

University of Alberta Quality Assurance Suite of Activities

Faculty of Agricultural, Life and Environmental Sciences (ALES) : Academic Program Reviews and President's Visiting Committee

Excerpted Reports

Executive Summary

The Faculty of Agricultural, Life and Environmental Sciences (ALES) undertook a Quality Assurance review of undergraduate and graduate programs as well as a President's Visiting Committee (PVC) in 2017. Two external review teams were brought in: a program review team, which examined academic programs from all four departments, and a PVC to look at research and strategic directions.

The program review committee commended the undergraduate and graduate programs noting the expertise and engagement of faculty members, student academic achievement and awards and alumni employment outcomes. They see ALES' facilities as a major strength of programs and note the breadth of opportunities for research and experiential learning at both the undergraduate and graduate level.

Opportunities for program enhancement include student advising, communication and mentoring, redevelopment of course-based master's into professional programs, and continued work in developing Indigenous course content and expertise.

The PVC concluded that "...the Faculty is in an enviable position, with world class faculty members, a truly interdisciplinary nature and excellent research and creative output Indicators." They provided numerous recommendations for opportunities in research and strategic directions including leadership for interdisciplinary programs and research, development of a more focused international strategy, and investment in tools for alumni monitoring, learning outcomes and teaching assessment. The Faculty made several commitments in alignment with their strategic plan.



Undergraduate and Graduate Program Review

<p>Programs Reviewed</p>	<ul style="list-style-type: none"> ● The bachelor of science (B.Sc.) in agriculture with the majors in: <ul style="list-style-type: none"> ○ agricultural economics and resource economics ○ agricultural science ○ animal science ○ crop science ○ sustainable agricultural systems ● The B.Sc. in animal health with majors in: <ul style="list-style-type: none"> ○ companion and performance animals ○ food animals ● The B.Sc. in agricultural/food business management with majors in: <ul style="list-style-type: none"> ○ agricultural business management and food business management ● The B.Sc. in forestry; ● The B.Sc. in forest business management; ● The B.Sc. in environmental and conservation sciences with majors in: <ul style="list-style-type: none"> ○ conservation biology ○ environmental economics and policy ○ human dimensions of environmental management ○ land reclamation ○ wildlife and rangeland resources management ○ northern systems (Yukon College) ● The B.Sc. in human ecology with majors in: <ul style="list-style-type: none"> ○ family ecology ○ clothing, textiles and material culture ● The B.Sc. in nutrition and food science with majors in: <ul style="list-style-type: none"> ○ nutrition and food science general program ○ food science and technology specialization ○ dietetics specialization ○ honours in food science ○ honours in nutrition ● The bachelor of arts (BA) in environmental studies. ● Graduate Programs from the Department of Agricultural, food and nutritional science: <ul style="list-style-type: none"> ○ master of agriculture (M.Ag.), master of science (M.Sc.), and doctor of philosophy (PhD) (with 7 Second Level Specializations) ● Graduate Programs from the Department of Human ecology: <ul style="list-style-type: none"> ○ master of arts (MA), M.Sc., and PhD (with 4 Second Level Specializations) ● Graduate Programs from the Department of Renewable resources: <ul style="list-style-type: none"> ○ master of forestry (MF), M.Ag., M.Sc., and PhD (with 8
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	<p>Second Level Specializations)</p> <ul style="list-style-type: none"> ● Graduate Programs from the Department of Resource economics and environmental sociology: <ul style="list-style-type: none"> ○ M.Ag., M.Sc., and PhD (with 6 Second Level Specializations)
Review Dates	April 11-13, 2017
Reviewers	<ul style="list-style-type: none"> ● Committee Chair, Dr. Rickey Yada, Professor and Dean, Faculty of Land and Food Systems, University of British Columbia ● Dr. Tattersall (Tat) Smith, Professor, Department of Geography and Planning, University of Toronto ● Dr. Jung Ha-Brookshire, Associate Dean, Research and Graduate Studies, College of Human Environmental Sciences, Associate Professor and Director of Graduate Studies, Textile and Apparel Management, University of Missouri ● Dr. Beverley Hale, Professor and Associate Dean (Research & Innovation), School of Environmental Sciences, University of Guelph ● Dr. Karen Mock, Professor, Department of Wildland Resources, Utah State University ● Dr. G. Cornelis van Kooten, Professor of Economics, Canada Research Chair in Environmental Studies and Climate, Department of Economics, University of Victoria ● Dr. Bruno Larue, Professeur, Département d'économie agroalimentaire et sciences de la consommation, Université Laval ● Dr. Thomas Chacko, Professor and Associate Chair, Earth and Atmospheric Sciences, Faculty of Science, University of Alberta ● Dr. Paul Melançon, Professor, Department of Cell Biology, Faculty of Medicine and Dentistry, University of Alberta ● Dr. Roger Epp, Professor, Political Science, Faculty of Arts, University of Alberta

Outcome

The review committee considered separate undergraduate and graduate self-studies, conducted a site visit, and performed a SWOT analysis to inform their recommendations on programs. Committee members were impressed with the quality of all programs and identified some opportunities for program improvement and enhancement.

