Category I and Abbreviated Category I Proposal Transmittal Sheet

Submit proposals to: Office of Academic Programs, Assessment, and Accreditation, 500 Kerr Administration Building – Oregon State University

For Instructions, see http://oregonstate.edu/admin/aa/apaa/academic-programs/curriculum/category-1-proposals Please attach Executive Summary, Proposal, Library Evaluation (performed by the Library), Accessibility Form, Letters of Support (External to OSU), Liaison Correspondence (Internal to OSU), Faculty Curriculum Vitae, and Budget Sheets, as appropriate.

Check One:

Full Proposal (Category I)
[Category I Final Approval: Oregon State Board of Higher Education]

- _X_ New degree program
- ___ New certificate program or Administrative unit
- ___ Major (substantive) change in existing program
- ___ Establishment of a new college

Abbreviated Proposal (Abbreviated Category I) *[Abbreviated Category I Final Approval: OSU Provost]*

- ___ Rename of an academic program or unit
- ___ Establishment of a school, department or program
- ___ Reorganization – moving responsibility for an academic program from one unit to another
- ___ Merging or splitting an academic unit
- ___ Termination of an academic program or unit
- ___ Suspension or reactivation of an academic program or unit

For proposals to establish a new center or institute, contact the Research Office (541-737-3467)

For requests to offer existing certificate and degree programs at new locations, use the Memorandum of Understanding form available at http://oregonstate.edu/admin/aa/apaa/academic-programs/curriculum/mou-process

Title of Proposal: Interdisciplinary Graduate Program in Comparative Health Sciences

Effective Date: January, 2013

School/Department/Program: **N/A**

College: **College of Veterinary Medicine/Division of Health Sciences**

I certify that the above proposal has been reviewed by the appropriate Department, School, and College Committees. I approve this proposal.

N/A		Cyril R. Clarke	**4-23-12**
Sign (Department Chair/Head; Director)	*Date*	*Sign (Dean of College)*	*Date*
		Cyril R. Clarke	
Print (Department Chair/Head; Director)		Print (Dean of College)	

New Degree Program Proposal
MS, PhD in Comparative Health Sciences

Status: Pending Review - Academic Programs (Previous Version)

Hide All Reviews

1. Review - College Approver - Veterinary Medicine

Approved by Patrick Kamins Coord-Student Services / Veterinary Medicine, *April 24, 2012 3:53pm*

2. Review - Curriculum Coordinator

Sent Back by Gary Beach Coord-Curriculum / Acad Prgms/Assess/Accred, *May 15, 2012 1:53pm*

Comments

Gary Beach (Curriculum Coordinator) May 15, 2012 1:53pm
Sent back to the orginiator in order to post the Library Evaluation report.

--Gary

3. Originator Response

Beth Chamblin Asst to Dept Head / Vet Biomedical Science, *May 15, 2012 2:00pm*

4. Review - Curriculum Coordinator

Sent Back by Gary Beach Coord-Curriculum / Acad Prgms/Assess/Accred, *May 23, 2012 4:58pm*

Comments

Gary Beach (Curriculum Coordinator) May 23, 2012 4:58pm
Returning for revisions following the Academic Programs Committee meeting.

--Gary

5. Originator Response

Beth Chamblin Asst to Dept Head / Vet Biomedical Science, *May 31, 2012 2:32pm*

6. Review - Curriculum Coordinator

Sent Back by Sarah Williams Coord-Curriculum / Acad Prgms/Assess/Accred, *May 31, 2012 3:12pm*

Comments

Sarah Williams (Curriculum Coordinator) May 31, 2012 3:12pm
Returning to Originator at her request.

7. Originator Response

Beth Chamblin Asst to Dept Head / Vet Biomedical Science, *May 31, 2012 3:14pm*

Comments

Beth Chamblin May 31, 2012 3:14pm
The recommendations and comments made by the Curriculum Coordinator, Academic Programs Committee and Library have been addressed in the revised proposal documents.

8. Review - Curriculum Coordinator

Approved by Sarah Williams Coord-Curriculum / Acad Prgms/Assess/Accred, *June 4, 2012 10:57am*

Comments

Sarah Williams (Curriculum Coordinator) June 4, 2012 10:57am
This proposal is ready for review by Budgets and Fiscal Planning.

9. Review - Budgets and Fiscal Planning Committee

Sent Back by Walter Loveland, *October 14, 2012 8:54pm*

Comments

Walter Loveland (Budgets and Fiscal Planning Committee) October 14, 2012 8:54pm
This proposal was sent back to the proposers for clarification of the budget in the following areas: (a) The Library Assessment must be fully funded in each year of the budget, not partially funded. (b) The total incremental funding relative to today should be indicated in the budget. Thus if the $207K is to be spent in each of the four years, it should be indicated in each year in addition to new expenditures in succeeding years. (c) The salaries of the graduate assistants need to be clarified. It appears the grad students are paid $30,000 per year with a small $5000 OPE charge. Is that for a 0.49 FTE per person or is it (as suggested by the budget) 1.0 FTE /person? How is the OPE calculated? (d) The narrative speaks of an investment of $560K from the College. Where does that appear in the budget? (e) The narrative mentions a director + staff position. Where is that in the budget? (f) The distinction between “student” and “resident” needs to be clarified.

10. Originator Response

Beth Chamblin Asst to Dept Head / Vet Biomedical Science, *October 25, 2012 5:06pm*

Comments

Beth Chamblin October 25, 2012 5:06pm
Thank you for the review of our proposal for a new graduate program, Comparative Health Sciences. We answered your specific questions below and have modified the proposal accordingly.
a) The library assessment must be fully funded... answer: It is. As specified in the proposal, the library has recommended the subscription of a journal (Infection Control & Hospital Epidemiology) that we already have in our library. It will be available to students.
b) The total incremental.... answer: Each year (1st to 4th) has its own budget that is shown in the budget pages. All four years together will have a budget of $1,053,600.
c)Salaries and OPE.... answer: The College of Veterinary Medicine has a program of residency (in Medicine, Surgery, etc.) Those residents are enrolled in the MS (current MS of Veterinary Medicine) program. The resident position is 1.0 FTE and is paid $30,000 with $5,000 of OPE.
d) The narrative speaks of an investment of $560K... answer: This represents the total investment of the College in the program. It has been updated.

e) The narrative mentions a director.... answer: The positions do not represent new faculty, but re-assignments. Because of that, they do not infer new money. However, we have changed the budget page to show those costs.
f) the distinction between.... answer: As mentioned before, resident/graduate student (MS) is a program existing in the College. Professional schools have MD/MS, MD/PhD, DVM/MS, DVM/PhD, that follows a different model compared with other programs in the University. We added a few sentences in the text to make it clearer.
We appreciate the comments and the opportunity to improve the presentation of our proposal.

