Program Proposal for an Undergraduate Certificate

1. Name of the proposed undergraduate certificate.
   Beef Cattle Production Management

2. Name of the department(s) involved.
   Animal Science

3. Name of contact person(s).
   Dr Jodi Sterle, 119 Kildee Hall, 806 Stange Road; jsterle@iastate.edu, 515-294-7997

4. General description of the undergraduate certificate.
   The proposed Beef Cattle Production Management Certificate program consists of 24 credits. Successful completion of the certificate requires completion of courses within the following categories: Foundation (3 credits), Fundamental Disciplines (9 credits), Expertise Expansion (3 credits from a menu), Management (3 credits from a menu), and Beef Production Emphasis (6 credits). The program prompts the student to customize their certificate with specific scientific disciplines and production practices. This 24-credit certificate provides the appropriate background and context for students to develop their beef cattle production and management expertise.

   The certificate requirements are organized to correspond with faculty and employer defined needs for a successful transition from student to beef cattle industry professional. Successful completion of the certificate requires a minimum of 18 credits at the 300 or 400 level. The program integrates beef cattle production principles with foundation disciplines in animal science.

   All courses applied to the Beef Cattle Production Management Certificate must be taken for a grade. A cumulative GPA of 2.0 is required to complete the program and receive the certificate.

5. Need for the proposed undergraduate certificate.
   The beef industry is vital to the economy in the USA and Iowa. Iowa’s beef industry generated an estimated $6.30 billion of economic activity in the state, of which $4.09 billion resulted from the industry’s direct spending. Of this direct effect, cattle production accounted for $3.86 billion, and cattle slaughtering and beef processing accounted for $230.56 million. An estimated $2.21 billion in economic activity comes from indirect and induced effects. Iowa’s beef industry supported an estimated 32,317 jobs in 2016. Of this, the industry directly employed 19,528 people. Additionally, the industry supported 12,789 indirect and induced jobs. Job holders earned $1.36 billion in labor income. Indeed, students with documented expertise in this certificate program will be ready to contribute to this growing industry. Moreover, employers are prepared to hire them. Employers provided feedback about the proposed certificate program via an online survey instrument in the fall of 2020 (N=50; Figure
Prospective employers of Animal Science students highly favor the proposed certificate program and feel that the certificates would help identify potential employees.

**Figure 1. Proposed certificate programs – Employer feedback (N=50)**

![Bar chart showing employer feedback on certificate programs.](image)

Beef cattle production is a diverse enterprise that requires expertise in cattle growth and development, endocrinology, reproductive management, nutrition, cattle evaluation. Enterprise management is also a vital component of a successful program. Responsible and efficient management of beef production contributes to the environmental services, production of high-quality human food. The United States is a net exporter of beef products (based on value), and therefore successful management contributes to a growing agriculture economy. The demand for professionals with expertise in beef cattle production management is rising and is acutely evident. Expertise is necessary for traditional production venues and is also expanding to environmental quality, food safety, and sustainability.

Students need a clear path to customize and document their training and expertise in this area. Formal recognition of focused study in Beef Cattle Production Management is not offered in a minor, certificate, major, or secondary major at Iowa State. Completing the proposed Beef Cattle Production Management Certificate will demonstrate that the student has met a faculty threshold of expectations. Documentation of the certificate on the transcript provides a way for students to show how they pursued and completed a customized course of study and have achieved a level of competency in beef cattle production management. Student feedback related to the proposed certificate program was collected via an online survey instrument in the fall of 2020 (N=401; Figure 2). Current students of Animal Science students are interested in the proposed certificate program and feel that the certificates would help them document their expertise.
6. Objectives of the proposed undergraduate certificate including the student learning outcomes and how the learning outcomes will be assessed.

Objective
The Beef Cattle Production Management Certificate's objective is to establish a program of study that assures expertise in science and technology applications in beef cattle production systems.

Learning Outcomes
After completion of the certificate in Beef Cattle Production Management, students will

a. Demonstrate a breadth of understanding of nutrition, physiology, and breeding applications in contemporary beef cattle production systems.
b. Evaluate production systems and provide solutions to ensure the efficient production of safe, high-quality beef.
c. Recognize issues that affect the utilization of natural resources in beef cattle production systems.
d. Demonstrate competence in hands-on and practical applications in their field.
e. Apply managerial skills in the context of a beef cattle production system.
f. Demonstrate the development of the knowledge, skills, and abilities necessary for a beef cattle production management career.
Assessment
The requirements for this certificate are 24 credits defined below. (Foundation, Fundamental Disciplines in Animal Science, Expertise Expansion, Enterprise Management, and Beef Cattle Production Emphasis)

Outcome “a” will be achieved by completing courses outlined in Fundamental Disciplines in Animal Science and Expansion of Expertise. Outcome “b and c” will be achieved by completing courses outlined in Foundation and Beef Cattle Production Emphasis. Outcome “d” will be achieved by the completion of courses outlined Beef Cattle Production Emphasis. This internship will be approved by a faculty member that monitors these activities for students in this certificate program. Outcome “e” will be achieved by completion of the requirements in the Enterprise Management category. Outcome “e” will also be achieved with the successful completion of the internship. Outcome “f” will be achieved by completing courses in the Beef Cattle Production Emphasis and the Enterprise management course menu. Outcome “f” will also be achieved with the successful completion of the internship.