The committee divided their comments into overarching feedback for the Faculty which is applicable to all program areas, and specific feedback for each department. They note the areas of strength including human capital, relevant academic programming, experiential learning,



entrepreneurship, interconnectivity of content, partnerships, facilities and strong student leadership as strengths.

Across the faculty they note a lack of clarity in outcomes including learning outcomes and program goals; a communication gap between administration and graduate students, and the need to better track graduating students and alumni for quality assurance and strategic planning.

The committee identified several opportunities including work to support the recommendations of the Truth and Reconciliation Committee, and potential new professional master's programs.

Program Strengths

Department of Renewable Resources

- Faculty involvement and support of students
- Industry and external agency engagement
- Flexibility of graduate program coursework
- Existing dual master's programs in business, forestry and agriculture
- Program growth
- International student recruitment and retention
- Indigenous content in programs
- Gender balance in graduate students

Department of Human Ecology

- Excellent graduate student supervision culture
- Unique and relevant programs
- Indigenous content
- Generalist approach to curricula
- Clothing and textiles collection

Department of Agricultural, Food and Nutritional Sciences

- Faculty can offer breadth and diversity of programs and is well positioned for faculty renewal
- World-class facilities to support teaching and research
- Proximity to urban farm and facilities for research and training
- Student satisfaction

Department of Resource Economics and Environmental Sociology

- Breadth and depth of faculty expertise with outstanding research records
- Broad range of graduate and undergraduate program options



- Excellent undergraduate and graduate student outcomes including publications, awards and employment thanks to rigorous academic programming
- High levels of collaboration with students/faculty in other departments supports interdisciplinary work and camaraderie in the Faculty

Opportunities for Program Improvement and enhancement

The committee made several recommendations for the Faculty of ALES including:

- Enhanced student advising support offered at the Faculty level;
- Coordinated faculty renewal across the Departments which align with the Faculty Strategic Plan objectives;
- Increased clarity around graduate student and supervisor roles, responsibilities and funding support;
- Continued support of the South Campus facility given its critical role in experiential learning and interdisciplinary research.
- Greater clarity regarding a strategy for international research partnerships and objectives for recruitment which meets diversity goals;
- Leveraged alumni engagement for curriculum development, strategic planning, mentoring, and experiential learning; and

Several opportunities were identified in the Department of Renewable Resources including:

- Better tracking of alumni to serve as mentors and for internship and student employment and to showcase employment outcomes of Master's and PhD graduates;
- Increased visibility of RENR programs through interactions with youth and high school students;
- Need to create opportunities for personal connections with faculty members due to centralized student advising;
- Lack of predictability in course offerings and a desire among grad students to lead undergraduate courses;
- Timely student advising, supervisor mentoring, improved communication to decrease time to completion;
- Redevelopment of course-based professional master's in agriculture and forestry
- Faculty renewal planning to support trends in the academy and industry and in anticipation of future retirements; and
- Annual supervisory committee meetings for PhD students and increased transparency and equity in graduate student funding.

Opportunities identified in the Department of Human Ecology included:

- Explore avenues to offer a more focused curriculum which is less depended on individual faculty and leverages other courses in the Faculty;



- Potential for collaboration with “sister” programs to support research and program delivery;
- The need to diversify graduate student funding support and engage with potential donors;
- Need for faculty mentorship due to high number of associate and assistant professors;
- A branding campaign to support recruitment should clearly identify career opportunities and the meaningful work in human ecology;
- Strong history of work with Indigenous communities means the Department is well positioned to take a leadership role in this area, an Indigenous scholar could support this work; and
- International student recruitment in the area of family and community development in the context of global textiles and apparel.

