2804	Ecology	
CS 1044	Introduction to Programming in C	
CS 1054	Introduction to Programming in Java	
CS 1064	Introduction to Programming in Python	
CS 1114	Introduction to Software Design	
CSES 2244	Agriculture, Global Food Security and Health	
CSES 2434	Crop Evaluation	
CSES 3144	Soil Description and Interpretation	
CSES 3614	Soil Physical and Hydrological Properties	
CSES 4134	Soil Genesis and Classification	
CSES 4144	Plant Breeding and Genetics	
CSES 4214	Soil Fertility and Management	
CSES 4344	Crop Physiology and Ecology	
CSES 4544	Forage Crop Ecology	
CSES 4854	Wetland Soils and Mitigation	
ENSC 3644	Plant Materials for Environmental Restoration	
ENSC 4734	Environmental Soil Chemistry	
ENSC 4774	Reclamation of Drastically Disturbed Lands	
ENT 4254	Insect Pest Management	
ENT 4264	Pesticide Usage	
GEOG 4354	Introduction to Remote Sensing	
HORT 2184	Plants, Places, and Cultures in a Global Context	
HORT 2234	Environmental Factors in Horticulture	
HORT 4334	Greenhouse and Controlled Environment Agriculture Management	
PHYS 2205	General Physics	
PHYS 2206	General Physics	
PPWS 2754	Weeds That Shape Our World	
PPWS 4154	Plant Problem Diagnosis	
PPWS 4604	Biological Invasions	
SPES 2004	Cannabis - Science, Industry, and Culture	
SPES 4964	Field Study	
or SPES 4974	Independent Study	
or SPES 4994	Undergraduate Research	
or SPES 3954	Study Abroad	
Subtotal		18
Free Electives		
Select remaining credit hours of free electives to fulfill 120 credit hour minimum.		13
Subtotal		13
Pathways to General Education		
Pathways Concept 1 - Discourse		
ENGL 1105	First-Year Writing (1F)	3
ENGL 1106	First-Year Writing (1F)	3
Select three credits in Pathway 1a (https://catalog.vt.edu/course-search/?attrs_pathways=attrs_pathways_G01A)		3
Pathways Concept 2 - Critical Thinking in the Humanities		
Select six credits in Pathway 2 (https://catalog.vt.edu/course-search/?attrs_pathways=attrs_pathways_G02)		6
Pathways Concept 3 - Reasoning in the Social Sciences		
AAEC 1005	Economics of the Food and Fiber System	3
or ECON 2005	Principles of Economics	
SPES 2244	World Crops: Food and Culture	3
Pathways Concept 4 - Reasoning in the Natural Sciences		
CHEM 1035	General Chemistry	3
CHEM 1036	General Chemistry	3
CHEM 1045	General Chemistry Laboratory	1
CHEM 1046	General Chemistry Laboratory	1
Pathways Concept 5 - Quantitative and Computational Thinking		
CS 1014	Introduction to Computational Thinking	3
MATH 1025	Elementary Calculus	3
Select three credits in Pathway 5a (https://catalog.vt.edu/course-search/?attrs_pathways=attrs_pathways_G05A)		
Pathways Concept 6 - Critique and Practice in Design and the Arts		

Select three credits in Pathway 6d (https://catalog.vt.edu/course-search/?attrs_pathways=attrs_pathways_G06D)	3
Select three credits of Pathway 6a (https://catalog.vt.edu/course-search/?attrs_pathways=attrs_pathways_G06A)	3
Pathways Concept 7 - Critical Analysis of Identity and Equity in the United States	
Select three credits of Pathway 7 (https://catalog.vt.edu/course-search/?attrs_pathways=attrs_pathways_G07) (may be double-counted with another Pathways concept)	
Subtotal	41
Total Credits	**120**

Note: Total Hours Required: 120

Approved Minors

- Agribusiness Management and Entrepreneurship
- Agricultural and Applied Economics
- Animal and Poultry Sciences
- Civic Agriculture and Food Systems
- Dairy Science
- Entomology
- Environmental Economics
- Environmental Science
- Food Science & Technology
- Global Food Security and Health
- Horticulture
- International Trade & Development
- Leadership & Social Change
- Plant Health Sciences
- Turfgrass Management
- Wetland Science

Satisfactory Progress

By the end of the academic year in which the student has attempted 60 credits (including transfer, advanced placement, advanced standing and credit by examination), "satisfactory progress" toward a BS PLSC degree will include:

Passing the following:

- At least 24 credits that apply to the Pathways to General Education
- CHEM 1035 General Chemistry and CHEM 1036 General Chemistry
- ALS 1234 CALS First Year Seminar, CSES 3114 Soils and CSES 3124 Soils Laboratory
- 6 credits of Math

GPA Requirements

- Overall GPA: 2.0 (each semester in order to be in good academic standing)
- In-major GPA: 2.0 (by the time the student graduates)
  - Includes classes in: CSES, HORT, and PPWS

Language Study Requirement

Students who do not complete two years of a single foreign or classical language or American Sign Language in high school, may do so by taking six credits of college-level foreign or classical language or American Sign Language. The six credits used to meet this requirement may not be used to satisfy the minimum number of credits required for graduation.