AGRICULTURAL, LIFE & ENVIRONMENTAL SCIENCES

VIEWBOOK 2024 - 2025
WE ARE
dedicated to the land and the lab,
educating the next generation of
problem solvers to take on the
world’s biggest challenges.

Territorial Acknowledgement

The University of Alberta acknowledges that we are located on
Treaty 6 territory, and respects the histories, languages, and cultures
of First Nations, Métis, Inuit, and all First Peoples of Canada, whose
presence continues to enrich our vibrant community.

1 in 3
ALES STUDENTS
RECEIVE A SCHOLARSHIP

$700K for
1,500 STUDENTS
— WE OFFER THE LARGEST
AWARD POOL TO STUDENT RATIO!

We work to solve global problems together.
ALES is dedicated to:
• Enhancing the student experience
• Increasing connections to the community
• Turning science into solutions for the public good

TOP 2 IN FORESTRY IN CANADA

#2 IN FOOD SCIENCE & TECHNOLOGY
(CANADA) ARWU

7th GLOBALLY FOR IMPACT ON SUSTAINABILITY
THE Impact Rankings

#76 IN THE WORLD IN AGRICULTURE & FORESTRY

UNIVERSITY OF ALBERTA
Ready to realize your future in agricultural, life or environmental sciences?

As a student in our faculty, you’ll be propelled by studying at one of Canada’s top research universities, while benefiting from the exceptional, individualized attention that comes with our tight-knit community.

- Small class sizes build lasting relationships and strong networks
- Active student clubs and a close-knit community
- Get hands-on — our applied degree programs include field schools, practicum and internship placements, and guidance on professional accreditation after graduation

The Faculty of Agricultural, Life & Environmental Sciences offers more than 25 program options — creating nearly limitless pathways spanning science, business, or humanities. Our programs are on pulse with industry demand; students are often employed before they graduate!

The Land of Innovation

At nearly 400 acres and less than 3 km from U of A’s North Campus, South Campus in Edmonton, Alberta (pictured above) is the leading hub of agricultural research and teaching in North America. In addition to advancements in animal metabolism, crops, dairy, poultry and swine, the campus features Agri-Food Discovery Place — an innovative technology transfer facility that educates highly qualified individuals. ALES students access real-world expertise and learn first-hand at South Campus and other locations.

DID YOU KNOW?
The Ag Club is one of the oldest student clubs (established in 1911) still in existence at the U of A.
GET HANDS-ON BEYOND YOUR PROGRAM – THERE’S ALWAYS SOMETHING TO DO IN OUR COMMUNITY!

• Volunteer at South Campus in our Green & Gold Garden. Whether you’re new to gardening or have a seasoned green thumb, get dirty to learn!

• Join the Hands-on a Holstein Volunteer Program. At the Dairy Research and Technology Center (DRTC) on South Campus, you can apply your learnings in the classroom to a practical environment. Students handle daily operations and special projects centered around animal welfare and management.

Human Ecology Students’ Association (HESA)

HESA hosts a Clothing Repair Cafe that helps mend clothing to increase the lifespan of garments and decrease waste in the fashion industry.

Forest Society

A favourite way to increase awareness of forestry and conservation? Christmas tree sales and logger sports! The Forest Society also launched Shadow Day, where high school students have an opportunity to sit in on forestry courses and meet professors on campus.

Environmental & Conservation Sciences Students’ Association (ECSA)

Take part in outdoorsy events right here on campus! Host plant sales, pet animals, cook over a campfire, and give back while you have fun. Many ECSA events also raise money for conservation efforts.

Cindy

UNDERGRADUATE STUDENT

Cindy is an ALES undergrad who recently volunteered at the DRTC as part of the ALES Mini Internship Program, which gives students hands-on experience in agriculture, life and environmental sciences. This U of A teaching and research facility, in the heart of Edmonton, extends the opportunity to volunteer with cows—and even hug them!
CAREERS
- Agricultural Inspector or Consultant
- Animal Nutritionist
- Biotechnologist
- Crop or Livestock Producer
- Entomologist
- Geneticist
- Market Gardener
- Professional Agrologist (P.Ag)
- Soil Scientist
- Technical Services and Consulting

NOTEWORTHY
- Many students opt to take a donor-funded mini-internship — truly getting their boots and hands in the mud!