7. Relationship of the undergraduate certificate to other programs at Iowa State University.

There are no other undergraduate programs at Iowa State University that meet the Beef Cattle Production Management Certificate’s objectives. The program involves existing courses. The degree requirements for an Animal Science major or minor do not have the specific outcomes or requirements in the proposed certificate. Therefore, these programs do not reach the level of emphasis proposed by this certificate.

Animal Science majors will likely utilize the certificate, but students in other majors may find a synergy of their chosen line of study with the certificate. For example, it is expected that students in Agriculture Business, Agriculture Studies, and Agronomy might find this certificate an effective way to customize their studies and document their expertise.

8. Relationship of the undergraduate certificate to the strategic plans of the university, of the college, and of department or program.

Animal Science has a history of positive impact on lives and livelihoods in Iowa, the USA, and the world. Animal Science has a 125-year history in the university and remains curriculum with the College of Agriculture and Life Sciences' largest enrollment. The certificate program is a demonstration of an emphasis on students – “Ensure students receive an excellent education” – defined in the University Strategic plan. Moreover, the program is consistent with the CALS strategic plan to “Deliver high-quality, highly experiential educational programs.”
9. **Comparison of the proposed undergraduate certificate with similar programs at other universities, including the Regent’s universities.**

Kansas State University has a Beef Cattle Ranch Management Certificate. It requires 23 credits (19 prescribed and 4 credits from a menu, according to the KSU catalog [https://catalog.k-state.edu/preview_program.php?catoid=19&poid=4665](https://catalog.k-state.edu/preview_program.php?catoid=19&poid=4665)). Some courses in the certificate are graduate courses.

Colorado State University has a Beef Feedlot Management Certificate that requires 13 credits. The Colorado State program has 6 required Animal Science credits, 6 required Management credits, and 1 credit of internship ([https://catalog.colostate.edu/general-catalog/colleges/agricultural-sciences/animal-sciences/certificate-beef-feedlot-management/](https://catalog.colostate.edu/general-catalog/colleges/agricultural-sciences/animal-sciences/certificate-beef-feedlot-management/)).

The proposed program is perhaps the most similar to the Kansas State program. Both programs integrate science and technology with management principles. The Colorado State program has fewer required credits and emphasizes feedlot management. The Colorado State program does not include disciplines that affect a cow/calf operation (including reproductive physiology, metabolism, breeding and genetics).
10. Program requirements and procedures, including:

The program is structured to build expertise in beef cattle production management using four categories: Foundation Course (3 Credits), Fundamental Disciplines in Animal Science (9 credits), Expertise Expansion (3 credits), Enterprise Management (3 credits), and Beef Cattle Production Emphasis (6 credits). **Per ISU policy, nine credits will be unique to the certificate and will not be applied to a major, minor, or another certificate.**

**BEFEEF CATTLE PRODUCTION MANAGEMENT CERTIFICATE (24 CREDITS)**

<table>
<thead>
<tr>
<th>Foundation Course (3 credits)</th>
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<tr>
<td>AN S 226 Beef Science</td>
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<tr>
<td>AN S 320 Animal Feeds and Feeding</td>
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<tr>
<td>AN S 331 Domestic Animal Reproduction</td>
<td>3</td>
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<tr>
<td>AN S 352 Genetic Improvement of Domestic Animals</td>
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<thead>
<tr>
<th>Expertise Expansion (3 Credits)</th>
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<td>AGRON 280 Crop Development, Production and Management</td>
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<tr>
<td>AGRON 334 Forage Crop Management</td>
<td>3</td>
</tr>
<tr>
<td>AN S 333 Embryo Transfer and Related Technologies</td>
<td>3</td>
</tr>
<tr>
<td>AN S 336 Domestic Animal Behavior and Well-Being*</td>
<td>3</td>
</tr>
<tr>
<td>AN S 345 Growth and Development of Domestic Animals*</td>
<td>3</td>
</tr>
<tr>
<td>AN S 360 Fresh Meats*</td>
<td>3</td>
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<tr>
<td>TSM 327 Animal Production Systems*</td>
<td>3</td>
</tr>
<tr>
<td>TSM 455 Feed Processing and Technology</td>
<td>3</td>
</tr>
<tr>
<td>TSM 457 Feed Safety, Ingredient Quality and Analytics</td>
<td>3</td>
</tr>
<tr>
<td>VDPAM 487 Livestock Disease Prevention*</td>
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<th>Enterprise Management (3 credits)</th>
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<td>AGEDS 451 Agricultural Law</td>
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<td>ECON 230 Farm Business Management</td>
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<td>ECON 235 Introduction to Agricultural Markets</td>
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<tr>
<td>ECON 332 Cooperatives</td>
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<td>ECON 334 Entrepreneurship in Agriculture</td>
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<thead>
<tr>
<th>Beef Cattle Production Emphasis (6 credits)</th>
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<tr>
<td>AN S 426 Beef Systems Management (name in F2021)</td>
<td>3</td>
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<tr>
<td>ANS 399 Beef Internship Experience</td>
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</tbody>
</table>

