

## University of Alberta Approved Undergraduate Course List for Registration with the Agrology Profession in Alberta, 2022/23

This list is intended for use by students **presently enrolled** in the University of Alberta (UofA) degree program(s). This list is not exhaustive and is based **ONLY** on the current course offerings at the UofA for the current academic year. It does not include courses from past academic years which might still be recognized for registration.

To be eligible to be registered as an Agrologist in Training (AIT) leading to the Professional Agrologist (PAG) designation, applicants must have obtained a 4-year 120-credit baccalaureate degree in agriculture or environmental science from a post-secondary institution recognized by AIA Council. This degree must meet the following course requirements:

1. Total Agrology (introductory + senior agrology) coursework must be a minimum of 60 credits with a minimum of 24 of these credits at a senior-level (usually third or fourth year course).
2. Foundational natural science coursework must be a minimum of 15 credits. Courses must be foundational to the Agrology profession and provide the scientific foundation upon which Agrology courses are built.
3. Mathematics OR calculus OR statistics coursework must be a minimum of 3 credits.
4. English OR communications coursework must be a minimum of 3 credits.
5. Economics coursework must be a minimum of 3 credits.

University of Alberta Courses that are considered eligible for meeting the above coursework requirements are listed below in the following categories: Introductory Agrology, Senior Agrology, Foundational Natural Sciences, Mathematics, Calculus or Statistics, English or Communications, Economics.

### Introductory Agrology Courses

*Introductory + Senior Agrology coursework must total a minimum of 60 credits*

*\* Courses marked with an asterisk require submission of additional documentation and approval by the Registrar of AIA.*

Course ID	Title
AN SC 100	Introduction to Animal Health Sciences
AN SC 101	Principles of Animal Agriculture
AN SC 260	Fundamentals of Animal Nutrition
AREC 173	The Plate, the Planet and Society



AREC 200	Current Economic Issues for Agriculture and Food
AREC 214	Applications of Quantitative Models to Food, Resources and the Environment
AREC 250	Social and Economic Issues of Food Biotechnology
AREC 323	Introduction to Management for Agri-Food, Environment, and Forestry Businesses
EAS 204	Environment Alberta
EAS 221	Intro to GIS and Remote Sensing
EAS 225	Earth Surface Processes and Landforms
EAS 250	Biogeography
ECON 269	Economics of the Environment
ENT 207	Agricultural Entomology
ENT 220	Insect Biology
ENT 222	Insects in Managed Ecosystems
NUFS 100	Intro to Food Science and Technology
NUFS 200	Intro to Functional Foods and Nutraceuticals
NUFS 201	Physical Principles of Food Structure and Functionality
NUFS 223	The Cultural Ecology of Food and Health
NUFS 283	Introduction to Food Engineering
PLSC 210	Exploring Field Crop Agronomy
PLSC 221	Introduction to Plant Science
RENR 105	Introduction to Environmental Sciences
RENR 110	Natural Resource Measurement
RENR 120	Introduction to Plant Identification
RENR 201	Introduction to Geomatic Techniques in Natural Resource Management
RENR 205	Wildlife Biodiversity & Ecology
REN R 210	Introduction to Soil Science
RENR 250	Water Resource Management
RENR 260	History and Fundamentals of Environmental Protection and Conservation
RENR 290	Field Skills in Environmental, Conservation, and Forest Sciences
RENR 299	Environmental and Conservation Sciences Field School
RSOC 260	Indigenous Foundations for Environmental and Conservation Sciences
RSOC 271	The Politics of Food and Natural Resources

### **Senior Agrology Courses**

*(Minimum of 24 credits from the list)*

*\* Courses marked with an asterisk require submission of additional documentation and approval by the Registrar of AIA.*

<b>Course ID</b>	<b>Title</b>
AN SC 310	Physiology of Domestic Animals
AN SC 311	Metabolic Physiology of Domestic Animals
AN SC 312	Reproductive Physiology of Domestic Animals



