

FAPC18-007

New Course

Proposal Reference Number : 12781
PRN Alias : 17-18#260
Version No : 3
Submitted By : Dr Viacheslav Adamchuk
Edited By : Dr Viacheslav Adamchuk

[Display Printable PDF](#)

New Data									
Program Affected?	Y								
Program Change Form Submitted?	N (Simple Change) - This course will be added to engineering complimentary Set D (3 cr hrs) in Bioresource Engineering programs, including: Bachelor of Engineering (Bioresource) (B.Eng.(Bioresource)) - Major Bioresource Engineering Bachelor of Engineering (Bioresource) (B.Eng.(Bioresource)) - Honours Bioresource Engineering Bachelor of Engineering (Bioresource) (B.Eng.(Bioresource)) - Major Bioresource Engineering - Professional Agrology								
Subject/Course/Term	BREE 329 <ul style="list-style-type: none"> • one term 								
Credit Weight or CEU's	3 credits								
Course Activities	<table border="1"> <thead> <tr> <th>Schedule Type</th> <th>Hours per week</th> </tr> </thead> <tbody> <tr> <td>A - Lecture</td> <td>1.5</td> </tr> <tr> <td>L - Laboratory</td> <td>1.5</td> </tr> <tr> <td>W - Lecture-demonstration</td> <td>2</td> </tr> </tbody> </table> <p style="text-align: right;"> Total Hours per Week : 5 Total Number of Weeks : 13 </p>	Schedule Type	Hours per week	A - Lecture	1.5	L - Laboratory	1.5	W - Lecture-demonstration	2
Schedule Type	Hours per week								
A - Lecture	1.5								
L - Laboratory	1.5								
W - Lecture-demonstration	2								
Course Title	<table border="1"> <tbody> <tr> <td>Official Course Title :</td> <td>Precision Agriculture</td> </tr> <tr> <td>Course Title in Calendar :</td> <td>Precision Agriculture</td> </tr> </tbody> </table>	Official Course Title :	Precision Agriculture	Course Title in Calendar :	Precision Agriculture				
Official Course Title :	Precision Agriculture								
Course Title in Calendar :	Precision Agriculture								
Rationale	<p>Precision Agriculture is a major area of modern farming systems development. This course will give students in bioresource engineering, life sciences, agro-environmental sciences, global food security, and agricultural economics basic understanding of site-specific crop management and automation of crop and animal production. Students will learn key aspects of geospatial technologies applied to farming environment. Three hours per week of the course will overlap with FMT4 027 Precision Agriculture course, but an additional 1-hour class session will be provided for degree program students to develop professional</p>								

	analytical skills linking core knowledge in respected programs to information-based food and fiber production systems. Unlike the diploma program students, students pursuing University Degree will be required to use their acquired analytical skills (e.g., design, calculations, programming) in their term projects.
Responsible Instructor	Viacheslav Adamchuk
Course Description	The course provides an overview of the principle concepts of precision agriculture. It focuses on equipment, software and the information management systems for mastering the essential steps when adopting and developing economically viable and environmentally sound solutions for modern farms and other agribusiness enterprises.
Teaching Dept.	0066 : Bioresource Engineering
Administering Faculty/Unit	AG : Faculty of Agric Environ Sci
Prerequisites	AEBI 210, PLNT 300, or equivalent approved by the instructor Web Registration Blocked? : Y Minimum Grade or Test Scores : C Prereq course or test taken at the same time? : Y
Corequisites	
Restrictions	
Supplementary Calendar Info	
Additional Course Charges	
Campus	Macdonald
Projected Enrollment	30
Requires Resources Not Currently Available	N
Explanation for Required Resources	
Required Text/Resources Sent To Library?	
Library Consulted About Availability of Resources?	