| Total                                               | 24 credits |

Expertise Expansion (3) Courses marked with an “*” fulfill the Animal Science degree discipline expansion requirement unless designated as a unique course in the certificate.
Enterprise Management (3) (ECON 230 is a prerequisite for AN S 426)

- prerequisites for prospective students;
Per ISU policy, Students must be a current baccalaureate student and maintain a cumulative GPA of 2.0. After receiving a baccalaureate degree from an accredited institution, a student may enroll at Iowa State University to earn a certificate. A cumulative grade point average of at least 2.00 is required in courses taken at ISU for a certificate.

b. **application and selection process;**

Policies and procedures will be consistent with university policies. The certificate will only be available to students pursuing a baccalaureate degree at ISU or a student that currently holds a baccalaureate degree from an accredited institution.

c. **language requirements;**

Students must be able to communicate in English. There are no other language requirements for this program.

d. **courses and seminars presently available for credit toward the program;**

All courses in the proposed program are available

<table>
<thead>
<tr>
<th>Course and number</th>
<th>Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>AGEDS 451</td>
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<td>AGRON 280</td>
<td>Crop Development, Production and Management</td>
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<td>Forage Crop Management</td>
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<td>AN S 226</td>
<td>Beef Science</td>
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<td>AN S 320</td>
<td>Animal Feeds and Feeding</td>
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<td>AN S 333</td>
<td>Embryo Transfer and Related Technologies</td>
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</tr>
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<td>AN S 336</td>
<td>Domestic Animal Behavior and Well-Being</td>
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</tr>
<tr>
<td>AN S 345</td>
<td>Growth and Development of Domestic Animals</td>
<td>3</td>
</tr>
<tr>
<td>AN S 352</td>
<td>Genetic Improvement of Domestic Animals</td>
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<tr>
<td>AN S 360</td>
<td>Fresh Meats</td>
<td>3</td>
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<tr>
<td>AN S 426</td>
<td>Beef Systems Management (name in F 2021)</td>
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<tr>
<td>ANS 399</td>
<td>Beef Internship Experience</td>
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<tr>
<td>ECON 230</td>
<td>Farm Business Management</td>
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<td>Introduction to Agricultural Markets</td>
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<td>ECON 334</td>
<td>Entrepreneurship in Agriculture</td>
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<td>TSM 327</td>
<td>Animal Production Systems</td>
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<td>Feed Processing and Technology</td>
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<td>TSM 457</td>
<td>Feed Safety, Ingredient Quality and Analytics</td>
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<tr>
<td>VDPAM 487</td>
<td>Livestock Disease Prevention</td>
<td>3</td>
</tr>
</tbody>
</table>

e. **proposed new courses or modifications of existing courses;**

The objective is to assemble courses already available to provide a course of study that allows students the chance to customize their program and
document their achievement in their formal transcript. No new courses are in the proposal. AN S 426 (Beef Systems Management) has a revised title and description in the 2021-2022 catalog. AN S 399 (Animal Science Internship) will have a specific section to clarify that it meets a beef internship experience requirement. A committee will confirm that the internship experience meets the requirement.

f. **advising of certificate students;**

The Chair of the Animal Science Department will assign a Beef Production Management Certificate advisory committee. Members of that committee will advise students in the program.

g. **implications for related areas within the university.**

Animal Science majors will likely utilize the certificate, but students in other majors may find a synergy of their chosen line of study with the certificate. For example, it is expected that students in Agriculture Business, Agriculture Studies, Agricultural Systems Technology, and Agronomy might find this certificate an effective way to customize their studies and document their expertise.

11. **General description of the resources currently available and future resource needs, in terms of:**

   a. **faculty members;**

   Faculty positions for teaching the existing courses listed in section 10.d will be required to sustain the Beef Cattle Production Management Certificate.

   b. **computers, laboratories, and other facilities;**

   Because no new courses are needed to offer the proposed program, the infrastructure is already in place. However, as course enrollments increase, there may be a need to enhance beef teaching facilities, including experiential learning space at the beef teaching farm.

   c. **library facilities (journals, documents, etc.) in the proposed area;**

   Library resources already provide support for faculty and staff that serve the program. In addition, students enrolled in the certificate program have access to the required resources. No additional resources are necessary.
d. supplies, field work, student recruitment, etc.