11. Review - Budgets and Fiscal Planning Committee

Sent Back by Sarah Williams Coord-Curriculum / Acad Prgms/Assess/Accred, *November 13, 2012 10:47am*

Comments

Sarah Williams (Budgets and Fiscal Planning Committee) November 13, 2012 10:47am
Per email from Gary Beach on 11/12/12, I am returning this proposal to the Originator at the request of the Budgets and Fiscal Planning Committee for requested changes. SW

12. Originator Response

Beth Chamblin Asst to Dept Head / Vet Biomedical Science, *November 14, 2012 9:33am*

Comments

Beth Chamblin November 14, 2012 9:33am
Budget documents were updated.

13. Review - Budgets and Fiscal Planning Committee

Approved by Walter Loveland, *December 4, 2012 10:22am*

14. Review - Graduate Council Chair

Sent Back by James Coakley Associate Dean / College of Business Dept, *March 12, 2013 1:06pm*

Comments

James Coakley (Graduate Council Chair) March 12, 2013 1:06pm
The Graduate Council feels this program would be a welcome and valuable addition to the OSU campus. However, we would like the proposal to provide additional details pertaining to establishment of an interdisciplinary graduate program. Specifically, an agreement for hosting the program within the Graduate School, a more expansive list of participating faculty and their tenure home to ensure sufficient faculty are engaged to deliver the needed coursework and mentoring, and additional information on sources of student support. Liaison letters from the Provost and the Graduate School would help to clarify the current and future intended structure of the program as an interdisciplinary program.

15. Originator Response

Beth Chamblin Asst to Dept Head / Vet Biomedical Science, *April 3, 2013 10:09am*

Comments

Beth Chamblin April 3, 2013 10:09am

A letter of support from the graduate school was added. The appendix list of faculty was updated and the proposal itself was updated.
Thank you,
Beth

16. Review - Graduate Council Chair

Sent Back by James Coakley Associate Dean / College of Business Dept, *April 5, 2013 10:33am*

Comments

James Coakley (Graduate Council Chair) April 5, 2013 10:33am
Please attach Appendix 1

17. Originator Response

Beth Chamblin Asst to Dept Head / Vet Biomedical Science, *April 5, 2013 11:34am*

Comments

Beth Chamblin April 5, 2013 11:34am
Appendix 1 has been attached.
Thank you,
Beth

18. Review - Graduate Council Chair

Approved by James Coakley Associate Dean / College of Business Dept, *April 18, 2013 6:52am*

19. Review - Curriculum Council Chair

Sent Back by Michael Bailey Professor / Sch Elect Engr/Comp Sci, *May 10, 2013 4:46pm*

Comments

Michael Bailey (Curriculum Council Chair) May 10, 2013 4:46pm
Sent back for proposer edits

20. Originator Response

Beth Chamblin Asst to Dept Head / Vet Biomedical Science, *May 13, 2013 11:20am*

Comments

Beth Chamblin May 13, 2013 11:20am
The proposals has been updated. The following changes have been made.
page 3 and 4-Elective courses changed to Required/Elective courses. Phd elective credits were changed to 65.
On page 4, the first paragraph was updated.
On page 5, "f" and "h" were updated.
On page 6. "j" was updated.
On page 11. "5.a." was updated with learning outcomes for core courses.

Thank you,
Beth Chamblin

21. Review - Curriculum Council Chair

Sent Back by Michael Bailey Professor / Sch Elect Engr/Comp Sci, *May 24, 2013 4:36pm*

Comments

Michael Bailey (Curriculum Council Chair) May 24, 2013 4:36pm
Returned to CVM for changes to the proposal, specifically items 4 (library budget) and 7 (two-week rotations) on the list of questions.

22. Originator Response

Beth Chamblin Asst to Dept Head / Vet Biomedical Science, *May 24, 2013 5:19pm*

Comments

Beth Chamblin May 24, 2013 5:19pm
The budgets have all been updated to reflect the library's request.
The MS two week rotation has been eliminated on page 3.
Thank you,
Beth Chamblin

23. Review - Curriculum Council Chair

Approved by Michael Bailey Professor / Sch Elect Engr/Comp Sci, *June 11, 2013 9:45am*

Comments

Michael Bailey (Curriculum Council Chair) June 11, 2013 9:45am
Budget was corrected
Some "vagueness" in the proposal was clarified

24. Review - Faculty Senate Exec Committee

Approved by Vickie Nunnemaker Special Asst to Faculty Senate / Faculty Senate, *June 11, 2013 9:49am*

Comments

Vickie Nunnemaker (Faculty Senate Exec Committee) June 11, 2013 9:49am
The Faculty Senate Executive Committee approved this proposal on June 3, 2013; it will be considered for approval by the full Faculty Senate on June 13, 2013.

25. Review - Academic Programs

Pending Review

More Queued Reviews (1)

Catalog Coordinator

Proposal

Proposal ID: 84096
Type: New Degree Program
Submission Date: May 24, 2013 5:19pm
Comments:
Review Process
College of Veterinary Medicine -- APPROVED: April 24, 2012
Academic Programs Committee: May 23, 2012
Budgets and Fiscal Planning Committee -- APPROVED: December 4, 2012
Graduate Council -- APPROVED: April 18, 2013
Curriculum Council --
Executive Committee:
Faculty Senate --
OSU Provost --
OUS Provosts' Council --
Oregon State Board of Higher Education (Academic Strategies Committee) --

History

Active Version - Submitted May 24, 2013 5:19pm
Version 9 - Submitted May 13, 2013 11:20am
Version 8 - Submitted April 5, 2013 11:34am
Version 7 - Submitted April 3, 2013 10:09am
Version 6 - Submitted November 14, 2012 9:33am
Version 5 - Submitted October 25, 2012 5:06pm
Version 4 - Submitted May 31, 2012 3:14pm
Version 3 - Submitted May 31, 2012 2:32pm
Version 2 - Submitted May 15, 2012 2:00pm
Version 1 - Submitted April 24, 2012 3:29pm

Originators

Name	Title	Department/School
Beth Chamblin	Asst to Dept Head	Vet Biomedical Science

Contacts

No contacts

Proposal Details

College: College of Veterinary Medicine
Department/School: Biomedical Sciences
Program Type: Graduate Major
New Degree Name: MS, PhD in Comparative Health Sciences

Supporting Documents

Documents

Executive Summary

The College of Veterinary Medicine in collaboration with partners in the Division of Health Sciences proposes to establish a new interdisciplinary graduate program in Comparative Health Sciences. This program will offer both MS and PhD degrees and will replace a recently terminated PhD program in Comparative Veterinary Medicine and an existing MS program in Veterinary Science. Focusing on health sciences graduate education and research at the whole animal level, the program will be complimentary to and supportive of existing programs that are focused primarily at the molecular and cellular level, such as the OSU MS and PhD in Molecular and Cellular Biology program.