Consultation Reports Attached?	
Effective Term of Implementation	201809
File Attachments	No attachments have been saved yet.
To be completed by the Faculty	
For Continuing Studies Use	

Approvals Summary

Show all comments

Version No.	Departmental Curriculum Committee	Departmental Meeting	Departmental Chair	Other Faculty	Curric/Academic Committee	Faculty	SCTP	Version Status
3								Approved by Departmental Chair Edited by: Viacheslav Adamchuk on: Oct 31 2017
2								Approved by Departmental Chair Edited by: Viacheslav Adamchuk on: Oct 13 2017
1			Approved Valerie Orsat Meeting Date: Sep 29 2017 Approval Date: Sep 29 2017					Approved by Departmental Chair Created on: Sep 29 2017

			<u>View</u> <u>Comments</u>					
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FAPC18-006

New Course

Proposal Reference Number : 12903

PRN Alias : 17-18#382

Version No : 3

Submitted By : Dr Roger I Cue

Edited By : Dr Roger I Cue

Display Printable PDF

New Data					
Program Affected?	N				
Program Change Form Submitted?					
Subject/Course/Term	ANSC 637 <ul style="list-style-type: none"> • one term 				
Credit Weight or CEU's	3 credits				
Course Activities	<table border="1"> <thead> <tr> <th>Schedule Type</th> <th>Hours per week</th> </tr> </thead> <tbody> <tr> <td>A - Lecture</td> <td>3</td> </tr> </tbody> </table>	Schedule Type	Hours per week	A - Lecture	3
	Schedule Type	Hours per week			
	A - Lecture	3			
Total Hours per Week : 3 Total Number of Weeks : 13					
Course Title	<table border="1"> <tbody> <tr> <td>Official Course Title :</td> <td>Livestock Breeding Systems</td> </tr> <tr> <td>Course Title in Calendar :</td> <td></td> </tr> </tbody> </table>	Official Course Title :	Livestock Breeding Systems	Course Title in Calendar :	
Official Course Title :	Livestock Breeding Systems				
Course Title in Calendar :					
Rationale	The department is revising the MSc (Applied) program, in conjunction with launching an option in Sustainable Agriculture (allied with that of Plant Science). This course is intended to be offered as a complementary course in the MSc Applied degree and to be sufficiently general so as to be suitable for students with an undergraduate degree in Agriculture (not necessarily just Animal Science), whilst still being appropriate for students in thesis research degrees. It will build on the undergraduate applied genetics (Animal and Plant Breeding) offerings in FAES. It is expected that the topic and level could be of interest to students in the MSc Applied Plant Science degree as well as the MSc Applied in Animal Science. The course will be attractive to international students wanting to learn how to set-up and administer livestock improvement programs in their country.				
Responsible Instructor	Cue				
Course Description	The design and implementation of animal genetic improvement and selection programs. This course looks at aspects of data recording and how breed				

	improvement can be carried out. Different species and livestock sectors will be examined: dairy cattle, beef cattle, swine, sheep and goats, and to a lesser degree poultry. Differences among systems will be highlighted, as a function of the structure of the particular species-industry and how genetic improvement has evolved, both within Canada and elsewhere.
Teaching Dept.	0068 : Animal Science
Administering Faculty/Unit	GR : Graduate Studies
Prerequisites	
Corequisites	
Restrictions	
Supplementary Calendar Info	
Additional Course Charges	
Campus	Macdonald
Projected Enrollment	20
Requires Resources Not Currently Available	N
Explanation for Required Resources	
Required Text/Resources Sent To Library?	
Library Consulted About Availability of Resources?	
Consultation Reports Attached?	
Effective Term of Implementation	201809
File Attachments	<ul style="list-style-type: none"> ● ansc-637-Outline.docx View
To be completed by the Faculty	
For Continuing Studies Use	

Approvals Summary

Show all comments

Version No.	Departmental Curriculum Committee	Departmental Meeting	Departmental Chair	Other Faculty	Curric/Academic Committee	Faculty	SCTP	Version Status
3			Approved Kevin Wade Meeting Date: Oct 31 2017 Approval Date: Oct 31 2017 View Comments					Approved by Departmental Chair Edited by: Roger I Cue on: Oct 30 2017
2								Submitted to Department Chair for approval Edited by: Kevin Wade on: Oct 18 2017
1								Submitted to Department Chair for approval Created on: Oct 18 2017

ANSC 637 Livestock Breeding Systems. Winter semester

Course Description

The design and implementation of animal genetic improvement and selection programs. This course looks at aspects of data recording and how breed improvement can be carried out. Different species and livestock sectors will be examined: dairy cattle, beef cattle, swine, sheep and to a lesser degree poultry. Differences between systems will be highlighted, as a function of the structure of the particular species-industry and how genetic improvement has evolved, both within Canada and elsewhere.