The Animal Science Department’s support staff, faculty, and advisors currently support beef cattle production and management teaching and recruitment activities for the animal science major (current enrollment of approximately 1050 undergraduate students). No additional resources are anticipated.

12. Describe the needs for new resources and/or reallocated resources. Attach to the program proposal memos from the department chair(s), the college dean(s), and other appropriate persons, agreeing to the allocation of new resources and/or the reallocation of resources.

Courses will be taught by program faculty as part of their regular responsibilities and scheduled per the ISU Catalog. The prescribed courses (Foundation, Discipline, Beef Cattle Production emphasis) are all taught by faculty in the Animal Science Department. Other courses are part of menus (Enterprise Management and Expertise Expansion), so students have options to fill those requirements.

13. Attach to the program proposal, letters of support, recommendations, and statements when appropriate, from programs and departments at ISU, which are associated with the proposed program or have an interest in the proposed program.

We have consulted Agricultural and Biosystems Engineering, Agronomy, Agriculture Education and Studies, Economics, and Veterinary Diagnostics and Production Animal Medicine. All five programs have provided feedback and general support. Those letters are in the appendix. In general, there was enthusiasm for inclusion of some courses from broader curriculum choices. In addition, there was consensus that some students in those programs might see an opportunity to pursue this certificate to enhance their own program of study. The committee from Agricultural and Biosystems Engineering encouraged us to mention Agricultural Systems Technology majors to the list of students that could benefit. We have done so in item 10g.

14. If the new program is interdisciplinary, a governance document should be created and submitted to the Associate Provost for Academic Programs. Indicate here that it has been completed.

The Animal Science Department coordinates this program. There are courses in other programs, but it is not an interdisciplinary program. Therefore an interdisciplinary governance document is not necessary.
PROPOSAL FOR BEEF CATTLE PRODUCTION MANAGEMENT CERTIFICATE

APPENDIX

Table of Contents
Example Four Year Plan for Animal Science Undergraduate Student with the Beef Cattle Production Management Certificate
Comments from Programs
   Agricultural and Biosystems Engineering
   Agricultural Business
   Agricultural Education and Studies
   Agronomy
   Veterinary Diagnostics and Production Animal Medicine
Academic Program Approval Voting Record
### Example 4 year plan for Animal Science Degree with Beef Cattle Production Management Certificate

#### Freshman

<table>
<thead>
<tr>
<th>Fall</th>
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<td>Humanities - elective list</td>
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<td>SP CM 212, AGEDS 311, or COMST 214</td>
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<td>ENGL 150</td>
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<td>Soc. Sci. - elective list</td>
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#### Sophomore

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<td>AN S 200 - elective list</td>
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#### Junior

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<td>AN S 331</td>
<td>3</td>
<td>AN S 352</td>
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<td>GEN 320 or BIOL 313</td>
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<td>AN S 345 (AN S 300 expansion)</td>
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<td>Ethics -elective list</td>
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<td>U.S. Diversity - elective list</td>
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<td>International Perspective - elective list</td>
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<td>ANS 399 (Beef internship)</td>
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In this example of a Four year plan in AN S degree with Certificate

**Red are unique to the Certificate**

- ANS 426, Econ 230, AN S 336

**Green are also in the Certificate**

- ANS 226, 320, 331, 352, 399

Minimum listed here is 128 credits, but several choices might take it to 130
Dr. Steven Lonergan,

Thank you for sending the Beef Production and Swine Production Certificate proposals for review. At our October 29th meeting, the ABE Technology Curriculum Committee (TCC) discussed both proposals. The committee had two minor concerns: the first concerning mathematical pre-requisites for TSM 327 Animal Production Systems and the second concerning instructor capability and bandwidth for handling potential enrollment increases in TSM 327, TSM 455, and TSM 457. Based on a conversation with the current TSM 327 instructor and historical enrollment patterns for all three TSM courses included as an option in the certificate proposals, we believe these concerns can be managed effectively.

Further, we agree with your assessment that the Beef and Swin Production Certificate programs offer additional opportunities for our students, especially those in Agricultural Systems Technology. In fact, we suggest that you add AST to your list of majors with a potential interest in the certificate programs. Accordingly, the ABE Technology Curriculum Committee voted 6-0-0 to support the continued development of the Beef Production and Swine Production Certificates by the Department of Animal Science.