Students will be required to complete a program core curriculum as well as an option-specific curriculum. The latter will be tailored to meet the needs of the participating academic unit and the individual student. Initially, the program will have one transcript-visible option, Biomedical Sciences, which will accommodate students with advisors in the College of Veterinary Medicine. There will be opportunity, however, to add other options as the interdisciplinary program expands to include related areas of emphasis in the health sciences.

Administered by the Graduate School, this interdisciplinary program will provide an opportunity for all units in the College of Veterinary Medicine to participate in graduate education and encourage the integration of several related areas of emphasis currently existing in other units. This program proposal represents a deliberate effort to achieve critical mass in a disciplinary area identified by Oregon State University and the OSU Division of Health Sciences for priority development.

New Interdisciplinary Graduate Degree Program Proposal:
M.S., Ph.D. in Comparative Health Sciences

College of Veterinary Medicine
College of Public Health and Human Sciences
College of Pharmacy
Graduate School

May 2012
Proposed Effective Term: Fall Term 2013 (201302)

CPS Tracking #: 84096

Institution: Oregon State University

College/School: Division of Health Sciences (DHS), including the College of Veterinary Medicine (CVM), the College of Public Health and Human Sciences (PHHS) and the College of Pharmacy (CoP)

Department/Program: Interdisciplinary graduate program in Comparative Health Sciences (CHS)

1. Program Description

a. *Proposed Classification of Instructional Programs (CIP) number:* 51.2509

CIP #: 512509
Title: Comparative Health Sciences
A program that focuses on the scientific study of animal models of human disease and related experimental procedures, and prepares veterinarians and animal health specialists to manage the laboratory use and care of experimental animals. Includes instruction in laboratory animal husbandry, laboratory animal disease, biohazard control, gnotobiology, breeding, comparative anatomy and physiology, comparative gene mapping, protein function, physical and mathematical modeling, computer modeling, stem cell technology, colony and genetic stock management, cryopreservation, applicable regulations, and bioethics.

Source: US Department of Education, National Center for Educational Statistics, CIP 2010 ed.

b. *Brief overview (1-2 paragraphs) of the proposed program, including its disciplinary foundations and connections; program objectives; programmatic focus; degree, certificate, minor, and concentrations offered:*

An interdisciplinary MS, PhD graduate program in Comparative Health Sciences (CHS) is needed to complement the existing MS, PhD Molecular and Cell Biology (MCB) graduate program, which focuses on studies at the molecular level. The CHS program will offer both MS and PhD degrees and focus at the whole animal level, particularly the use of animal models of disease. It will replace a PhD program in Biomedical Sciences (recently terminated) and an MS program in Veterinary Science, and provide an opportunity to achieve critical mass in a disciplinary area identified by the Division of Health Sciences (DHS) for priority development. This program will provide an opportunity for students to be trained in multidisciplinary approaches to address biological and medical problems.

Administered by the Graduate School, this interdisciplinary program will provide an opportunity for all units in the College of Veterinary Medicine to participate in graduate education and encourage the integration of several related areas of emphasis currently existing in other units.

New Graduate Degree

- Proposal Title: MS, PhD in Comparative Health Sciences
- Proposal Type: Full Category I
- CPS #: 84096
- **https://secure.oregonstate.edu/ap/cps/proposals/view/84096**
- CIP #: 512509
- SIS #: To Be Determined (by the Registrar's Office)
- College Code: 09 – Graduate School
- Program Type: Graduate
- Credential Type: Master of Sciences (MS), Doctorate of Philosophy (PhD)
- Academic Home: Graduate School
- Participating Academic Units: College of Public Health and Human Sciences, College of Pharmacy, College of Veterinary Medicine, Graduate School, Dept of Animal Sciences (College of Agriculture), and College of Engineering
- Program Location: OSU – Main (Corvallis)
- Options: Biomedical Sciences
- Areas of Concentration:
- Undergraduate Minors: Not Applicable
- Graduate Minors: Comparative Heath Sciences
- Course Designators: VMB and VMC
- Credit Hours: MS Degree = 45 (minimum); PhD Degree = 108 (minimum)
- Delivery Mode and Location: On-Campus in Corvallis
- Admission Requirements: Baccalaureate Degree; 3.0 GPA; GRE; Transcripts; Letters of Recommendation (3); and Personal Statement
- Enrollment Limitations: None
- Accreditation: None
- Proposed Start Date: **Winter Term 2013** (Banner 201302)

Termination

- **MS in Veterinary Science** (to be submitted separately via an Abbreviated Category I proposal.

c. *Course of study – proposed curriculum, including course numbers, titles, and credit hours:*

Students enrolled in the MS degree will complete a total of 45 graduate credits, including 12 thesis credits. Students enrolled in the PhD degree will complete a total of 108 graduate credits beyond the bachelor's or professional (DVM, MD) degree, including at least 36 credits of non-blanket course work.

In Year 1 of the program, students will be required to complete three laboratory rotations (organized under a course title "Research Perspectives") that will provide an opportunity to experience several research environments and investigators that they may consider for their thesis research. These rotations will run congruently with academic quarters. In addition, all students will be expected to complete the following program core curriculum, including all required courses and a selection of at least two of the listed electives, for a total of 12 credits:

Course Title	**Course Number**	**Credit Hours**
Required:		
Research Perspectives	New (600)	3 (1 per quarter)
Methods of Data Analysis	ST 511 or similar	4
Biomedical Ethics	New (600)	1
Grant Application Preparation	New (600)	1
Seminar	New (507)	1
Electives:		
Molecular and Cellular Biology Techniques	MCB 524 or similar	1
Introduction to Bioinformatics	New (600)	1
Introduction to Epidemiology	New (600)	1
Introduction to Genomics	New (600)	1
Introduction to Immunology	New (600)	1
Biochemistry	BB 550 or similar	3

In addition to the program core curriculum, students will be required to complete option-specific curricula, as approved by respective graduate committees. Initially, the program will have one option, Biomedical Sciences, which will accommodate students with advisors in the College of Veterinary Medicine. There will be opportunity, however, to add other options as the interdisciplinary program expands to include related areas of emphasis in the health sciences. The option-specific curriculum for the Biomedical Sciences option will be as follows:

Option	**Degree**	**Course Title**	**Course Number**	**Credit Hours**
Biomedical Sciences				
	MS	Animal Models	VMB 521	3
		Required/Elective courses	Various	24
		Research	VMC/VMB501	5
		Thesis	VMC/VMB503	12
		Seminar	New	1
	PhD	Animal Models	VMB 521	3

Molecular Tools	VMB 671	3
Required/Elective courses	Various	65
Thesis	VMB 603	36
Seminar (dissertation defense)	New	1