Rationale

The department is revising the MSc (Applied) program, in conjunction with launching an option in Sustainable Agriculture (allied with that of Plant Science). This course is intended to be offered as a complementary course in the MSc Applied degree and to be sufficiently general so as to be suitable for students with an undergraduate degree in Agriculture (not necessarily just Animal Science), whilst still being appropriate for students in thesis research degrees. It will build on the undergraduate applied genetics (Animal and Plant Breeding) offerings in FAES. It is expected that the topic and level could be of interest to students in the MSc Applied Plant Science degree as well as the MSc Applied in Animal Science. The course will be attractive to international students wanting to learn how to set-up and administer livestock improvement programs in their country.

Course text material

R Bourdon – Understanding Animal Breeding

FAO document - Animal recording for low input systems

ICAR/Interbull – standards for animal recording and genetic evaluation systems

Selected scientific articles + industry documents

Additional reference material

Van Vleck, Pollak and Oltenacu - Genetics for the Animal Sciences

Becker - Manual of Quantitative Genetics

Course outline

- Basis of animal genetic evaluation and selection programs.
- Reviews of current improvement programs; dairy cattle, beef cattle, swine, sheep, poultry.
Open, public genetic improvement programs vs private programs.

- Concepts and importance of data recording. Use of data recorded for management purposes and its use as a by-product for genetic evaluations.
- Different species-industry sector structures and the impact this has on the design and implementation of genetic improvement programs.
- Economic aspects; who pays, who benefits, how, when.
- Specification of what a trait is, how we can measure it. Considerations of who collects the data (producer, an independent recorder), how/where it is stored, integration with other data and who calculates the genetic evaluations.
- Presentation of genetic evaluations: EBV, EPD, Indices
- Reviewing the historical structure of different programs in different countries (comparisons of Canada vs other countries).
- Improvement programs: phenotypic selection, use of repeated records, animal models (information on all relatives), BLUP and its various derivatives.
- Quantitative traits, heritabilities, correlations (genetic and phenotypic) with other traits.
- Development of genomics and its impact on genetic evaluations and the structure of animal improvement programs.
- Importance of producer acceptability and implication
- Selection, selection differentials, generation intervals and response to selection
- Examination of genetic trends achieved and expected
- Cross-breeding, its uses, advantages and complications

Course structure

Lectures and discussion : 2x1.5 hrs per week, or 3hrs per week

Material will be presented via lectures, complemented by discussion and interpretation of selected topics related to scientific articles and industry documents.

Course evaluation

Mid-term term paper outline and annotated bibliography (15%), term paper (40%) and a written final exam (45%).

The term paper outline and bibliography will be due one month after the start of the course, to allow the student feedback on his/her progress. Term paper will be a review and critique of a livestock breeding system. The review paper should be 15 to 20 pages (excluding tables and figures). Reference material can be from a variety of sources (scientific articles, government documents, industry documents, popular articles), with appropriate credence given the source.



Course Revision Form

(2013)