With my best regards,
Gretchen Mosher

Gretchen A. Mosher, PhD
Associate Professor, Agricultural & Biosystems Engineering
Chair, ABE Technology Curriculum Committee
605 Bissel Road, 3331 Elings Hall
Iowa State University
Voice (515) 294-6416
Pronouns: She/her/hers
Strengths: Context, Connectedness, Consistency, Discipline, Relator

Dear Dr. Mosher

I hope you are doing well. Our Animal Science department curriculum committee has been developing certificate programs to help our students customize their program of study and document their achievement in a certificate. I am contacting you to ask for your feedback on two proposed certificates: Swine Production Management, and Beef Cattle Production Management. Both proposals are attached to this email.

We would like your comments regarding the program for review and consideration by our committee. Your
comments will become part of the proposal that, if approved by our committee, will begin the process of departmental, college, and university approval. I am asking for your input and commentary because:
1. Students in your program could be interested in this program.
2. A few courses in your program (TSM classes) are listed in course menus in the proposed program.
3. We value your input.

If you can make some comments to me by Friday morning, I will make sure we consider your comments in our deliberations. If there is someone else in your program that I should contact with this request, please let me know.

Best Regards,
Steven

Steven Lonergan
Steve –
Thanks for checking in with the Economics Dept.
We have no concerns or objections with the two certificate proposals.
Our initial thought is that the we currently capture a fair number of the potential certificate students with their degree related ECON courses, so while there could be some increase in student enrollment in Econ courses, we don’t expect this to overwhelm the ECON courses that are included. We think the ECON courses offered will help with the overall business management side as a good partner to the focus on beef and swine production. Students are certainly welcome to take more than 1 of the ECON courses to meet degree electives and expand on the business management side.
One larger question this brought up in our discussion is how industry is going to respond to certificates. Not questioning your particular case, but thinking generally, will Iowa State and our graduates be better served going forward if we create more certificate programs that require more courses than a minor but less than a major?
Thanks again for seeking input.
Best regards,
Darin

Enjoy Your Adventure!

Darin Wohlgemuth, Ph.D.
Associate Teaching Professor
Director of Undergraduate Studies
Academic Advisor

174 Heady Hall
Department of Economics
518 Farm House Lane
Iowa State University
Ames, IA 50011-1054
515-294-8178 (Office)
Dear Dr. Wohlgemuth,

I hope you are doing well. Our Animal Science department curriculum committee has been developing certificate programs to help our students customize their program of study and document their achievement in a certificate. I am contacting you to ask for your feedback on two proposed certificates: Swine Production Management, and Beef Cattle Production Management. Both proposals are attached to this email.

We would like your comments regarding the program for review and consideration by our committee. Your comments will become part of the proposal that, if approved by our committee, will begin the process of departmental, college, and university approval. I am asking for your input and commentary because:
1. Students in your program could be interested in this program.
2. A few courses in your program (Econ 230, 235, 332, 334) are listed in course menus in the proposed program and you might have other suggestions.
3. We value your input.

If you can make some comments to me by Friday morning, I will make sure we consider your comments in our deliberations. If there is someone else in your program that I should contact with this request, please let me know.

Best Regards,
Steven

Steven Lonergan
Hi Dr. Lonergan  
Great hearing from you! I hope your fall semester is going well.  

I have reviewed the proposals and believe they look great and our students will likely have an interest in them. A couple of thoughts came to mind:  

1) The industry swine certification (mentioned in the attached swine document) may cause confusion with this swine certificate. As this moves forward, it may need clarification as some might think it is the same.  
2) Non AnS majors often struggle to get into An S courses, especially swine and beef. Assuming the 225 and 226 courses are required for the certificates and are pre-req’s for other courses, our students may struggle to get into these courses early enough in their academic career to be able to complete other requirements.  
3) Last thought, could or should AN S 214 and lab be added to the list of requirements since it will be needed for anything at the 300+ level. This could also be said for courses such as AN S 320 since 319 is another prereqs. 

Let me know if you have additional questions.  
Thanks

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Dear Dr. Smalley  

I hope you are doing well and if you have any fall lambing that it is done! Our Animal Science department curriculum committee has been developing certificate programs to help our students customize their program of study and document their achievement in a certificate. I am contacting you to ask for your feedback on two proposed certificates: Swine Production Management, and Beef Cattle Production Management. Both proposals are attached to this email.  

We would like your comments regarding the program for review and consideration by our committee. Your comments will become part of the proposal that, if approved by our committee, will begin the process of departmental, college, and university approval. I am asking for your input and commentary because:  
1. Students in your program could be interested in this program.  
2. You might have other suggestions for courses in our menus.  
3. We value your input.
If you can make some comments to me by Friday morning, I will make sure we consider your comments in our deliberations. If there is a different person in your program that I should contact with this request, please let me know.