An abundance of graduate courses are currently available to complete the elective course requirements in each of the options, including courses with the VMB (Veterinary Medicine Biomedical), VMC (Veterinary Medicine Clinical), PHAR (Pharmacy), H (Public Health), NUTR (Nutrition), EXSS (Exercise and Sport Science), Molecular and Cell Biology (MCB), Microbiology (MB), and TOX (Toxicology) prefixes. For a complete listing, please refer to the OSU Graduate Catalog (http://catalog.oregonstate.edu/CourseDescription.aspx?level=grad). The courses of the Biomedical Sciences option (VMB/BMC) and the new courses will be funded by the College of Veterinary Medicine. Future tracks or options will be defined accordingly.

d. *Manner in which the program will be delivered, including program location (if offered outside of the main campus), course scheduling, and the use of technology (for both on-campus and off-campus delivery).*

The program will be delivered on the Corvallis campus. Depending on individual courses, instruction will include both lecture and laboratory experiences, with an emphasis placed on small group discussion and relevant experiential contexts. There are no plans for off-campus delivery at present, although it is anticipated that opportunities to provide students access to rich educational resources available at other locations, such as at Oregon Health Sciences University and international sites, will be explored.

e. *Ways in which the program will seek to assure quality, access, and diversity.*

Once a student is admitted into the program and a mentor(s) is selected, the following required steps will assure appropriate advisement and assessment of student progress at the department level:

1. Before the end of the second quarter, the advisory committee must be established, necessary documentation required by the Graduate School must be submitted, and the student must meet with the graduate committee.
2. The student and mentor must provide an annual report to the departmental/college-based graduate committee for review of progress and accomplishment of any program option benchmarks (student/mentor assessment form included as Appendix 1).

The program will be reviewed by the Graduate School three years after initial approval and every 10 years thereafter, in a manner consistent with the Guidelines for the Review of Graduate Programs published by the OSU Graduate Council.

In addition to promoting racial, ethnic and gender diversity, effort will be committed to include students from rural, international and different socioeconomic communities. Specific strategies that are used to advance diversity in professional degree programs will be employed, such as partnering with undergraduate programs to reach promising students in high schools with

high proportions of underrepresented populations and partner with foreign institutions to enroll motivated and bright students. We are working with INTO to establish a rigorous election of a diverse international pool of students.

f. *Anticipated fall term headcount and FTE enrollment over each of the next five years.*

Program enrollment in the MS degree is at least expected to equal the total headcount in the existing MS in Veterinary Science program (15 students). All these students are also residents (residency/MS program).* Two additional students are scheduled to be added to the MS program in September, 2013, bringing the total to at least 17. Five prospective students have already expressed an interest in enrolling in the PhD program. The association with the INTO program may increase the number of students per year.

Enrollment is expected to increase by at least 10-20% per year for the first 5 years, based on: (1) applications submitted to the existing MS program and expressions of interest in the PhD program; and (2) strategic investments that will be made in student support, resulting partly from growth of extramurally-funded research programs.

*The College has an MS/residency program. In the future it **may** have an MS/DVM and PhD/DVM program.

Since the program will be administered by the Graduate School, students are required to apply to the Graduate School. The applications will be reviewed by the graduate committee of the program, that will decide upon the acceptability of the particular student.

g. *Expected degrees/certificates produced over the next five years.*

The numbers of degrees anticipated are expected to exceed the following:

MS program: 5/year

PhD program: 3/year from the third year

h. *Characteristics of students to be served (resident/non-resident/international; traditional/nontraditional; full-time/part-time; etc)*

The goal of the program is to attract bright and motivated students, including residents, non-residents, international, minority, and economically disadvantaged. Scholarships will be offered on a competitive basis. Many approaches will be used to recruit students, including advertisement of the program, word of mouth, recruitment at foreign institutions with which the College has established relationships, etc. The effectiveness of recruitment efforts will be evaluated on an annual basis by consulting faculty advisors and by monitoring academic progress of students.

i. *Adequacy and quality of faculty delivering the program.*

Graduate faculty from the College of Veterinary Medicine and other health sciences units will deliver the program (see Appendix 2). These faculty collectively have a large commitment of FTE to extramurally-funded research, primarily from the NIH, but also NSF, USDA, CDC and the Bill and Melinda Gates Foundation. A number of recently hired faculty are now creating interdisciplinary courses that will come on line very soon. Faculty who co-mentor students in the program are not asked to commit time teaching in the classroom.

j. *Faculty resources – full-time, part-time, adjunct.*

Consistent with other interdisciplinary programs in the life sciences, participating professorial faculty will represent several OSU colleges and will primarily be tenure-track/tenured appointments with significant assignments to research and scholarship (Appendix 2). Faculty members from a number of departments in DHS as well as outside of the Division have shown interest in participating in the program by co-mentoring students.

The program will be managed by a director who will be a participating tenured faculty member (20% assignment), appointed to a 2-year renewable term. The duties of the director will involve general administration of the program, including: (1) organizing activities such as student seminars and workshops; (2) monitoring student progress and responsibilities of advisory committees, in conjunction with the departmental/college graduate committees; (3) resolving disputes or referring them to appropriate University offices; and (4) student recruitment. At this point, faculty outside of the college will not be asked to commit time in teaching.

k. *Other staff.*

Support staff (at least 0.5 FTE), funded by the College of Veterinary Medicine, will provide administrative support. Also, the program will partner with the Graduate School administration to accomplish necessary organizational functions such as recruitment and admission.

l. *Facilities, library, and other resources.*

Classrooms, seminar rooms, IT and library resources are already available centrally on campus and in participating academic units. Other research resources, such as laboratories and core facilities for genomics, proteomics, electron microscopy, etc., are available on campus.

m. *Anticipated start date.*

Fall term 2013, or as soon thereafter as approved.

2. Relationship to Mission and Goals

a. *Manner in which the proposed program supports the institution's mission and goals for access; student learning; research, and/or scholarly work; and service.*

There is an urgent need for cross-disciplinary graduate programs in underserved areas of clinical and translational research involving animal models of disease and biomedical investigation. The proposed program will be used as an organizational infrastructure to facilitate development of a community of students and faculty across DHS and other life sciences units on campus. It will be complimentary to existing graduate programs focusing on molecular/cellular biology and social/behavioral studies.

In anticipation of the establishment of this graduate program, the CVM recently terminated its doctoral program in Biomedical Sciences. Rather than invest in an independent PhD program with research ranging from the molecular to whole animal levels, the College decided instead to be an active participant in the existing interdisciplinary Molecular and Cell Biology (MCB) program and then create a new interdisciplinary Comparative Health Sciences program to address the developing interest in whole animal studies, including clinical sciences. This interdisciplinary approach provides an opportunity for multiple academic departments to create and sustain the critical mass of students and extramurally-funded research activity necessary for long-term success of graduate programs.