UNIVERSITY OF ALBERTA

BSC IN AGRICULTURE

OVERVIEW
Fast paced and high tech, agriculture is the second largest industry in Alberta. This discipline includes plant biology, soil health, animal nutrition requirements and so much more.

MAJORS
- Agricultural & Resource Economics
  Learn how to apply economic tools to production, processing, marketing, financing and consumption in the agri-food sector and other resource industries. Students develop analytical techniques to understand and assess a wide variety of policy and market issues.
- Animal Science
  From the field to the fork — gain an understanding of the scientific disciplines of animal science including physiology, genetics, biochemistry, nutrition and behaviour. Students learn how to integrate problem-solving skills in animal production systems including dairy, swine, beef, poultry and diversified livestock while also taking agronomy courses such as soil and plant sciences.
- Crop Science
  Develop an in-depth understanding of plant growth, soils and factors affecting plant production. Students learn about plant biotechnology, breeding and production management techniques used to develop, grow, and market high-quality and high-yielding crops.
- Sustainable Agricultural Systems
  Maintain and enhance the performance of agricultural systems (including people, plants, animals, soil, water and other resources) for maximum efficiency and sustainability. Key areas of study include natural resource management and their relationship to social and economic systems.

EXPERIENCES
Did you know 40% of the world’s population works in agriculture? Learn with your hands in our extensive network of plant and animal research facilities:
- South Campus: Houses some of North America’s leading agricultural research. In addition to 240 acres of farmland, you’ll find dairy, swine and poultry research facilities, including our Heritage Chicken Program.
- Agri-Food Discovery Place: Links our research in food safety, AgTech, and functional foods with industry collaborators.
- Mattheis Research Range: 12,000 acre ranch located near Duchess, AB that supports U of A research and teaching in rangeland and grassland ecology, wildlife management and impacts of climate change on rangeland and land reclamation.

BSC IN AGRICULTURAL/FOOD BUSINESS MANAGEMENT

OVERVIEW
Get a competitive edge by combining the study of life science and business in one program! This degree is jointly offered with the Alberta School of Business.

MAJORS
- Agricultural Business Management
  Discover the significance of scientific and economic relationships within the agri-food sector. Courses cover agricultural and resource economics, as well as animal, plant and soil sciences. Students will develop the business management skills and scientific understanding needed to manage organizations effectively and efficiently within this global industry.
- Food Business Management
  Work to understand the scientific and economic relationships that influence activities in the food industry. Courses in food chemistry and microbiology provide a solid scientific background that is combined with agricultural economics and business courses. Together, these skills can be applied to a career within the food processing and grocery retailing sectors.

EXPERIENCES
- First year courses: You will take foundational courses offered in the first year of the Bachelor of Commerce program along with your other ALES program requirements.
- Co-op Program: Students can also access the School of Business Co-op Program, where companies welcome your skill set in a 12-month paid work experience.

NOTEWORTHY
Elevate your skills by taking a variety of business courses, including finance, accounting, strategic management and marketing.

CAREERS
- Agri-Food Sales and Marketing Manager
- Business Development Officer
- Commodities/Stock Trader
- Food Manufacturing/Processing Supervisor
- Management Consultant
- Market Development Specialist
- Market Research Analyst
- Policy Analyst
BSC IN ANIMAL HEALTH*

OVERVIEW
Understand the biology and behaviour of companion animals, as well as the connection between animal health and the safety of the food supply. Many students in this degree go on to complete veterinary programs in Canada and around the world!

MAJORS
Companion & Performance Animals
Develop an understanding of the physiology, nutrition, behaviour and evolving role of companion and performance animals. This major emphasizes physiology, nutrition, immunology, welfare, and behaviour (including animal learning). Courses focus on the animals found in our homes, search and rescue, sports, animal-assisted therapy and service.