AN SC 318	Influence of microorganisms on Animal Biology
AN SC 320	Livestock Growth and Meat Production
AN SC 326	Equine Science
AN SC 375	Animal Health and Disease
AN SC 376	Animal Welfare
AN SC 377	Food Animal Behavior
AN SC 384	Principles of Animal Genetics
AN SC 400*	Individual Study
AN SC 410	Regulation of Reproduction in Domestic Animals
AN SC 411	Veterinary Immunology
AN SC 420	Meat Science
AN SC 461	Ruminant Digestion, Metabolism and Nutrition
AN SC 462	Monogastric Nutrition
AN SC 471	Applied Poultry Science
AN SC 472	Applied Dairy Production Science
AN SC 474	Applied Beef Cattle Science
AN SC 476	Applied Swine Science
AN SC 479*	Integrative Project in Animal Science
AN SC 485	Animal Genetics and Breeding
AN SC 496	Research on the Human Animal Bond
AN SC 499*	Integrative Project in Animal Health Science
AREC 333	Economics of Production and Resource Management
AREC 365	Natural Resource Economics
AREC 375	World Food and Agriculture
AREC 382	Food Systems, Distribution and Supply Chains
AREC 384	Food Market Analysis
AREC 400*	Special Topics
AREC 410	Advanced Management Methods and Applications in Applied Economics
AREC 423	Advanced Management Methods & Applications for Agri-Food, Fashion, and Resource Businesses
AREC 430	Economic Impact Assessment
AREC 433	Financial Management in Resource Industries
AREC 460	Land Use Economics
AREC 465	Advanced Natural Resource Economics
AREC 473	Food and Agricultural Policies
AREC 482	Cooperatives and Alternative Business Institutions
AREC 484	Strategic Management in Food and Resource Businesses
AREC 485	Trade and Globalization in Food and Resources
AREC 487	Managing Market Risk in Resource Industries
AREC 488	Introduction to Agricultural and Resource Game Theory
BIOL 322	Diversity and Evolution of Microbial Life
BIOL 331	Population Ecology
BIOL 332	Community Ecology



BIOL 333	Wetland Ecology and Management
BIOL 340	Global Biogeochemistry
BIOL 341	Ecotoxicology
BIOL 364	Freshwater Ecology
BIOL 365	Methods in Freshwater Ecology
BIOL 366	Northern Ecology
BIOL 367	Conservation Biology
BIOL 381	A Planet in Crisis
BIOL 384	Global Change and Ecosystems
BIOL 409	Zoonoses
BIOL 433	Plant Animal Interactions
BIOL 434	Chemical Ecology
BIOL 440	Watershed Ecohydrology
BIOL 442	Global Biogeochemical Cycles
BIOL 468	Problems in Conservation Biology
BIOL 471	Landscape Ecology
BOT 303	Plant Development
BOT 306	Biology of the Fungi
BOT 308	Plant Anatomy
BOT 314	Biology of Bryophytes
BOT 321	Plant Diversity and Evolution
BOT 322	Field Botany
BOT 332	Plant Ecology
BOT 340	Plant Physiology
BOT 382	Plant Biotechnology
BOT 445	Molecular Plant Physiology
CHEM 303	Environmental Chemistry I
CHEM 305	Environmental Chemistry II
EAS 320	Geochemistry I
EAS 323	Introduction to Hydrogeology
EAS 324	Quaternary Geoscience and Terrain Analysis
EAS 351	Environmental Applications of GIS
EAS 354	Environmental Earth Science Field School
EAS 425	Contaminant Hydrogeology
EAS 451	Digital Remote Sensing
EAS 456	Hydrologic Modeling
EAS 468	Geochemical Processes
ECON 365	Resource Economics
ECON 467	Environmental and Natural Resource Policy
ENCS 352	Natural Resource and Environmental Law
ENCS 356	Principles of Rangeland Conservation & Habitat Management
ENCS 406	Rangeland Plant Communities of Western Canada



ENCS 407	Rangeland Plant Communities of North America
ENCS 471	Practical Case Studies in Rangeland Management & Conservation
ENCS 473	Environmental and Conservation Policy
ENT 378	Insect Pathology
NU FS 300	Fundamentals of Dairy Science
NU FS 305	Introduction to the Principles of Nutrition
NU FS 312	Quality Assurance
NU FS 353	Unit Operations in Food Processing
NU FS 356	Nutrition Across the Lifespan
NU FS 361	Food Microbiology
NU FS 372	(NU FS 373) Food Chemistry
NU FS 374	Food Fundamentals and Quality
NU FS 400*	Undergraduate Reading Project
NU FS 401*	Undergraduate Research Project
NU FS 402	Brewing, Enology, and Food Fermentations
NU FS 403	Processing of Milk and Dairy Products
NU FS 404	Muscle Food Science and Technology
NU FS 406	Science and Technology of Cereal and Oilseed Processing
NU FS 427	Food Safety
NU FS 442	Sustainability of Food and Bio-based Products
NU FS 450	Food Product Development
NU FS 454	Unit Operations in Food Preservation
NU FS 480	Microbial Food Safety
NU FS 490	Innovations in Food Science
NU FS 499	Advanced Agri-Chemical Analysis
PLSC 310	Insects in Cropping Systems
PLSC 324	Crop Ecophysiology
PLSC 345	Plants for Bioproducts
PLSC 352	Invasive Alien Plants: Biology and Control
PLSC 354	Forage Crops
PLSC 355	Cereal, Oilseed, and Pulse Crops
PLSC 365	Genetic Improvement of Crop Plants
PLSC 380	Principles of Plant Pathology
PLSC 400*	Individual Study
PLSC 470	Physiology of Herbicidal Action
PLSC 481	Disease of Field and Horticultural Crops
PLSC 491	Biotechnology for Crop Improvement
PLSC 495	Integrated Crop Protection
PLSC 499	Cropping Systems
RENr 301*	Topic in Renewable Resources
RENr 305	Principles and Practices of Reclamation and Restoration
RENr 307	Environmental Assessment, Principles and Methods