At the masters level, the new interdisciplinary program will replace the MS in Veterinary Science program. Although the existing MS program had low enrollment in the past, it now has 15 students, primarily with clinical sciences interests. This area of graduate education is projected to continue its rapid growth as additional pathology graduate students are enrolled. Incorporation of the existing program into the new interdisciplinary Comparative Health Sciences program will provide a core strength that will serve as a basis for further program development.

Consistent with the interdisciplinary/integrative philosophy of the new program, faculty from other colleges will be invited to participate in instruction of the core curriculum. The option-specific curricula are anticipated to become increasingly interdisciplinary as a community of scholars collaborates to address complex biomedical challenges, such as the diagnosis and management of chronic diseases. This process will be encouraged through the use of internal interdisciplinary research grants (DHS has already implemented these) and grantsmanship workshops (already initiated in 2009-2010). An annual symposium will be organized to bring all the program members and students together to share their research interests and findings.

b. *Connection of the proposed program to the institution's strategic priorities and signature areas of focus.*

Phase II of OSU's strategic plan (http://oregonstate.edu/leadership/strategic-plan) seeks to advance three signature areas of distinction: Advancing the Science of Sustainable Earth Ecosystems; Improving Human Health and Wellness; and Promoting Economic Growth and Social Progress. As stated in the plan, improving human health and wellness depends on "building more holistic and interdisciplinary approaches to healthy aging, chronic infectious disease control, new drug development, mental health, and disease prevention to

enhance the human lifespan, decrease health care costs, and maintain a healthy population."

Consistent with the strategic plan, the 11 discipline-based colleges of the university were aligned into four divisions in 2010. The overriding goal of this realignment was to facilitate collaboration across colleges and departments and to promote the development of interdisciplinary programs. One of the divisions, the Division of Health Sciences, has developed a strategic plan that states as its first priority the development of integrative, cross-disciplinary research, together with interdisciplinary graduate programs.

c. *Manner in which the proposed program contributes to Oregon University System goals for access; quality learning; knowledge creation and innovation; and economic and cultural support of Oregon and its communities.*

As noted above, the proposed program will promote translational biology/medicine research, which involves the integration of research across the basic sciences and application of biological discoveries to optimize patient care and disease prevention. The new knowledge created in this interdisciplinary research environment will serve as a rich experiential context in which graduate students will be educated to serve Oregon and its communities. Without the contribution of such graduates, complex challenges relating to healthcare cannot be solved.

To ensure that students benefit from the interdisciplinary structure of the program, they will be challenged to study topics that bridge two distinct areas of study such as immunology and nutrition or infectious disease and exercise or nutrition under the mentorship of experts in each of the areas. DHS already has made significant progress developing integrated projects involving infectious diseases, public health, nutrition, exercise, development, chronic diseases, immunology, genomics, and pharmaceutics. Consistent with the DHS strategic plan, faculty across the three colleges in the Division have collaborated to develop a research project, titled "Environmental and Infectious Determinants of Chronic Disease: a 'One Health' Approach."

d. *Manner in which the program meets broad statewide needs and enhances the state's capacity to respond effectively to social, economic, and environmental challenges and opportunities.*

With the recent creation of DHS, OSU is positioned to build integrative research and academic programs to investigate the multidimensional causes of chronic diseases and discover new health promotion/disease prevention strategies. For example, many chronic diseases result from complex interactions between infectious agents, people, animals, and the environment. To treat and prevent these chronic diseases, health professionals must match competency in biological sciences in both people and animals with an understanding of behavioral and public health sciences. It is expected that the integrated study of Comparative Health Sciences involving research projects across DHS will facilitate attainment of an even broader perspective as students interact with

colleagues who are knowledgeable about the behavioral and policy issues relevant to public health.

3. Accreditation

a. *Accrediting body or professional society that has established standards in the area in which the program lies, if applicable.*

The program will be subject to the existing standards under which the OSU Graduate School is accredited. Periodic reviews will be conducted consistent with the Guidelines for the Review of Graduate Programs published by the OSU Graduate Council.

b. *Ability of the program to meet professional accreditation standards. If the program does not or cannot meet those standards, the proposal should identify the area(s) in which it is deficient and indicate steps needed to qualify the program for accreditation and date by which it would be expected to be fully accredited.*

Not applicable. The program is expected to meet all Northwest Commission on Colleges and Universities (NWCCU) accreditation standards for graduate education.

c. *If the proposed program is a graduate program in which the institution offers an undergraduate program, proposal should identify whether or not the undergraduate program is accredited and, if not, what would be required to qualify it for accreditation.*

The baccalaureate degree must be from an accredited higher education institution.

d. *If accreditation is a goal, the proposal should identify the steps being taken to achieve accreditation. If the program is not seeking accreditation, the proposal should indicate why it is not.*

The program will need to satisfy standards applicable to all graduate programs at OSU.

4. Need

a. *Evidence of market demand.*

Based on data published by the US Bureau of Labor Statistics (Occupational Outlook Handbook, 2010-2011 Edition, http://www.bls.gov/oco/ocos309.htm), the market demand for biomedical scientists is predicted to grow “much faster than average” over the next decade. Employment of graduates trained in comparative health sciences and related areas of biomedical research is expected to increase

by 40% by 2018, an expansion of the relevant job market that will add approximately 40,000 jobs. Considering that the median annual wage of these graduates is approximately $73K, the potential economic impact of the graduate program is significant.

The importance of focusing on clinical and translational research was confirmed recently at the national level when the National Institutes of Health created the National Center for Advancing Translational Sciences (NCATS), with a budget of $575M. In light of the urgent need to solve complex scientific problems and translate scientific discoveries into effective treatments and cures, it is clear that universities must educate graduates to think in more innovative and interdisciplinary ways, and to understand the value of using animal models of disease to advance public health. The broad interdisciplinary emphasis of the proposed program will address this need by fostering creation of an intellectual environment in which different perspectives can be integrated into novel strategies for addressing animal and public health concerns.

In addition to the students graduating from undergraduate degree programs in the life sciences, particularly those with primary interests in biology, biomedical sciences and zoology, it is anticipated that a large proportion of students enrolled in pre-health science programs will be interested in the proposed graduate program. Nationally, only about 9% of students who apply for admission to medical schools are admitted, leaving a large number of students who are good candidates for graduate education in the clinical and translational health sciences.

Irrespective of the trends described above, the MS and PhD programs in Comparative Health Sciences will be the only graduate programs at OSU available for veterinarians who are interested in advancing their education in comparative health sciences, particularly at the whole animal level.