Food Animals
Learn how livestock, poultry and food industries interface by studying animal and human disease, animal nutrition, microbiology, physiology, behaviour and production. Students work closely with agricultural animals and have many opportunities for industry interaction. This major includes courses in immunology, one health and animal welfare.

*Students may complete all pre-veterinary course requirements in this degree.

EXPERIENCES
- Explore an emerging paradigm in public and veterinary health that recognizes that human, animal and environmental health are interlinked. AFNS 416: One Health addresses food and water safety, the increase in prevalence of antibiotic-resistant organisms, emerging infectious zoonotic diseases, environmental protection and environmental sustainability, emphasizing the interaction of these diverse yet interconnected disciplines in protecting the health of populations.
- From beef (meat processing) and dairy (nutrition and milk processing) to swine and chickens, get involved in all the related research at South Campus!
- Have you heard of our Heritage Chicken Program? These chickens have passed on their rare genes since the 1960s! The Poultry Research Centre’s Adopt-a-Chicken program and workshops help support animal health research and maintain these unique genetic lines.

BSC IN ENVIRONMENTAL AND CONSERVATION SCIENCES

OVERVIEW
Explore how interactions between science, society and the economy influence environmental management decisions. Students develop and analyze solutions for environmental issues such as climate change, land and water use, biodiversity conservation and restoration.

MAJORS
Conservation Biology
Apply the principles of biology, ecology, social science, economics and statistics to species and landscapes conservation, promoting ecological well-being for the benefit of all.

Environmental Economics & Policy
Develop skills in the economic analysis and policy process by considering the economic, social, political and legal background associated with environmental concerns.

Human Dimensions of Environmental Management
Learn how to use collective action, institutions, policy and management approaches to address challenges in environmental and natural resource management.

Land Reclamation
Combine the natural and social sciences to understand, assess and minimize the impacts of human activities on natural resources. Students learn how remediation, soil reclamation, re-vegetation and other conservation measures restore and maintain quality environments.

Wildlife & Rangeland Resources Management
Students learn to manage soil, plant, and animal relationships on both private and public lands, better understanding multiple-use issues including grazing, intensive agriculture, forestry and recreational activities.

Northern Systems (Yukon University)
Protect Canada’s northern systems! Explore factors in climate change, such as non-renewable energy resources, land use, changes in water quantity and quality, and wildlife conservation.

BSc in Environmental and Conservation Sciences / BA Native Studies Combined Degree Program (5 year)
Obtain two degrees in the combined degree offered in partnership by the Faculty of ALES and Faculty of Native Studies. Learn about Indigenous history, politics and cultural values and their influence on natural resource management. Students promote Indigenous land stewardship within the context of government policies and industrial development.

EXPERIENCES
- MWAMP Laboratory: Take part in research right on campus at the Soils, Water, Air, Manures and Plants Laboratory an ultra-clean research facility focused on environmental quality.
- Field Trips: Many courses offer field trips for experiential learning. For example, REN R 205: Wildlife Biodiversity and Ecology includes visiting the North Saskatchewan River Valley to observe wildlife in their natural habitat.
**BA in Environmental Studies**

**OVERVIEW**
Take an interdisciplinary approach to the study of the environment and explore how interactions between science, society, culture and the economy influence environmental management decisions. This degree is jointly offered with the Faculty of Arts.

**CONCENTRATIONS**
- **Culture, Society, & Peoples of Canada**
  Understand environmental challenges facing Canadians, including Indigenous perspectives and issues in environmental stewardship.
- **Food & Society**
  Explore sustainable food and agriculture by incorporating social, political, cultural, economic, ethical and feminist perspectives on issues of contemporary food production.
- **Politics, Society, & the Global Environment**
  Learn about political and social methodologies relevant to understanding environmental issues from a global perspective.

**EXPERIENCES**
- **Courses with impact:** Delve into the human side of environmental research, like the sociology of food, water and energy; rural and Indigenous community well-being; social impacts and responses to environmental change.
- **AREC 173:** The Plate, the Planet and Society is a popular cornerstone course in this program that introduces students to social perspectives on everything from what we eat for breakfast to how we protect endangered species and agricultural landscapes.
- **Experiential learning:** Students can take part in multiple experiential learning and research opportunities outside of the classroom, such as the Science Internship Program (SIP), Campus as a Living Lab, Undergraduate Research Initiative, and Certificate in Sustainability. These programs provide tools to help students thrive in a diverse and increasingly complex workplace.

