ATTACHED MATERIALS

Materials linked from the February 6, 2012 Curriculum Council agenda.

FINAL REPORT

Oregon State University
Department of Animal Sciences and Department of Rangeland Ecology and Management
Program Review Site Visit
March 14-17, 2011

External Review Team
Muquarrab A. Qureshi, Program Leader – Animal Genetics, NIFA
Mary Delany, College of Agricultural and Environmental Sciences, UC Davis
Patricia Johnson, Dept. of Animal and Range Sciences, South Dakota State University
Twig Marston, Northeast Research and Extension Center, Univ. of Nebraska-Lincoln
Derek McLean, Dept. of Animal Sciences, Washington State University

Internal Graduate Review Team
Walter Loveland, Chemistry Department, Grad Lead
Carolyn Aldwin, Health and Human Sciences
Martin Fisk, Graduate School

Internal Undergraduate Academic Program Review Team
Brenda McComb, Forest Ecosystems and Society, Undergrad Lead
Gary Beach, OSU Office of Academic Programs

OVERALL RECOMMENDATION

The overall recommendation of the review team was to “maintain” current programs and “integrate” the undergraduate programs to the degree possible between the two current departments as they are merged into one unit. Further, the Rangeland Ecology and Management undergraduate program needs either greater coordination between OSU and Eastern Oregon University (EOU), or the OSU degree program should be either discontinued or merged with Animal Sciences.

SUMMARY OF FINDINGS AND RECOMMENDATIONS

The undergraduate program in Animal Sciences (ANS) continues to grow largely as a result of student interest in pre-veterinary medicine and companion animals. At the same time the number of tenure/tenure track faculty available to offer the courses and provide advising has declined. With over 400 undergraduates and over 9000 credit hours taught by a declining faculty base, it is clear that additional faculty will be needed if the program is to grow. Further, the options available to student should more closely reflect their interests.

The Rangeland Ecology and Management (RNG) undergraduate program is split between the EOU campus (77 students) and the Corvallis campus (24 students). Enrollment at
EOU has been increasing while that at Corvallis has been declining. The curriculum allows graduates to meet the OPM GS-454 (Rangeland Conservationist) or OPM GS-457 (Soil Conservationist) rating. It seems that a closer integration of the Corvallis-based Rangeland Ecology and Management program into an Animal Science (or Natural Resources) track would allow the remaining Rangeland Ecology and Management faculty to guide Corvallis-based students into career tracks in which there is synergy between resident faculty expertise and other expertise on campus (e.g., restoration ecology, watershed science). The EOU program could focus more on extensive grazing practices, use of grazing as a management tool, and riparian area management. By marketing these options the program could grow the undergraduate enrollment on both campuses; the current enrollment trends on the Corvallis campus raise significant concerns regarding long-term viability of a Corvallis-based program.

Specific recommendations as a result of the review:

- Need to enhance written and oral communication skills. Review the WIC courses, along with writing/communication experiences, in the degree program. Strengthen wherever possible.
- In the curriculum, provide improved instruction on government regulations and policies; e.g., NEPA.
- Require an internship experience prior to graduation.
- Either integrate EOU and OSU Rangeland Ecology and Management programs and grow the Corvallis based enrollment, or phase out the undergraduate Rangeland Sciences program at Corvallis and move the entire program to EOU.
- Increase faculty numbers to meet teaching demands and research opportunities in ANS.
- Address enrollment management issues, which will only increase if enrollments increase. A pre-pro school approach should be considered.
- Provide/improve upon student advising of federal employment opportunities. Invite government agencies to come to OSU and/or participate in seminars. Have federal employees meet with ANS and RNG students.
- Consider more carefully how grades are awarded for team-based projects. Far too few students are doing far too much of the work in team projects. Establish and adhere to a standard policy of assigning grades.
- Mentor new faculty hires in how to effectively teach courses.
- Streamline the system of incorporating courses articulated from community colleges (through articulation agreements and through improved arrangements amongst ANS / RNG, the Admissions Office, and the Office of Academic Programs).
- Explore scholarships for the Equine Option.
- Collaborate with Water Resources and Natural Resources programs.
DETAILED FINDINGS

Introduction

At the request of Oregon State University, a ten-member review team conducted in March 2011 an on-site joint review of the Department of Animal Sciences and the Department of Rangeland Ecology and Management. As its central objectives, the review team sought to assess the current structure, scope, and quality of the undergraduate and graduate programs in the two departments. In pursuing these objectives, the review team necessarily attended to related issues such as the number and distribution of faculty, related programs and resources, and University budgeting guidelines. In all of its activities and deliberations, the review team followed the “Guidelines for the Review of Graduate Programs” provided by the Graduate Council of Oregon State University (approved 6 April 2006) and consulted “A Self-Study report for NIFA, Graduate School and Undergraduate Program Reviews” submitted by the two departments (March 2011).