Considering the complexity of animal and human health care challenges, it is imperative that research activities adopt a “One Health” approach. This approach is characterized by comparative (cross species) investigation, conducted by a variety of health sciences professionals both locally and globally. The proposed program will educate graduates who are able to address this need.

b. *If the program’s location is shared with another similar OUS program, proposal should provide externally validated evidence of need (e.g., surveys, focus groups, documented requests, occupational/employment statistics and forecasts).*

The program is unique in terms of its scope and interdisciplinary philosophy. The unique aspects of the program are as follows:

1. Graduate education and associated research projects will focus on the whole animal level of investigation, using an approach that will be complementary to and supportive of existing programs that are focused primarily at the molecular and cellular level, such as the MCB program (see attached letter from Dr. Barbara Taylor, Director of the MCB program). Furthermore,

education and research will be limited to animal species, including humans and emphasize translational health sciences. This cross-species, comparative approach is only possible through very close collaboration involving a college of veterinary medicine and human health sciences colleges.

2. The program will have an interdisciplinary and integrative culture that is unique among biomedical sciences programs on campus and in Oregon. This will be achieved by encouraging co-mentorship of students using internal research grants.

c. *Manner in which the program would serve the need for improved educational attainment in the region and state.*

This program introduces the concept of translational biology/medicine to basic sciences disciplines. It will provide an opportunity for students in the clinical and basic science branches of medicine to be educated in the philosophies and practices necessary to solve complex healthcare issues.

d. *Manner in which the program would address the civic and cultural demands of citizenship.*

Delivery of affordable and effective healthcare represents one of the most urgent and socially responsible missions in contemporary society. Graduates from this program will be exceptionally well qualified to address this mission, thereby addressing the civic and cultural demands of citizenship.

5. Outcomes and Quality Assessment

a. *Expected learning outcomes of the program.* (see Appendix 1 for assessment forms already in use for graduate students in Comparative Health Sciences and monitored annually by the Graduate Committee of the College).

Learning outcomes for core courses will be required for all students:

- understand the concepts of animal models as experimental system and know how to design experiments;
- understand basic concepts of ethics;
- understand and know how to use statistical analysis in experimental systems; and
- know key aspects of a grant application.

In general, expected learning outcomes of the program will include:

- mastery of the knowledge base underlying an option field, sufficient to support scholarly investigation of a related problem;

- the ability to formulate a research question relevant to a specific option field or one that requires integration of two or more fields to be addressed;
- evidence of ability to perform research either in a single option field or in integrated fields; and
- production of scholarship that advances the option field(s).

It is anticipated that MS students in Comparative Health Sciences will address research questions that are applicable to clinical medicine, with a special emphasis on translational strategies. In most cases, these students will already have the DVM degree and their future research careers will most likely involve collaborations with colleagues in the more basic sciences. Doctoral graduates are expected to attain a higher level of expertise in both the planning and conduct of research as principal investigators, and have the ability to compete for extramural funding.

Consistent with the recently approved Graduate Learning Outcomes for doctoral and master's programs, doctoral students shall: (a) produce and defend an original significant contribution to knowledge; (b) demonstrate mastery of subject material; and (c) be able to conduct scholarly activities in an ethical manner. The latter will be facilitated in part by successfully completing a required course in Biomedical Ethics (see program core curriculum above). Master's students will be expected to: (a) conduct research or produce some other form of creative work; (b) demonstrate mastery of subject material; and (c) be able to conduct scholarly or professional activities in an ethical manner.

b. *Methods by which the learning outcomes will be assessed and used to improve curriculum and instruction.*

- Graduate Committee annual evaluation of students and quality of the program.
- Filing the program of study with the Graduate School.
- Completion of Preliminary Exam (for PhD students).
- Survey of students, annually and at graduation.
- Survey of employers of graduates.
- Satisfying graduation requirements, including completion of courses and successful completion of scholarly and research requirements.
- Periodic assessment of alumni.

c. *Program performance indicators, including prospects for success of program graduates (employment or graduate school) and consideration of licensure, if appropriate.*

- Graduation rate and time to graduation.
- Student's refereed publication record.
- Student's review of the program.

- Evaluation provided by Graduate Steering Committee.
- Post-graduation position and survey information from employers.

d. *Nature and level of research and/or scholarly work expected of program faculty; indicators of success in those areas*

The majority of the faculty to be included in the program have extramurally-funded research and produce high-quality scholarship (see Appendix 2). Number and quality of peer-reviewed scholarship and the availability of research funding will be the primary indicators of success.

6. Program Integration and Collaboration

a. *Closely related programs in other OUS universities and Oregon private institutions.*

No program in Oregon overlaps with the proposed program. The interdisciplinary organization extending from animal to human health sciences is unique.

b. *Ways in which the program complements other similar programs in other Oregon institutions and other related programs at this institution. Proposal should identify the potential for collaboration.*

Collaborative opportunities exist with other biology and health sciences programs at the University of Oregon and Oregon Health Sciences University, respectively.

c. *If applicable, proposal should state why this program might not be collaborating with existing similar programs.*

As stated above, the disciplinary scope of the program, ranging from animal to human health sciences, is unique.

d. *Potential impacts on other programs in the areas of budget, enrollment, faculty workload, and facilities use.*

Constituent programs in DHS and other OSU divisions that are expected to participate in the new interdisciplinary program will benefit from the larger critical mass of research. Researchers and students, will engage in more cross-disciplinary projects involving researchers in different departments and colleges, and enhanced competitiveness of extramural research grant applications. Negative impacts on other programs are not expected.

7. Financial Sustainability (attach the completed *Budget Outline*)

a. *Business plan for the program that anticipates and provides for its long-term financial viability, addressing anticipated sources of funds, the ability to recruit and retain faculty, and plans for assuring adequate library support over the long term.*

Graduate student/resident salaries ($30,000 per year, plus $5,000 OPE) for MS students will be committed by the College of Veterinary Medicine. The College currently funds 15 post-DVM clinical residency positions, all of which are being transitioned to dual graduate student-clinical residency positions. Generally, clinical residents are appointed for a period of three years, with terms of appointment staggered. Starting with the planned enrollment of 4 new residents in the Fall of 2013, the attached *Budget Outline* projects additions of 4 students per year until all clinical residents are enrolled in the program. This projection represents a conservative estimate of program growth and does not take into account the probability of residents currently enrolled in the MS in Veterinary Science (which will be terminated) program transferring immediately into the new program as soon as it is approved. Irrespective of the enrollment schedule, the College is committing at least $633,600K in clinical resident positions (salary plus OPE) to the new program. These financial resources will be supplemented with additional funding, derived from the earnings of a $1.2M trust ($60K per year) that has been committed to graduate student scholarships. Approximately $5,000/year will be committed by the CVM for miscellaneous services and supplies.