1. Will this course revision affect a current program? If "yes", the Program Revision is indicated....		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> on Program Revision Form submitted concurrently OR <input type="checkbox"/> in the Rationale section below ☆
2. Teaching Department: <div style="border: 1px solid black; padding: 2px; width: 150px; margin: 5px;">Animal Science</div>	4. Campus (Downtown, Macdonald, Off Campus, Distance Ed, Other – specify) <div style="border: 1px solid black; padding: 2px; width: 100px; margin: 5px;">Macdonald</div>	5. Effective Term of Implementation (Ex. Sept. 2004 = 200409) Term: <div style="border: 1px solid black; padding: 2px; width: 80px; margin: 5px;">201801</div> <input type="checkbox"/> Retirement ☆
3. Administering Faculty/Unit: <div style="border: 1px solid black; padding: 2px; width: 100px; margin: 5px;">AES</div>	8. Course Number(s) Indicate course number & the number of terms spanned: (tick all that apply) Subject/course number: <div style="border: 1px solid black; padding: 2px; width: 150px; margin: 5px;">ANSC 622</div> Course(s) Span: <input checked="" type="checkbox"/> 1 term <input type="checkbox"/> 2 consecutive terms (D1, D2) <input type="checkbox"/> 2 non-consecutive terms (N1, N2) <input type="checkbox"/> 3 consecutive terms (J1, J2, J3)	
6. Responsible Instructor: <div style="border: 1px solid black; padding: 2px; width: 100px; margin: 5px;">Staff</div>	7. Credit Weight (or CEU's for non-credit CE courses): ☆ <div style="border: 1px solid black; padding: 2px; width: 100px; margin: 5px;">3</div> Old Credit Weight or CEU's (if applicable) <div style="border: 1px solid black; padding: 2px; width: 100px; margin: 5px;">3</div>	
9. Number Change From: ☆ <div style="border: 1px solid black; padding: 2px; width: 150px; margin: 5px;"></div>	10. Consolidation of Courses: <div style="border: 1px solid black; padding: 2px; width: 150px; margin: 5px;"></div>	11. Split of Multi-Term Course: <div style="border: 1px solid black; padding: 2px; width: 150px; margin: 5px;"></div>
12. Course Title (Limit 30 char.) - required for all courses. <div style="border: 1px solid black; padding: 2px; width: 150px; margin: 5px;">Exper Techniques in Animal Sci</div> Old Course Title (if applicable) <div style="border: 1px solid black; padding: 2px; width: 150px; margin: 5px;">Selected Topics in Molecular Biology</div>		13. Course Title to Appear in the eCalendar (Optional) (Limit 59 characters): Note: This can ONLY be an expansion of word(s) abbreviated in the 30 character course title in Box 12. <div style="border: 1px solid black; padding: 2px; width: 150px; margin: 5px;">Experimental Techniques in Animal Science</div>
14. Rationale for revised course (and affected programs where streamline procedures allow; see ☆ in guidelines) <div style="border: 1px solid black; padding: 10px; min-height: 100px;"> <p>ANSC 622 has not been offered in many years due to availability of resources in a narrow area of interest. As part of the proposed Sustainable Agriculture option in our MSc (Applied), this notion of experience in one area is being widened to allow students to gain experience from among the various labs within the Department of Animal Science – Reproductive Biotechnology; Animal Disease; Ruminant Nutrition; Epigenetics; Dairy Information Systems; Big Data Analyses; Animal Breeding; Dairy Cattle Welfare; Food Safety. Accordingly, both the title and description are being changed.</p> <p>In addition to lectures that explain general lab etiquette, protocols and practices, students would "shadow" group members in their daily research, and witness procedures and techniques. Students would "rotate" among three different labs during the 13-week semester, and present a journal of activities from each rotation. In addition, they would research the techniques being carried out in each of the three selected labs. Choice of the three labs would be determined by interest of the student, availability of research in a given lab at that time, and in consultation with the student's assigned supervisor.</p> </div>		
15. New Course Description (as it will appear in the eCalendar [maximum 100 words]): (N.B. Faculty of Medicine must append complete course outline) <div style="border: 1px solid black; padding: 10px; min-height: 100px;"> <p>Practical exposure to three research groups in the Department of Animal Science (choices determined by interest of the student, availability of research in a given lab at that time, and in consultation with the student's assigned supervisor); emphasis on lab goals, etiquette, and techniques, as observed by shadowing research group members (staff, post-doctoral fellows, PhD students); journal of each rotation as well as background research into current experimental procedures. Disciplines available: Reproductive Biotechnology; Animal Disease; Ruminant Nutrition; Epigenetics; Dairy Information Systems; Big Data Analyses; Animal Breeding; Dairy Cattle Welfare; Food Safety.</p> </div>		
16. Old Course Description (may be found in the Calendar or Banner) <div style="border: 1px solid black; padding: 10px; min-height: 100px;"> <p>Animal Science: Key examples of applications of molecular biology to the study of animal physiology and animal genetics will be drawn from the current literature and discussed in depth. The course has a dual purpose. It will familiarize students with current events at the forefront of molecular biology and will teach them how to read and critically evaluate research publications.</p> </div>		

17. Supplementary information to appear in the Calendar in addition to the course description.
Such as: equivalent course(s), contact hours, enrolment limitations, language of instruction etc.
Please enter the information as it should appear in the calendar notes.