The External Review team included panel chair Muquarrab A. Qureshi, Program Leader for Animal Genetics, NIFA; Mary Delany, College of Agricultural and Environmental Sciences, UC Davis; Patricia Johnson, Dept. of Animal and Range Sciences, South Dakota State University; Twig Marston, Northeast Research and Extension Center, Univ. of Nebraska-Lincoln; and Derek McLean, Dept. of Animal Sciences, Washington State University. The Internal Graduate Review Team included Walter Loveland, Chemistry Department, Grad Lead; Carolyn Aldwin, College of Health and Human Sciences; and Martin Fisk, Graduate School. The Internal Undergraduate Academic Program Review Team included Brenda McComb, Dept. of Forest Ecosystems and Society, Undergrad Lead; and Gary Beach, OSU Office of Academic Programs.

The members of the External Review team spent March 14 touring the facilities at Eastern Oregon University before returning to Corvallis where they met most of the other review team members for dinner from 7:00-9:00 pm. The entire set of combined teams met on Tuesday March 15 to hear comments by the College of Agricultural Sciences Dean, Sonny Ramaswamy as well as several Associate Deans. Throughout the day the combined teams broke into smaller groups to talk with undergraduate and graduate students, faculty, staff, and stakeholders. These meetings lasted from 8:00 am to 5:00 pm the 15th. March 16th was devoted to a review of research and extension programs so the internal review teams did not participate in those meetings. Exit interviews between the external team and the Administrative Staff and Faculty were held on the morning of March 17th.

Department Accomplishments

The review team recognizes the high quality of the work underway in both the Department of Animal Sciences (ANS) and the Department of Rangeland Ecology and Management (REM) at Oregon State University. In particular, the teams recognize and applaud the following:
• The faculty ranks, though small, are committed to providing the best courses and best advising to a growing number of undergraduate students in the Animal Sciences degree program. A faculty who themselves form the basis of a strong department, who demonstrate a genuine commitment to teaching are clearly invested in student success. A similar level of commitment was apparent in the REM department, though student numbers were low compared to ANS.

• Diverse curricula designed to address student interests and career goals were apparent in the ANS and RNG programs. The RNG program, in particular, is focused on ensuring that graduates meet agency hiring guidelines while providing flexibility in specialized areas of rangeland ecology and management.

• Students who we spoke with (all RNG students) generally expressed satisfaction with their programs and respect for their faculty, whom they note are available, capable advisors, mentors, and teachers.

• On-campus and off-campus facilities including barns, farms, ranches and publically-owned field sites are readily available for instructional purposes.

Fit of the Mission of the Program to the College and University

The two departments have developed a joint strategic plan for a merged department. The faculty from the two departments anticipate being merged into one department during AY2011-12. The mission of the combined unit is consistent with the mission of the University through their focus on undergraduate and graduate instruction, research and outreach. The department’s faculties identified 5 goals for the combined unit. One goal in particular clearly relates to the Healthy Planet area of emphasis in the University’s strategic plan: Ecological Land and Animal Management in the Mountain West. Their undergraduate curricula are designed to not only address the interests of the students but also meet the needs of our workforce in environmental health and food production. The ANS curriculum will address both management (production of animals) and science (especially pre-vet) tracks. Similarly the merged departments expect to address research and outreach needs that directly benefit stakeholders in the region.

Quality of Students

It is difficult to assess the overall quality of the undergraduate ANS student body, but clearly there are indications that the student body includes very high achievers. During 2010, 35 undergraduate awards and other recognition were bestowed on ANS undergrads. Undergraduate students have also been actively involved presenting posters and oral presentations at professional meetings and in professional outlets. Within RNG, the average GPA is a respectable 3.2 and average SAT scores ranging from 485 (written) to 553 (math). Comparable data were not provided for the ANS students. Three RNG students receive awards each year in recognition of their achievements.