The disciplinary scope of the program is centered in core areas of health sciences that currently exist in the University. Faculty recruitment, retention and library resources currently are expected to be more than adequate to establish and develop the program. Indeed, faculty positions already selected by DHS for recruitment in the Provost's Faculty Investment Initiative are exceptionally well suited to participation in the program, thus demonstrating strategic relevance. Taking into account the new positions hired under the Initiative, the CVM has sufficient FTE capacity to meet the workload demands of creating and delivering the program core and option-specific curricula. Existing instructional assignments to DVM elective courses will be reprioritized to meet graduate program requirements. The Courses and Curriculum Committee of the CVM is already reviewing DVM elective courses in a broader context of possible curricular revision.

As indicated in Section 1, parts j and k above, CVM will commit 0.2 and 0.5 FTEs, respectively, to director and staff support. These commitments will be accomplished through reassignments of existing personnel. The latter has been made possible by redistribution of work assignments from an administrative assistant to a new Safety Officer position funded in the CVM FY12 E&G budget.

b. *Plans for development and maintenance of unique resources (buildings, laboratories, technology) necessary to offer a quality program in this field.*

   At this point, all of the needed resources are in place. As the program evolves, the Graduate Committee and the Director of the Program may identify additional resources that need to be addressed.

c. *Targeted student/faculty ratio (student FTE divided by faculty FTE).*

   The targeted student:adviser ratio is 1.5:1 for both MS and PhD programs.

d. *Resources to be devoted to student recruitment.*

   Recruitment of students will be coordinated through the Graduate School.

8. **External Review** (if the proposed program is a graduate level program, follow the guidelines provided in *External Review of new Graduate Level Academic Programs* in addition to completing all of the above information)

   The program proposal has been submitted for preliminary external review (see letters from Drs. Van Meter at Colorado State University and Jeffrey Lakritz at The Ohio State University). A more comprehensive external review, coordinated by the Graduate School, will be conducted in the near future.

   (Site 5 names outside of Oregon, not associated with OSU)

Ad Hoc review of New Academic Program, conducted by Dr. Jeffry Lakritz, Professor, Department of Veterinary Clinical Sciences, The Ohio State UNiversty

Oregon State University, Interdisciplinary graduate program in Comparative Health Sciences

Things I like about this proposal-

Looks at whole animal level; graduate DVM (residents, fellows) likely would fit into this well.

Increases opportunities for working with broader range of expertise throughout campus.

Multi-disciplinary approaches

Laboratory rotations (especially for PhD candidates)

Preparation of clinician scientists and scientists

Theoretically will reduce the effort of clinical faculty and may increase the quality of individual students work (i.e. clinical problem requiring molecular diagnostics/collaboration with others at Health Science center/pharmacy etc.)

Things that could be problematic

Required courses. At least in our college, residents taking course across campus leave holes in clinical coverage. Assuming enough faculty FTE to cover clinical requirements?

Number of didactic courses required and relevance to overall training of residents. I am not sure medicine or surgery residents will gain much in terms of board certification if they take basic science classes. Our residents have little time for class work as it is. With emergency duty, coursework is problematic for them.

We are evaluating ways in which to train clinical residents (in 2 or 3 years) with 4th year for science. There are obviously problems with this.

Faculty who maintain publication list through resident research projects

Taking residents away from faculty for research and developing project outside of their area of expertise.

Some faculty will attract a greater number of students than others.

Colorado State University

College of Veterinary Medicine
and Biomedical Sciences

Department of Clinical Sciences
Fort Collins, Colorado 80523-1678
(970) 297-1274
FAX: (970) 297-1275

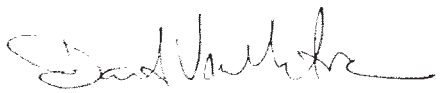
Dr. Christopher Cebra
Head, Department of Clinical Sciences
College of Veterinary Medicine
Oregon State University
Corvallis, OR 97331

15 April 2012

Dear Dr. Cebra,

I was pleased to review, upon your request, the draft proposal for a novel graduate program at your college entitled, "Interdisciplinary graduate program in Comparative Health Sciences." After review, I consider the proposal to be a very well-designed and highly relevant plan for a multidisciplinary graduate studies program. In a separate document, I will provide for you my few comments and edits on the draft; the primary point that I feel important enough to emphasize in this letter is this: Since the program is new, I offer the opinion that a minimum number of graduate committee meetings be set for each student in the program, and that minutes from those meetings be kept and forwarded to the program director. This may help prevent a potential loss of focus or direction in the students' progress; in my experience, novel graduate studies programs may incur such problems early on. That said, I applaud your college's efforts to develop a highly relevant program that will have a positive impact on the profession and reflect very positively on Oregon State University.

Sincerely,



David C. Van Metre, DVM
Diplomate, American College of Veterinary Internal Medicine
Professor
Animal Population Health Institute

OSU
Oregon State
UNIVERSITY

GRADUATE SCHOOL

March 22, 2013

MEMO TO: Luiz Bermudez, Professor

FROM: Brenda McComb, Dean

RE: Proposed Comparative Health Sciences Graduate Program

Luiz, I support the development of a new Graduate degree program in Comparative Health Sciences. I note that you wish to have this program administratively housed within the Graduate School as an Interdisciplinary program. In discussions with Provost Randhawa, we agree to such an administrative arrangement for a period of 3 years at which time we will reassess the administrative structure to assess if it meets expectations for being interdisciplinary.

Best of luck with your proposal.

Cc: Sabah Randhawa, Provost

Category I Proposal
Guidelines for Addressing Accessibility of New Programs

Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990 prohibits discrimination against individuals with disabilities and mandates the provision of reasonable accommodations to ensure access to programs and services. Oregon State University is committed to providing equal opportunity to higher education for academically qualified students without regard to a disability.

For questions and assistance with addressing access, please contact the Office of Disability and Access Services (737-4098) or the Office of Affirmative Action and Equal Opportunity (737-3556)

Title of Proposal:

Interdisciplinary Graduate Program in Comparative Health Sciences

Effective Date:

January, 2012

Department/Program:

College:

College of Veterinary Medicine/Division of Health Sciences

- ❑ Faculty Guidelines (http://ds.oregonstate.edu/facultystaff.aspx?Title=ResponsibilitiesFacultyStaff)
- ❑ Information Technology Guidelines (http://oregonstate.edu/accessibility/)

By signing this form, we affirm that at we have reviewed the listed documents and will apply a good faith effort to ensure accessibility in curricular design, delivery, and supporting information.