Best Regards,
Steven
Subject: RE: Beef Cattle Certificate and Swine Production Certificate

Date: Tuesday, November 3, 2020 at 3:28:58 PM Central Standard Time

From: Smalley, Scott W [AGEDS]

To: Lonergan, Steven M [AN S]

Hi Steven
I have check with a few folks and it does not seem like we would have an issue with your students joining the ag law class. Feel free to add it to the menu of courses.

Take care
Scott

From: Lonergan, Steven M [AN S] <slonerga@iastate.edu>
Sent: Monday, November 2, 2020 10:07 AM
To: Smalley, Scott W [AGEDS] <smalle16@iastate.edu>
Subject: Re: Beef Cattle Certificate and Swine Production Certificate

Hi Dr. Smalley,
Our committee met on Friday and had a great discussion and took your comments in consideration. We will clarify on the proposal that students and advisors should be aware of pre-requisites.
We would also like to add the Ag Law class to the enterprise management menu. Do you have a problem with that?
Thanks,
Steven

Steven M. Lonergan
Professor
Animal Science Department
215B Meat Lab
Iowa State University
Ames, IA 50011
Phone: (515) 294-9126
Fax:  (515) 294-9143
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From: "Smalley, Scott W [AGEDS]" <smalle16@iastate.edu>
Date: Monday, October 26, 2020 at 2:11 PM
To: Steven Lonergan <slonerga@iastate.edu>
Subject: RE: Beef Cattle Certificate and Swine Production Certificate

Hi Dr. Lonergan
Great hearing from you! I hope your fall semester is going well.

I have reviewed the proposals and believe they look great and our students will likely have an interest in them. A couple of thoughts came to mind:
1) The industry swine certification (mentioned in the attached swine document) may cause confusion with this swine certificate. As this moves forward, it may need clarification as some might think it is the same.

2) Non AnS majors often struggle to get into An S courses, especially swine and beef. Assuming the 225 and 226 courses are required for the certificates and are pre-req’s for other courses, our students may struggle to get into these courses early enough in their academic career to be able to complete other requirements.

3) Last thought, could or should AN S 214 and lab be added to the list of requirements since it will be needed for anything at the 300+ level. This could also be said for courses such as AN S 320 since 319 is another prereq.

Let me know if you have additional questions.
Thanks

From: Lonergan, Steven M [AN S] <slonerga@iastate.edu>
Sent: Monday, October 26, 2020 10:47 AM
To: Smalley, Scott W [AGEDS] <smalle16@iastate.edu>
Cc: Bundy, Jennifer M [AN S] <jmbundy@iastate.edu>; Lonergan, Elisabeth J [AN S] <elonerga@iastate.edu>
Subject: Beef Cattle Certificate and Swine Production Certificate

Dear Dr. Smalley

I hope you are doing well and if you have any fall lambing that it is done! Our Animal Science department curriculum committee has been developing certificate programs to help our students customize their program of study and document their achievement in a certificate. I am contacting you to ask for your feedback on two proposed certificates: Swine Production Management, and Beef Cattle Production Management. Both proposals are attached to this email.

We would like your comments regarding the program for review and consideration by our committee. Your comments will become part of the proposal that, if approved by our committee, will begin the process of departmental, college, and university approval. I am asking for your input and commentary because:
1. Students in your program could be interested in this program.
2. You might have other suggestions for courses in our menus.
3. We value your input.

If you can make some comments to me by Friday morning, I will make sure we consider your comments in our deliberations. If there is a different person in your program that I should contact with this request, please let me know.

Best Regards,
Steve
Hi Steven,

Thank you for attending the Agronomy Curriculum Committee meeting on November 3, 2020, to discuss your department’s certificate proposals. Also, thank you for including Agron 280 as an option in both the Beef and Swine Certificate. Your department’s approach to the forages class makes sense.

The Agronomy Curriculum Committee supports Animal Science’s certificate proposals. We believe they will be a popular means for students to specialize in these subject matter areas.

Please let me know if you need anything else from us.

Best Regards,
Allen

Allen D. Knapp, Professor
Associate Department Chair, Academics
Chair, Agronomy Curriculum Committee
Director of Graduate Education, MS in Agronomy
Agronomy Department
Iowa State University
Ames, Iowa 50011
515.294.9830

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Hi Allen,

I hope the semester is wrapping up for you. I am working on our proposal for the Beef and Swine certificates (now approved by our departmental committee and past first reading by faculty). Do you have any commentary to add to our proposal as it moves forward to the CALS committee? We are on the agenda for the first meeting of the spring semester. We value your input. We did include AGRON 280 as an expertise expansion option in both certificates. We elected to not include the Forages class in the swine certificate, but left it in the Beef Certificate.

Take care and thank you!

Regards.