Curricular Strength

The curricula for the two programs seemed comprehensive and provided the students with areas of emphasis that allowed them to specialize in a number of areas. Given the
small number of faculty and high enrollments in ANS, it seems logical that not only
should more faculty be hired to assist with teaching loads, but curricular revision should
be explored to become more efficient in teaching the curricula that are offered.

The few students with whom we were able to talk (all RNG students) indicated that they
thought that students were in favor of the merger of the two programs, even though they
had little or no involvement in the discussion surrounding the merger. They identified a
few departmental and curricular strengths:
- The identification of plants.
- Restoration ecology program.
- Team approaches to solving problems.
- Field trips: excellent learning experiences.

The students raised a number of points that might be considered however:

- RNG students are taking “animal” courses, but ANS students are not often taking
  RNG courses. A combined curriculum committee may help to resolve this and the
  following issue.
  - There is redundancy in course materials. For instance, material covered in RNG 341
    (Rangeland Ecology and Management), RNG 355 (Desert Watershed Management),
    RNG 421 (Wildland Restoration and Ecology) overlap in course content as well as
    with some Natural Resources courses.
- There is little accountability on group projects. Frequently, one or two persons do
  most of the work in a particular course. Recommendation: Develop a policy on how
to grade students based on their contribution to the course or to an assigned course
project.
- There are no classes that cover environmental policies such as NEPA. As a result,
  students lack the experience and knowledge that they need when they enter
government agency positions. Recommendation: Add NEPA or other policy course
to the curriculum.
- More emphasis on writing and communication should be required. Recommendation:
  Strengthen the curriculum in order to improve the current lack of adequate skill
development with regard to writing and oral communication.
- Polycom-based courses have not been successful. Students expressed a preference for
  face to face instruction and “hands on” experiences.
- Internships are not currently required as part of the graduation requirements; although
  an internship is recommended. Recommendation: Make internships (internship
  experiences) a requirement and hire an Internship Coordinator similar to the position
  held by Rebecca Goggans in the Department of Fisheries and Wildlife.
- Add both ANS and RNG to the curricula at OSU-Cascades and Central Oregon
  Community College in Bend.
- Share curriculum updates and changes with the stakeholders.
Quality of Personnel to Achieve the Mission

The faculty in the two departments maintain a balance of teaching, research and service except for those faculty located in off-campus research and extension facilities who have little or no on-campus teaching responsibilities. With a few exceptions faculty publish at a modest rate and support research through many small and a few (if any) large grants. To gain the national and international reputation that the merged department deserves, hiring new faculty who will not only contribute to the teaching mission but also gain recognition for their research will be critical. A major concern is the turnover in faculty and net loss of faculty over time. There has been a decrease of 10-12 faculty members in 10 years caused by a combination of retirements and for personal reasons. Of particular concern is the loss of young faculty members from the departments that seem to be a result of heavy workloads or being hired away for better salaries either in industry or other higher education institutions. REM faculty are “scrambling to do their work” and there is a high degree of stress. Although students indicated that they were attracted to the programs because of the reputations of several of the faculty, the students also are aware of the problem of declining faculty numbers and they noted that there were “no new professors” teaching their classes. **Recommendation**: Hire new tenure track professors; i.e., new faculty with fresh perspectives and boundless, enthusiastic energy. However given the high student numbers especially in ANS, the department will continue to need to identify a correct balance between tenure track faculty and instructors.

The faculty indicated that they intend to maintain separate undergraduate degrees, but will possibly merge the graduate degree programs. They are also exploring the development of a Veterinary Tech program at OSU with Veterinary Medicine. Faculty value their role in advising, and assured the review team that they do notify students of positions or internship opportunities. However, coordination of a viable, robust internship program is needed.

The faculty also suggested development of modular courses as part of the curriculum to enable better quality field experiences. They also indicated a need to resolve the debate of undergraduate “options”, which are transcript visible, versus undergraduate “areas of emphases” which are not transcript visible. It is clear that regardless of whether the undergraduate programs remain separate or are merged, that the faculty will need to decide whether or not to have one or two Curriculum Committees following the merger of the two departments and the various programs. **Recommendation**: We recommend one curriculum committee rather than two so that efficiencies and synergies can be developed as curricula evolve, particularly around options involving Science and management.