Opportunities in the Department of Agricultural, Food and Nutritional Sciences included:

- Improvement of communication with graduate students including revisions to the Graduate student handbook, mentoring and graduate supervision and clarify procedures for dealing with issues and resolving conflicts;
- Increase engagement through faculty/department-sponsored events
- There is an opportunity to make changes to the MAg given ongoing low enrolment Reduce to completion for Master’s programs;
- Increased equity and stability in graduate funding levels
- The possibility of increasing teaching opportunities for graduate students
- Professional development opportunities for students
- Consider expanding course offerings solely to graduate students
- Consider equity issues for stipend levels especially for international students

Opportunities in the Department of Resource Economics and Environmental Sociology

- Faculty expansion could support increased enrolment in undergraduate programming and distance course development
- Time to completion in undergraduate programs is above average due to course sequencing, transfer credit recognition and deferred research
- Strengthened math requirements in advanced microeconomics, math economics and statistics will support future graduate work and lifelong learning
- Enrolment in the PhD program could be strengthened by revising requirements and research currently conducted by Master’s students could be moved over to PhD students.
- Completion time in the Master’s program is above average with a high number of required courses and lengthy research work which often equals PhD quality
- Admission requirements for the master’s could be changed to require an honours undergraduate degree
- Rationalizing of the comprehensive examinations into one covering microeconomic theory and statistics.



- Consider funding model to make PhD students more attractive to faculty

Implementation Plan

In response, the Dean articulated the following priorities for the Faculty:

- Teaching and hiring of new faculty and staff aligned with areas of excellence identified through the new strategic plan, *Solving Global Problems Together 2017-2021*
- Maintaining and amplifying the role of the South Campus facility in teaching and research
- Tracking and engaging alumni in collaboration with partners in Alumni relations
- Minimizing the challenges associated with a lack of integrated space will be addressed through short term “hub events” and a long term planning for a new Faculty building
- Assessing strategies for recruiting Indigenous students and scholars and playing a role in Reconciliation
- Clarifying international research partnerships and recruitment strategies including international student recruitment, program partnerships and research connections
- Developing procedures to improve efficiency and effectiveness of undergraduate student advising and to ensure timely communication with students
- Enhancing high school recruitment activities to increase awareness of ALES programs
- Reviewing undergraduate program offerings to facilitate the ability of transfer students to complete in a timely manner
- Defining Faculty-level undergraduate learning outcomes for individual undergraduate programs
- Consider a Faculty-wide approach to proposing and implementing honours programs

The following commitments were made for the Department of Human Ecology

- Continue with efforts to enhance awareness of students, the Faculty, the University and the general public about the value of human ecology
- Address the potential risk of ongoing pressure to integrate research/teaching with a relatively small number of faculty in each program area and relatively low funding for graduate students by employing strategies that support faculty members to balance research, teaching and service commitments
- Explore new collaborations that strengthen our research and education programs and build upon our well established networks of rich collaborations

The following commitments were made for the Department of Resource Economics and Environmental Sociology

- Monitor student numbers and teaching loads to ensure that teaching and research are



not adversely affected by enrollment.

- Address challenges for students transferring into REES related undergraduate majors; Monitor Ag Business student outcomes (relative to Business students)

The following commitments were made for the Department of Renewable Resources

- Address the lack of courses available for graduate students by working to implement a series of 500-level courses in key areas to better serve our thesis-based graduate students
- Reduce any variability in competencies of graduate students through supervisory committee processes to tailor requirements to each student.

The following commitments were made for Department of Agricultural, Food and Nutritional Science (AFNS)

- Verify that the needs of graduate students are being met through the existing courses or courses offered by other departments and faculties

President’s Visiting Committee

Review Dates	May 7-8, 2017
Reviewers	<ul style="list-style-type: none"> ● Committee Chair, Dr. Jack Saddler, Professor of Forest Products Biotechnology/Bioenergy, Task Leader, IEA Bioenergy Task 39, Liquid Biofuels, Dean Emeritus, Faculty of Forestry University of British Columbia ● Dr. Mark Dale, Dean of Regional Programs, University of Northern British Columbia ● Dr. Robert Easter, Professor Emeritus, Department of Animal Sciences, University of Illinois at Urbana-Champaign ● Dr. Brian Maraj, Professor, Faculty of Physical Education and Recreation, University of Alberta ● Dr. Bill Connor, Office of the Provost, University of Alberta

Outcome

The President’s Visiting Committee felt that the Faculty of Agriculture, Life & Environmental Sciences (ALES) is in a position of considerable strength notably thanks to world class faculty members, a truly interdisciplinary nature and excellent research and creative output Indicators. The PVC was very impressed with the information provided in the 44 page self-study.