REN 314	Forest Soils
REN 321	Tree Physiology
REN 322	Forest Ecosystems
REN 327	The Mosses of Alberta: Conservation and Identification
REN 333	Wetland Sciences and Management
REN 341	Soil Formation and Landscape Processes
REN 350	Physical Hydrology
REN 360	Soil and Water Conservation
REN 364	Principles of Managing Natural Diversity
REN 365	Ecology of Northern Landscapes
REN 366	Restoration Ecology
REN 401*	Topics in Renewable Resources
REN 402A*	Directed Research in Renewable Resources
REN 402B*	Directed Research in Renewable Resources
REN 414	Agroforestry Systems
REN 421	Advanced Tree Physiology
REN 426	Geographical Information Systems Applications in Renewable Resources
REN 430	Forest Resources Management
REN 440	Disturbance Ecology
REN 441	Soil Formation and Landscape Processes
REN 442	Soil Biogeochemistry
REN 443	Soil Physics
REN 444	Soil Environmental Chemistry
REN 445	Soil Fertility
REN 446	Climates and Ecosystems
REN 450	Environmentally Sustainable Agriculture
REN 452	Forest Watershed Management
REN 469	Biodiversity Analysis
REN 480	Applied Statistics for Environmental Sciences
REN 482	Soil Remediation
REN 483	Waste Management and Utilization
REN 495	Land Reclamation
REN 496	Conservation Planning
RSOC 355	Rural Communities and Global Economics
RSOC 365	Sociology of Environment and Development
RSOC 375	Public Participation and Conflict Resolution
RSOC 400*	Special Topics
RSOC 450	Environmental Sociology
STAT 361	Sampling Techniques
STAT 368	Introduction to Design and Analysis of Experiments

## **Foundational Natural Sciences**

*(Minimum 15 credits from the list)*

<b>Course ID</b>	<b>Title</b>
BIOCH***	Any Biochemistry Course Foundational to Agrology
BIOL 107	Introduction to Cell Biology
BIOL 108	Introduction to Biological Diversity
BIOL 201	Eukaryotic Cell Biology
BIOL 207	Molecular Genetics and Heredity
BIOL 208	Principles of Ecology
BIOL ###	Any Biology Course not listed under Introductory or Senior Agrology
CHEM 101	Introductory University Chemistry I
CHEM 102	Introductory University Chemistry II
CHEM 103	Introductory University Chemistry I
CHEM 105	Introductory University Chemistry II
CHEM 164	Organic Chemistry I
CHEM 241	Introduction to Inorganic Chemistry
CHEM 261	Organic Chemistry I
CHEM 263	Organic Chemistry II
EAS 100	Planet Earth
EAS 105	The Dynamic Earth Through Time
PHYS 124	Particles and Waves
PHYS 126	Fluids, Fields, and Radiation
PHYS 130	Wave Motion, Optics, and Sounds
PHYS 144	Newtonian Mechanics and Relativity
PHYS 146	Fluids and Waves
PHYS 230	Electricity and Magnetism
PHYS 244	Mechanics
PHYS 261	Physics of Energy
PHYS 281	Electricity and Magnetism

## **Mathematics or Statistics Courses**

*(Minimum of 3 credits selected from the list)*

<b>Course ID</b>	<b>Title</b>
AREC 313	Statistical Analysis
MATH 100	Calculus I

MATH 101	Calculus II
MATH 102	Applied Linear Algebra
MATH 125	Linear Algebra I
MATH 134	Calculus for the Life Sciences I
MATH 136	Calculus for the Life Science II
MATH 144	Calculus for the Physical Sciences I
MATH 146	Calculus for the Physical Sciences II
MATH 154	Calculus for Business and Economics I
MATH 156	Calculus for Business and Economics II
STAT 141	Introduction to Statistics
STAT 151	Introduction to Applied Statistics I
STAT 161	Introductory Statistics for Business and Economics
STAT 337	Biostatistics

### **Communication or Equivalent Courses**

*(Minimum of 3 credits selected from the list)*

<b>Course ID</b>	<b>Title</b>
ALES 204	Communication Fundamentals for Professionals
ENGL 108	Introduction to Language and Literature
ENGL 150	Introduction to English Studies
ENGL ###	Any English course with a reading and writing focus

### **Economics Courses**

*(Minimum of 3 credits selected from the list)*

<b>Course ID</b>	<b>Title</b>
ECON 101	Introduction to Microeconomics
ECON 102	Introduction to Macroeconomics
ECON ###	Any foundational Economics course