**Level and quality of infrastructure**

Both on campus and off campus facilities need to be kept current and reflect the state of the art in real world settings. There was the sense that many facilities were outdated and needed upgrading or modernizing. One example was provided of the need for modern facilities for poultry students so that they are exposed to current industry standards. Renovations of barns and other facilities are planned.
In addition to the structural conditions that can facilitate teaching at OSU and EOU, there is a need to coordinate activities between the two campuses. Interactions of students between OSU and EOU is limited and could be improved through joint field trips, polycom classes (that are more effective than they have been) and other innovative approaches.

Quality of Organizational Support

The students with whom we spoke appreciated the small classes and “family atmosphere” that pervades both programs. The students were aware of philosophical differences among students, especially differences between OSU and EOU reflecting more conservative/rural students vs. more liberal/urban students. We did note that there were no formal Graduate Teaching Assistantships (GTA) provided within the departments but that Graduate Research Assistants (GRAs) would assist faculty with some classes. However, there was no formal training for those graduate students who were assisting with teaching as a part of their GRA. We strongly suggest that GTA support be requested and that students be provided with training, especially with regards to large classes, field classes (safety), and work with large animals.

Student clubs are active in both departments, but there is no departmental support for student clubs. Funding for student club operations/activities comes from self-support, grants, and fund raisers. Recommendation: The student clubs (1) provide useful information for students, (2) a time and place for students to gather to talk about issues, problems, courses, experiences, etc., and (3) educational activities. Student clubs provide the resources to occasionally bring in guest speakers, as well as a place to garner encouragement and practical experiences regarding the development of computer skills and the preparation of publications / poster presentations at professional meetings. Because of the varied benefits that these student clubs provide, there should be some support coming from the departments for student club activities.

Given the 41% increase in headcount enrollment from 2001 to 2011 and the 28% increase in student credit hours, the Animal Sciences Department will need to carefully consider the two possibilities that they are considering to limit continued growth. The two options currently under consideration are the pre-school/pro-school option (which is in place already in Engineering and is being considered in Forestry), and the requirement that that students receive a C- grade or higher in the core courses. We encourage the department to consider the pre-/pro-school approach especially for those students enrolled in ANS to pursue admission into Veterinary Medicine.

Professional viability of graduates

Students in the REM program are qualified to meet OPM guidelines for a Rangeland Conservationist or a Soils Conservationist. Follow through on enabling students to find gainful employment though has not always been successful. Students indicated that they were not being instructed on how to apply for federal positions and OSU’s Career
Services has not been helpful for students seeking federal employment. **Recommendation:** (1) include, within the curriculum experience, information on how to apply for federal positions; and (2) have OSU’s Career Service provide a better service regarding the identification/availability/requirements and application process required to pursue federal positions.

Stakeholders offered insights into improvements that could be made to the students’ education. They felt that more attention was needed with regards to producing credible spokespersons to work with and answer questions coming from legislators, regulators, and public citizens. They indicated that knowledgeable student graduates will best be able to explain experiment results, new or proposed policies, or what constitutes best practices. The programs need to continue producing graduates who will make meaningful contributions to the agricultural industry in the Pacific Northwest. **Recommendation:** Ensure that curricula include opportunities for students to be trained in the following areas:

- Environment and Environmental Issues / Policies
- Animal Welfare
- Sustainability
- Food Security / Safety
- Societal (and Global) Challenges

*Sat[isfaction of students and graduates]*

In general the students who we spoke with seemed to be satisfied with their experience in the REM department even though they had many suggestions for improvements. There was dissatisfaction that there has been no student involvement in the merger discussions. There is a perception that the merger was driven by research and extension, not by undergraduate instruction and students are concerned about the effects that the merger might have on their programs. They also expressed a desire to add a few new courses and create a greater connection between EOU and OSU.

We were not provided with exit interview results nor with alumni survey results so we are unaware of any concerns raised by recent graduates.

**CONCLUSION**

Given the strength of the program in ANS and the growth of the program in RS at the EOU campus, we recommend maintaining both programs, however consideration should be given to closer integration between the two programs and a decision will have to be made about continuation of the RNG degree on the Corvallis campus. Additional faculty will be needed in ANS in order to meet teaching demands, and grow the research reputation of the program.