The committee made several recommendations regarding faculty, research, students, facilities and post-doctoral fellows. They encouraged ALES to take on even more of a role of showing



how interdisciplinary research can be carried out at the U of A, strengthening the Faculty strategic plan by making it more quantitative, strategically developing international student recruitment, creation of an interdisciplinary internationally marketed course-based masters, and the development of Co-op options in some of the undergraduate programs.

The PVC congratulated the Faculty for its many accomplishments and encouraged it to set ambitious, aspirational goals for itself as it is uniquely positioned to achieve them.

Faculty Strengths

- The committee noted that the Faculty encompasses a large number of disciplines and sub-disciplines which reflect the educational, research and service needs of the province. They commend the management of a such a sizable portfolio and the international stature of a number of program areas.
- The committee found the indicated support for staff/faculty development to be solid and observed good collegiality within the Faculty management team.
- The field-based laboratories dedicated to extensive and/or system research were found to offer substantial support for work of this nature
- The review committee was impressed by the number of Canada Research Chairs, Campus Alberta Innovation Program Chairs and NSERC Industrial Chairs.
- The research enterprise was found overall to be very successful as judged by increases in tri-council funding and bibliometric measures showing that the various component disciplines of ALES rank well (3rd or 4th) amongst groupings of well-chosen and well-respected comparators.
- ALES appears to be doing a very good job of preparing its graduates for successful careers in areas of study that provide important benefits for the public good
- There has been significant growth in the number of post-doc positions funded by individual faculty members which speaks highly to the research success and helps to explain increases seen in publication productivity.

Opportunities for Faculty Improvement and enhancement

The committee made several recommendations:

- The committee noted the relatively modest percentage of assistant professors, relative to individuals in the associate and full-professor ranks and recommend seeking a better balance in the mid to long term. They encouraged making the



recruitment of women a priority.

- The PVC found the number of endowed chairs modest given the size of the Faculty and number of faculty members. They recognise the difficulty in creating these opportunities and recommend that continued priority be given to development efforts in this area.
- They suggested that research priorities be considered in the next iteration of the strategic plan to guide research choices, and the conditions under which individual researchers or research teams might be expected to follow that guidance.
- Given that much of the research in ALES is of an interdisciplinary nature, the PVC suggested there is an opportunity to provide leadership in interdisciplinary research across faculties and beyond as a broker, facilitator, or initiator for a wide range of research endeavours.
- The PVC recommends formal tracking mechanisms for alumni from both the graduate and undergraduate programs to better articulate the success of graduates and the value of the learning outcomes from programs
- The Committee suggested there is an opportunity to expand transfer and collaborative programming with colleges in Alberta and the Yukon Territory.
- Expansion of approved course-based Master's is an opportunity to engage alumni and generate revenue. The Committee also suggested exploring post-graduate certificates that would ladder into the course-based Master's programs.
- With regards to PDFs, the following recommendations were suggested for consideration: 1) Systematic collection of information on the PDF and RA positions as noted in the Faculty self-study; 2) Document the achievements, backgrounds, career outcomes of the postdocs; 3) Improve the website presence for the PDF/Research Assistant positions; 4) Cultivate a community within the Faculty; 5) Seek more equitable distribution across departments.

Implementation Plan

In response, the Faculty made the following commitments:

- Take a leadership role in connecting work across disciplines within the realm of agriculture-food-nutrition-health and in environment (soil, water, biodiversity, reclamation, ecology, policy), in food security, nutrition and health, environmental sustainability, the bioeconomy and strengthening the well-being of individuals and communities.



- Implement the goal identified in the ALES strategic plan of creating a “hub” for people to interact
- Develop research themes and grand challenges by December 2017 as outlined in the ALES strategic plan to guide specialization of faculty and staff members and support efficiencies goal attainment.
- Launch a program to support ALES’ interdisciplinary capacity and to enhance cross-department connections by June 2018.
- Examine the possibility of establishing a Faculty strategic investment fund.
- Develop an international strategy to maintain and diversify international student enrolment and to examine international programming.
- Refine efforts to understand alumni outcomes including coordinating efforts with the University and the provincial government.
- Define Faculty-level learning outcomes which will be used as the basis for reviewing, revising and defining program-level learning outcomes.
- Examine opportunities for multi-faceted evaluation of teaching.
- Consider expansion of course-based master’s programs once the province has clarified its position on tuition.
- Continue to engage in efforts to increase the proportion of assistant professors, Indigenous faculty members, and gender diversity.
- Continue to embrace the roles of post-doctoral fellows and research assistance within the ALES community.