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**BSc in Fashion Business Management**

**OVERVIEW**
Do you see yourself entering the world of fashion, pursuing a career in management or even starting your own business? The Fashion Business Management degree can help you achieve your goals!

Gain the advanced understanding of the analytics, planning and management tools, leadership skills, and ethical values needed to excel in the increasingly business-oriented and growing fashion industry.

You will also increase your understanding of the theoretical, practical and ethical processes involved in the design, production, distribution and consumption of textiles and clothing.

**EXPERIENCES**
- **Co-op Program:** Students can access the School of Business Co-op Program – companies welcome your skill set in a 12-month paid work experience.
- **Abroad Programs:** Take your passion for fashion abroad! Past students have joined Anne Bissonnette, our renowned museum curator and professor, in Paris for a not-for-credit ‘Fashion History Crash Course’ during the summer.

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**NOTEWORTHY**
- Did you know our 4 year BSc in Fashion Business Management is the only one of its kind in Canada?
- Our unique, multi-disciplinary program is a joint initiative of the Faculty of ALES and the Alberta School of Business, combining the study of fashion and business to give students a competitive edge.
- Students focus on three areas of fashion: science (how things interact), art (how things are designed), and business (how things are marketed).
OVERVIEW

Do you love the outdoors? Do you want to take care of the environment and sustainably manage forests? This program prepares students to manage natural resources through sustainable forest management practices based on our ecological, social, and cultural values. Courses include forest management, silviculture, forest policy, conservation, and ecology.

EXPERIENCES

Undertake hands-on learning with field schools and opportunities to engage and network with industry professionals. Forestry field schools are heavily subsidized thanks to industry endowment.

• REN R 101: Introductory Forestry Field School is a week-long field trip throughout Alberta to expose students to basic field skills and interact and learn from forestry experts.

• REN R 295: Explore the rocky mountains in this immersive forestry field school, which connects science, government, and industry managers to reconcile real-world challenges in integrated resource management.

NOTEWORTHY

• Eligible for accreditation as a Registered Professional Forester (RPF).
• Degree is jointly offered with the Alberta School of Business.

BSC IN FOREST BUSINESS MANAGEMENT

OVERVIEW

This program is designed for students wanting to pursue forestry and develop business management skills. Students build analytical, scientific, and broad educational foundations in business and forestry. The forestry component includes courses within ecology, forest biology, and management, while business management consists of introductory and advanced courses in business — including accounting, finance, marketing, and human resources.

EXPERIENCES

• Co-op Program: Students can access the School of Business Co-op Program — develop a diverse skill set in a 12-month paid work experience.

• Field Trips: Many courses also offer local field trips for experiential learning.

• Forest Industry Lecture Series (FILS): Attend this annual collaborative event for members of Alberta’s forestry community to enrich your experience — it’s free for current students!

NOTEWORTHY

• Our Forestry program is Top 2 in Canada and Top 25 in the world.

• Graduates of this accredited program are eligible for registration as a Registered Professional Forester (RPF).

• Our outstanding research in forest ecology and management combines drones, AI, LIDAR, and thermal imaging technology.

• High demand in forestry means graduates are often employed in middle management positions directly after graduation — with an average starting wage of $40/hour!

(Source: ALIS)

CAREERS

CONSERVATION PROFESSIONAL
FOREST HEALTH SPECIALIST
FOREST RESOURCE POLICY ANALYST
LAND USE PLANNER
OPERATIONS FORESTER
REGISTERED PROFESSIONAL FORESTER
SILVICULTURE FORESTER
URBAN FORESTER
WATER RESOURCES SCIENTIST
WILDLAND FIREFIGHTER

FOREST ECOLOGIST
FOREST ECONOMIST
FOREST OPERATIONS MANAGER
INTERPRETIVE NATURALIST
POLICY ANALYST
REGISTERED PROFESSIONAL FORESTER
SILVICULTURIST