18. Schedule Types(s):
(Enter all that apply – see course guidelines for a complete list.)

Hours per Week	Hours per Week	Hours per Week
Lecture/Instruction	Lab participation	
0.5	3	3.5
<input type="text"/>	<input type="text"/>	<input type="text"/>
Total Hours per Week:		3.5
Total Number of Weeks:		13

19. Projected Enrolment:

5

20. Revised Prerequisite(s) (Courses or Tests) (in full)
Specify course number(s) or name(s) of test(s):

If the student does not have a prerequisite should web registration be blocked?
 Yes No

If "Yes" complete A and B:

A. Indicate minimum grade or test score(s) the student must attain in prerequisite course(s) or test(s):

B. Can the prerequisite course(s) or test(s) be taken in the same term as this course?
 Yes No

Old prerequisite course number(s) (if none, list "None") or test score title(s) (if applicable)

21. Revised Corequisite(s) Course Number(s) (in full):
Specify course number(s):

If the student does not register for the corequisite in the same term should web registration be blocked?
 Yes No

Old corequisite(s) course numbers (if none, list "None"):

22. Revised Restriction(s):

Permission of Supervisor in consultation with three available rotation researchers

Old Restriction(s) (if none, list "None")

None

23. Additional Course Charges (must be approved by the Fee Policy Committee)

Description of Fee
(e.g. screening fee)

Amount

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24. Requires Teaching, Physical, or Financial Resources Not Currently Available (attach explanation)

Yes No

25. Consultation Reports Attached

Yes N/A

INFORMATION FOR ENROLMENT SERVICES

To be completed by Faculty No
 Slot Course: Yes No

To be completed by ES
 CIP Code

For Continuing Studies Use

CS Admin. Unit :

CS Non-Grant Courses:

Thesis Component: Yes No

Flat Rate: CdnFlat Rate: Yes N/A

26. Approvals:

Routing Sequence	Departmental Meeting	Departmental Chair	Other Faculty	Curric/Academic Committee	Faculty	SCTP
Name	Staff Meeting	Kevin Wade		M.E. Scott		
Signature						
Date	October 12, 2017	October 19, 2017		2017-10-30		
Departmental Contact Person (name/phone/email)	ann.gossage@mcgill.ca					

ANSC 622 - Experimental Techniques in Animal Science.

Course Description:

This course allows students practical exposure to modern-day research groups in the Department of Animal Science, our current areas being Reproductive Biotechnology, Animal Disease, Ruminant Nutrition; Epigenetics, Dairy Information Systems, Big Data Analyses, Animal Breeding, Dairy Cattle Welfare, and Food Safety. Students take three four-week “rotations” from among available offerings, in consultation with the Supervisor, and with confirmation that three research groups are available and willing to host. The latter condition may depend on current numbers of HQP (PhD students, Post-doctoral Fellows, Research Associates, etc.) in a particular lab to facilitate the learning process. Students will also receive initial instruction on general lab goals, etiquette, techniques and safety. The techniques will be reinforced through the four-week “shadowing” of members of each research group. Students will be expected to carry out a background research review of the topic being covered in each lab, as well as keep a journal of each rotation.

Course Evaluation:

1. Quiz on lab etiquette, safety, and general techniques: 10%
2. Background research review (15%) and journal (15%) x 3 (for each rotation).

McGill University values academic integrity. Therefore all students must understand the meaning and consequences of cheating, plagiarism and other academic offences under the Code of Student Conduct and Disciplinary Procedures (see www.mcgill.ca/integrity for more information).

In accord with McGill University's Charter of Students' Rights, students in this course have the right to submit in English or in French any written work that is to be graded.

In the event of extraordinary circumstances beyond the University's control, the content and/or evaluation scheme in this course is subject to change

Sickness/illness during the term: Please visit Student Services (CC1-124) at Macdonald Campus if you are suffering from any mental or physical health-related issues during the term. If you need to seek accommodation for in-course assignments, for medical or other emergencies, please bring medical documentation to the Student Affairs Office (106 Laird Hall).