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From: "Knapp, Allen D [AGRON]" <adknapp@iastate.edu>
Date: Sunday, November 1, 2020 at 3:32 PM
To: Elisabeth Lonergan <elonerga@iastate.edu>, "McDaniel, Marshall D [AGRON]" <marsh@iastate.edu>, "Lonergan, Steven M [AN S]" <slonerga@iastate.edu>
Cc: "Bundy, Jennifer M [AN S]" <jmbundy@iastate.edu>, "Thomson, Daniel [AN S]" <thomson1@iastate.edu>, "Andersen, Daniel S [A&BE]" <dsa@iastate.edu>
Subject: RE: Beef Production Certificate and Swine Production Certificate
Hello all;
In response to Marshall’s question within the email train, the Agronomy Department Curriculum Committee meets every other Tuesday from 2:30-4:00 PM. Our next meeting is on November 3. We are very grateful to those who will meet with us to discuss their proposals. If you want to get on the schedule for this coming Tuesday, please let me know. If that is your goal, could you provide me with written copies of your proposal so I can send them out to the committee on Monday, Nov 2?
Best,
Allen

Allen D. Knapp, Professor
Associate Department Chair, Academics
Director of Graduate Education, MS in Agronomy
Agronomy Department
Iowa State University
Ames, Iowa 50011
515.294.9830

From: Lonergan, Elisabeth J [AN S] <elonerga@iastate.edu>
Sent: Sunday, November 1, 2020 1:31 PM
To: McDaniel, Marshall D [AGRON] <marsh@iastate.edu>; Lonergan, Steven M [AN S] <elonerga@iastate.edu>
Cc: Bundy, Jennifer M [AN S] <jmbundy@iastate.edu>; Thomson, Daniel [AN S] <thomson1@iastate.edu>; Knapp, Allen D [AGRON] <adknapp@iastate.edu>; Andersen, Daniel S [A&BE] <dsa@iastate.edu>
Subject: Re: Beef Production Certificate and Swine Production Certificate

Thank you, Marshall, for the excellent feedback! I agree, your course is one that we should discuss. In fact, I think our departments have a lot of synergies that we should explore with respect to helping our students be more familiar with integrated systems. We should continue to seek ways to work more closely from an undergraduate curriculum standpoint.

I am sure that Steven or Jen Bundy (or both) as co-chairs of the subcommittee charged with developing our certificates would be happy to visit with your AGRON curriculum committee about the certificates.

I, and others on our curriculum committee would welcome other opportunities to visit any time about items that could be mutually beneficial to the undergraduates that we serve.

Regards,

Elisabeth

Elisabeth Lonergan
Chair - AnS/DyS Curriculum Committee
From: McDaniel, Marshall D [AGRON] <marsh@iastate.edu>
Sent: Sunday, November 1, 2020 12:18 PM
To: Lonergan, Steven M [AN S] <slonerga@iastate.edu>
Cc: Bundy, Jennifer M [AN S] <jmbundy@iastate.edu>; Lonergan, Elisabeth J [AN S] <elonerga@iastate.edu>; Thomson, Daniel [AN S] <thomson1@iastate.edu>; Knapp, Allen D [AGRON] <adknapp@iastate.edu>; Andersen, Daniel S [A&BE] <dsa@iastate.edu>
Subject: RE: Beef Production Certificate and Swine Production Certificate

Hi Steven,

Agreed! I would like to see much more integration to benefit students and society at large. This is especially important considering the renewed interest in integrated crop-livestock systems. Seems like a good time for our departments to strengthen this integration. I brought a few other folks into the conversation.

I attached my syllabus with content outline (Session V goes over manure in more specifics, but we talk about organic fertilizer sources within each individual nutrient). I CCed Dan Anderson about a manure class in AB E. Dan, do you have a class on manure in AB E?

I’ve also CCed Allen Knapp, AGRON Curriculum Committee Chair. We can arrange some time for you to send certificates and get broader feedback from AGRON faculty in different Ag disciplines. Allen, do you think we can have Steven and/or anyone else come visit the AGRON curriculum committee soon for broader feedback?

Cheers,

Marshall

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From: Lonergan, Steven M [AN S] <slonerga@iastate.edu>
Sent: Saturday, October 31, 2020 3:36 PM
To: McDaniel, Marshall D [AGRON] <marsh@iastate.edu>
Cc: Bundy, Jennifer M [AN S] <jmbundy@iastate.edu>; Lonergan, Elisabeth J [AN S] <elonerga@iastate.edu>; Thomson, Daniel [AN S] <thomson1@iastate.edu>
Subject: Re: Beef Production Certificate and Swine Production Certificate

Thanks Marshall, for the thoughtful feedback. We will include your comments as we discuss with our faculty. You have a good point about manure management. We will consider your 354 class. Can you please send me your syllabus?