CAREERS

CONSERVATION PROFESSIONAL
FOREST HEALTH SPECIALIST
FOREST RESOURCE POLICY ANALYST
LAND USE PLANNER
OPERATIONS FORESTER
REGISTERED PROFESSIONAL FORESTER
SILVICULTURE FORESTER
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SILVICULTURIST

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**BSC in Human Ecology**

**Overview**
Human Ecology explores the relationships between people and the environments they interact with to make lives better. It's a fascinating, multidisciplinary, applied field of study that provides you with the tools necessary to understand and enhance everyday life.

**majors**
- Clothing, Textiles & Material Culture
- Family Science

**Experiences**
- Practicum Placement: A 200-hour for-credit practicum placement allows students to gain hands-on knowledge and skills under the guidance of a practicing professional. Students have received placements at Special Olympics Alberta, Queen’s Trans Health Collective, Edmonton Garrison Military Family Resource Centre, Lululemon, Royal Alberta Museum and many others.
- HECOL 211: One of the most popular courses among students in the program is Human Sexuality, where students dive into the fascinating world of human sexuality and consider unique perspectives from exciting guest speakers.
- Anne Lambert Clothing and Textile Collection: As a student, you'll have special access to this collection. It's one of the country's leading collections of quilting and everyday wear spanning over 350 years, study pockets of Victorian era clothing and find samples for your research projects.
- The Protective Clothing and Equipment Research Facility: This space supports research on innovative protective clothing materials. You might even light clothes on fire to test their quality! Students can take HECOL 470: Advanced Materials for Protective Clothing and tour facilities of textile companies in Edmonton.

**BSC in Nutrition and Food Science**

**Overview**
Use your knowledge and skills to take on real-world projects that examine issues faced by the food industry and nutritional health sector. Explore human nutrition and food sciences, including microbiology and the technical processes used to preserve and distribute food products.

**Programs**
- General Program
- Food Science & Technology Specialization
- Dietetics Specialization
- Honors in Nutrition or Food Science

**Experiences**
- Human Nutrition Research Unit (HRU): This world-class facility is home to elite clinical nutrition research and technology. Did you know our whole body calorimetry unit is one of two in Canada? It can measure energy consumption to inform wellness plans for individuals with medical conditions.
- NUF5 450: Food Product Development is a popular capstone course for students to follow quality assurance in the design, creation, testing and marketing of their new food product.
- Nutrition and Food Sciences Students’ Association (NuFSSA): Each year, the NuFSSA hosts career events to help current students connect and learn about the high employability in the food and nutrition industry.

**Noteworthy**
- Students in the General program can choose minors in Food Marketing, Food Policy, Food Safety & Quality, Food Service Management, Human Ecology, Nutrition Communication & Education, Global Health or Physical Activity.
- Our Dietetics Specialization is the only program in Alberta to be accredited by the Alberta College of Dietitians! A dietetics internship is required and students participate in professional practice or field experiences in various settings to qualify as a Registered Dietitian.
- Our Food Science & Technology Specialization and Honors Food Science programs are the only in Alberta that meet the program outcomes for the food scientists Institute of Food Technologists, the largest professional organization in food science.

**Careers**
- Community Educator
- Food and Nutrition Policy
- Food Inspector
- Food Market Researcher
- Food Product Developer
- Food Quality Assurance Officer
- Food Safety Specialist
- Food Scientist
- Nutrition Consultant
- Nutrition/Food Science Researcher
- Nutrition Research Coordinator
- Public Health Inspector
- Registered Dietitian

*Graduates of the Dietetics Specialization*
WORK INTEGRATED LEARNING

Science Internship Program (SIP)
Invites ALES students to apply knowledge gained in academic studies to the workplace through a full-time, paid 4, 8, 12 or 16-month internship experience.

Recent Placements

- A nutrition and food sciences student worked at Daiya Foods and analyzed food product formulations and ingredients for pH, moisture, viscosity and stability, and engaged in micro-testing.
- An environmental and conservation sciences student worked as a Hydrometric Technologist with Environment Canada: Meteorological Service of Canada Department. Their role included height modernization and benchmark installations.