Program/Major or Minor/Concentration Revision Form

(2013)

1.0 Degree Title

Specify the two degrees for concurrent degree programs

B.Sc.(Ag. Env.Sc.)

1.1 Major (Legacy= Subject) (30-char. max.)

[Empty box]

1.2 Concentration (Legacy = Concentration/Option) If applicable (30 char. max.)

[Empty box]

1.3 Minor (with Concentration, if applicable) (30 char. max.)

[Empty box]

1.4 Category

- Faculty Program (FP)
- Major
- Joint Major
- Major Concentration (CON)
- Minor
- Minor Concentration (CON)
- Honours (HON)
- Joint Honours Component (HC)
- Internship/Co-op
- Thesis (T)
- Non-Thesis (N)
- Other

Please specify

Specialization

1.5 Complete Program Title

B.Sc.(Ag. Env.Sc.) Specialization in Plant Production

2.0 Administering Faculty/Unit

FAES/Plant Science

Offering Faculty/Department

FAES/Plant Science

3.0 Effective Term of revision or retirement

Please give reasons in 5.0 "Rationale" in the case of retirement

(Ex. Sept. 2004 = 200409)

Retirement

Term: 201809

4.0 Existing Credit Weight

24

Proposed Credit Weight

24

5.0 Rationale for revised program

The combination of this Specialization along with the Major in Agro-Environmental Sciences and the Specialization in Professional Agrology forms a program which is accredited by the *Ordre des agronomes du Québec*. This program was recently reviewed against the OAQ's accreditation requirements. It was found that all complementary courses in Plant Production must constitute "agronomic credits", as approved by OAQ. All courses currently on this list are "agronomic credits", except for AEMA 411. We thus propose to remove this course from the complementary list, to ensure compliance with OAQ accreditation requirements. It should also be noted that very few or even no Plant Production students take AEMA 411. We propose to replace it by ENTO 352 Biocontrol of Pest Insects.

6.0 Revised Program Description (Maximum 150 words)

No change

7.0 List of existing program and proposed program

Existing program (list courses as follows: Subj Code/Crse Num, Title, Credit weight, under the headings of: Required Courses, Complementary Courses, Elective Courses)

Proposed program (list courses as follows: Subj Code/Crse Num, Title, Credit weight, under the headings of: Required Courses, Complementary Courses, Elective Courses)

Required Courses (18 credits)

- PLNT 300 Cropping Systems (3 cr)
- PLNT 305 Plant Pathology (3 cr)
- PLNT 310 Plant Propagation (3 cr)
- PLNT 353 Plant Structure and Function (3 cr)
- PLNT 434 Weed Biology and Control (3 cr)
- PLNT 435 Plant Breeding (3 cr)

Complementary Courses (6 credits)

6 credits of complementary courses selected from:

- AEMA 411 Experimental Designs 01 (3 cr)
- AGRI 340 Principles of Ecological Agriculture (3 cr)
- PLNT 302 Forage Crops and Pastures (3 cr)
- PLNT 307 Agroecology of Vegetables and Fruits (3 cr)
- PLNT 312 Urban Horticulture (3 cr)
- PLNT 322 Greenhouse Management (3 cr)
- SOIL 535 Ecological Soil Management (3 cr)

Required Courses (18 credits)

- PLNT 300 Cropping Systems (3 cr)
- PLNT 305 Plant Pathology (3 cr)
- PLNT 310 Plant Propagation (3 cr)
- PLNT 353 Plant Structure and Function (3 cr)
- PLNT 434 Weed Biology and Control (3 cr)
- PLNT 435 Plant Breeding (3 cr)

Complementary Courses (6 credits)

6 credits of complementary courses selected from:

- ~~AEMA 411 Experimental Designs 01 (3 credits)~~
- AGRI 340 Principles of Ecological Agriculture (3 cr)
- PLNT 302 Forage Crops and Pastures (3 cr)
- PLNT 307 Agroecology of Vegetables and Fruits (3 cr)
- PLNT 312 Urban Horticulture (3 cr)
- PLNT 322 Greenhouse Management (3 cr)
- SOIL 535 Ecological Soil Management (3 cr)
- ENTO 352 Biocontrol of Pest Insects (3cr)**