We had Forages in the Beef Certificate and I kicked around the idea adding it to swine, but your comments might have just convinced me to re-visit the idea and add to Swine as well. We have an equine certificate in the pipeline and I likely will run that one by you as well. You of course will be seeing these at the CALS level, but I might take you up on the chance to run this by the Agronomy committee as well. We need to keep thinking of how to integrate our programs to serve our students!

Best regards,

Steven

Sent from my iPad

On Oct 31, 2020, at 3:08 PM, McDaniel, Marshall D [AGRON] <marsh@iastate.edu> wrote:
Hi Steven,

I apologize for the late reply. One of those weeks. Thanks for reaching out to me for my input. These both look good, and I’m certain there would be a lot of interest from AGRON undergrads in both of these certificates.

Just a few things...

First, this might be my bias as soil scientist, but you might consider manure handling and application should be required for both certificates. My soil fertility class (AGRON 354) covers manure application somewhat. But maybe Dan Anderson in AB E has a good class that covers it in more detail. I see you all have a 1-credit course in your department. Maybe even making that part of core or mandatory. Any of these options might be good, but manure management seems like critical aspect of livestock production.

Second, I think AGRON 334 – Forage Crop Management (taught now by Mindy DeVries) would be good to add to both certificates.

Third, I think bringing these in front of the Ag Curriculum Committee for broader feedback might be good. We’ve had folks do this in the past. If you’re interested I can send an email to Allen Knapp (chair of AGRON curriculum committee). We’re nice folks and would be happy to be sounding board on a virtual meeting.

Cheers,

Marshall
two proposed certificates: Swine Production Management, and Beef Cattle Production Management. Both proposals are attached to this email.

We would like your comments regarding the program for review and consideration by our committee. Your comments will become part of the proposal that, if approved by our committee, will begin the process of departmental, college, and university approval. I am asking for your input and commentary because:
1. Students in your program could be interested in this program.
2. One few courses in your program (Forages) is listed in course menus in the proposed program and you might have other suggestions.
3. We value your input.

If you can make some comments to me by Friday morning, I will make sure we consider your comments in our deliberations. If there is someone else in your program that I should contact with this request, please let me know.

Best Regards,
Steven

Steven Lonergan
Date: November 16, 2020

To: Drs. Dan Thomson, Steven Lonergan, Jennifer Bundy
   Department of Animal Science
   Iowa State University

From: Pat Halbur
       Professor and Chair, Veterinary Diagnostic and Production Animal Medicine
       Executive Director, ISU Veterinary Diagnostic Laboratory
       Iowa State University College of Veterinary Medicine

Re: Proposed certificate programs in Swine and in Beef Cattle Production Management

Thank you for reaching out for input on the proposed certificate programs in swine and in beef cattle production management. I recently sought input from the VDPAM External Advisory Board (24 members representing all commodity groups, Iowa Veterinary Medical Association, several large beef/swine/dairy production systems, several large progressive veterinary clinics, the Iowa Department of Agriculture and Land Stewardship, the Iowa DNR and others). I also discussed this in early November with the VDPAM Student Advisory Board (6-8 students from each of the VM1-VM4 classes and several recent graduates). We also discussed this at our full department faculty meeting and in more detail at a meeting of VDPAM faculty with clinical, extension and outreach appointments.

The external advisory board was very complimentary of our graduate’s knowledge in medicine and surgery but emphasized the gaps in knowledge of best practices in production management, people management and agri-business enterprise finances. This is consistent with what we hear from our students, recent graduates and faculty. The certificate programs you propose provide well thought out opportunities for students to address these gaps before they get into veterinary college or perhaps concurrently while working towards their DVM. All indications are that these are timely, much needed, unique programs that will add value to their degrees and make them more competitive and successful in the industry and profession.

I strongly support moving forward with the proposed certificate programs and look forward to assisting in any way I can.
Academic Program Approval Voting Record

This document is to be appended as the last page of the proposal for any new or revised academic program to record the successive votes of approval as the proposal moves through its required review and approval steps. Consult Faculty Handbook Section 10.8 or the Faculty Senate Curriculum Committee website for information regarding Committee review and voting requirements for each action.

Curricular Action: (check appropriate boxes below)

1. x New Program □ Name Change □ Discontinuation □ Concurrent Degree for:
2. □ Undergraduate Major □ Graduate Major □ Undergraduate Minor □ Graduate Minor
   x Undergraduate Certificate □ Graduate Certificate □ Other: ________________________
3. Name of Proposed Change: Beef Cattle Production Management

4. Name of Contact Person: Elisabeth Huff-Lonergan e-mail address: elonerga@iastate.edu

5. Primary College: CALS Secondary College: ____________________

6. Involved Department(s): ____________________ ____________________
   ____________________ ____________________

Voting record for this curricular action:

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<td>November 5-6, 2020 (email vote).</td>
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[FSCC – November 2013]