ASES Mini-Internship Program (AMIP)
Students get first-hand career experiences in agriculture, environmental and food production systems. During fall and/or winter reading weeks, students are matched with an industry-specific organization for a visit and volunteer work. The AMIP also shares engaging virtual presentations from agricultural producers around the world.

Business Co-op
Students in any ALES Business Management Program can access the School of Business Co-op Program — an exciting opportunity for companies to take on your skill set in a 12-month paid work experience.

Human Ecology Practicum
Required for students in Human Ecology, this practicum formally integrates a student’s academic study with work experience in community organizations and agencies.

Dietetics Internship
Students in the Dietetics Specialization are required to participate in professional practice during the fourth year of the program. For a course of one year, students work in various community settings, including rural areas, such as hospitals, food service operations, schools and community agencies/clinics. These placements fulfill part of the requirements to qualify as a Registered Dietitian with the College of Dietitians of Alberta.

What can you do during your degree?

uab.ca/ALESexp
EXPERIENTIAL OPPORTUNITIES

FIELD SCHOOL

Introductory Forestry Field School
Join other first-year forestry and forest business management students in August for this six-day course that will introduce you to the broad field of forestry through experiential learning. We’ll travel through the forested areas of west-central and northern Alberta, learning about forest plants, animals and ecology, field operations (including harvesting and silviculture) and forest protection. You’ll even visit manufacturing facilities. Learn basic field skills and meet forest practitioners and professionals, many of whom participated in field school themselves! You’ll also get to know your “cohort” of students — and feel well prepared for your upcoming classes!

Field Skills in Environmental, Conservation & Forest Sciences
- After completing your second year, you’ll have the opportunity to take part in this immersive 10-day program to learn field skills on location and to help solve current and future landscape management issues. You’ll apply the academic knowledge you’ve gained so far in practical and experiential environments alongside your fellow students.
- REN R 456: Explore the Yukon’s natural and cultural history with week-long, for-credit field trip courses in summer, fall and winter terms! Discuss environmental, social and economic challenges in this region, and identify ecologically and culturally appropriate research and management approaches for Canada’s northern systems.

CERTIFICATES

Set your degree apart with an embedded certificate on a topic that interests you. Popular certificates that pair well with our programs are:
- Certificate in Sustainability
- Certificate in International Learning
- Certificate in Innovation and Entrepreneurship
- Certificate in Community Engagement and Service-Learning

STUDY ABROAD

Imagine taking courses somewhere else in the world... and having them count for credit towards your degree! Planning with our advisors is recommended to ensure options fit into your program and maximize your ALES experience.
- Wageningen University & Research Experiential Learning (Netherlands)
  The ALES Centennial Dutch Endowment Travel and Experiential Learning Award was established to commemorate the relationship between Canada and the Netherlands, to mark the 70th anniversary of the liberation of the Netherlands and the Centennial of the Faculty of ALES. ALES students study, research and work with Wageningen University & Research and organizations in the Netherlands to learn the leading-edge agricultural practices that have made that country the world’s second-leading agricultural exporter.
- Semester in the North - Yukon University (Whitehorse, YK)
  Students in environmental-related programs can spend a semester in the Yukon to learn about protecting Canada’s northern systems and help develop solutions to global climate change, all while earning credit towards their degree.
- Bangor University (Wales)
  Get credit for specialized coursework in forestry or environmental and conservation sciences programs.
Admission requirements vary by program. Visit [uab.ca/programs](http://uab.ca/programs)

Looking for historical admission averages? Visit [uab.ca/averages](http://uab.ca/averages)

For application deadlines and to apply, visit [uab.ca/apply](http://uab.ca/apply)

**PURSUE A DEGREE THAT MAKES A DIFFERENCE.**

See yourself here – The sunny atrium in the Agriculture/Forestry Building is a popular spot to study and socialize.
FIND YOUR PURPOSE
uab.ca/ales

ASK US
You’ve got questions, and we’ve got advisors.
ales.recruiting@ualberta.ca
uab.ca/advising

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