Cyril R. Clarke — **4-23-12** — **Cyril R. Clarke, Dean**

Sign (Dept Chair/Head; Director) — ***Date*** — Print (Department Chair/Head; Director)

OSU Libraries
Collection Development

Library Evaluation for Category I Proposal

Comparative Health Science
Title of Proposal
Biomedical Sciences
Department
Veterinary Medicine
College

The subject librarian responsible for collection development in the pertinent curricular area has assessed whether the existing library collections and services can support the proposal. Based on this review, the subject librarian concludes that present collections and services are:

[x] inadequate to support the proposal (see budget needs below)
[ ] marginally adequate to support the proposal
[ ] adequate to support the proposal

Estimated funding needed to upgrade collections or services to support the proposal (details are attached)

Year 1:
$1500 ebooks in various subjects
$595 *Infection Control and Hospital Epidemiology*
$2460 maintenance of Veterinary Medicine journal collection

Ongoing (years 2-4):
$1500 ebooks in various subjects
$595 *Infection Control and Hospital Epidemiology*
$10,000 maintenance of current subscriptions & new ones as needed
$2608, $2753, $2950 maintenance of Veterinary Medicine journal collection

Comments and Recommendations:
If we need to license immediate access to some of the identified journals, this will be a cost that we have not quantified.

Date Received: 4/25/2012 Date Completed: 5/14/2012

Janet Webster Subject Librarian	Janet Webster Signature	5/14/2012 Date
Steven Sowell Head of Collections & Resource Sharing	Steven L. Sowell Signature	5/15/12 Date
Faye Chadwell University Librarian	Faye Chadwell Signature	5/15/12 Date

Oregon State University Libraries Evaluation of the Collection supporting a Proposal to Initiate a MS and PhD program in Comparative Health Sciences

This Oregon State Libraries' (OSUL) assessment reviews the print monographic, e-book, and electronic serials collections as related to broad science information needed to support the proposed comparative health sciences graduate program. As stated in the Cat 1 proposal, the proposed program "will offer both MS and PhD degrees and focus at the whole animal level, particularly the use of animal models of disease. It will replace a PhD program in Biomedical Sciences (recently terminated) and a MS program in Veterinary Science, and provide an opportunity to achieve critical mass in a disciplinary area identified by the Division of Health Sciences (DHS) for priority development. This program will provide an opportunity for students to be trained in multidisciplinary approaches to address biological and medical problems." From the OSUL perspective, students and researchers will tap various components of the library collections. This makes it challenging to make recommendations on adequacy and funding needs as the entire science collection must be maintained to provide adequate access to information.

Summary of Recommendations

The monographic collection appears to be adequate as long as it is maintained and access is expanded through e-books. This will require an investment of $1500 annually in addition to the funds the OSU already allocates.

The journal collection is currently adequate with the exception of immunology. We recommend acquiring *Infection Control and Hospital Epidemiology* for $595 annually and allocating $10,000 for years 2-4 to cover inflation of the current core journals and add other journals identified as the program progresses.

The College of Veterinary Medicine will need to adjust its library funding for inflation as well. We anticipate this to be $2500 to $3000 annually over the next four years.

Print Monographs and E-Books

Library evaluations of proposed programs have traditionally included the analysis of OSUL' print monograph collection. Comparing the monograph collection with other universities' collections is routine. This analysis includes a comparison of the print monograph collection with a peer institution with a program similar to the one proposed, Colorado State University.

Table 1: Monographic Comparison between OSU and Colorado State University

Broad Subjects	OSU	CSU	OSU to CSU	OSU ebooks	CSU ebooks	OSU to CSU
Bioinformatics	212	152	140%	123	244	50%
Epidemiology	1200	1133	106%	57	181	31%
Ethics (Medical, Bio)	856	856	100%	43	153	28%
Genomics	237	386	61%	83	186	47%
Immunology	1239	1220	102%	94	233	40%
Veterinary Medicine	1325	1362	97%	20	71	28%

The broad subject areas searched reflect the proposed curriculum as well as the core of veterinary medicine. We compare favorably with CSU except for e-books that are discussed

below and genomics. Our current direct allocation for genomics is limited as we order genetics material throughout the life sciences. Even so, more emphasize on this area will be needed as well as sustaining the other areas.

The growing availability of e-books makes it possible to expedite access to more information from various locations. This obviously better serves our distance learners and is a convenience for our on-campus students and faculty. As the proposed program will have students scattered across the Corvallis campus, facilitating access is essential. OSUL are acquiring e-books with more frequency but we lag in comparison to CSU. This discrepancy should lessen in the next four years as we purchase electronic format over print. For example, we recently acquired the 2012 Elsevier Veterinary Medicine e-book package for $1100 for 10 titles in part to compare usage between the print format and electronic. We recommend allocating $1500 annually towards monographic purchases with emphasize on genomics and e-books.

OSU is served well by our investment in the Orbis/Cascades Alliance, whose combined collection is substantial. Students and faculty can order from the collections of all the libraries in the Orbis Cascade Alliance through the Summit catalog. University of Oregon, Portland State University, University of Washington and Washington State University are some of the larger research libraries represented in the Summit catalog. Books requested through Summit are delivered to OSUL within three to five working days.

Serials/Journals

In the sciences, ready access to current information is expected. The OSUL maintain a satisfactory collection of journals appropriate for comparative health sciences including the major titles in bioinformatics, epidemiology, genetics and veterinary medicine. There is concern that with regular price increases to our licenses and a flat budget that access may be eroded over time. The OSUL already have sacrificed timely access to some titles in favor of an embargo period to cut costs. We identified 147 titles indexed in the Web of Science of possible interest to those involved in the proposed program (Table 2). The categories represent the broad scope and consequent importance of collaboration across disciplines. We indicate those titles that we have current access to, those with 6 months to 2 years embargoes and those not owned by the OSUL.

Table 2 – First Quartile Journals from Web of Science

Broad Subjects	# of titles	current	embargoed	not owned
Bioinformatics	19	14	4	1
Epidemiology	33	19	8	4
Genomics	30	18	8	4
Immunology	30	14	8	8
Veterinary Medicine	35	27	5	3
Totals	147	94	33	20

Those 20 titles we do not own would cost on average $1000 for an annual license for each title with subscriptions ranging from $340 to over $16,000. This would total $20,000. To get immediate access to those titles currently embargoed is more difficult to figure; using the same average, though, a ballpark figure would be 33 times $1000 or $33,000. This later number would likely be lower given the OSUL ability to negotiate consortial deals. Even so, the investment is large if current access to everything is considered necessary.

We recommend monitoring usage of inter-library loan for current issues of those titles under embargo and see if usage justifies licensing of current content. Given the focus of this program on whole animal and clinical research rather than human health and medical research, currency may not be imperative. At this time, only one title is generating significant borrowing - *Infection Control and Hospital Epidemiology*. We recommend adding this at a cost of $595 annually.

The OSUL journal collection in immunology is the weakest component from this data. Again, we can monitor requests for articles from journals we do not own to make suggestions for further purchases. At this time, it is difficult to assess demand. We recommend $10,000 in the second through fourth years to address emerging gaps in the journal collection.

We also recommend that the College of Veterinary Medicine maintain its current access to the journals it purchases. These are managed by the OSUL, but the funding is through the College. Journal subscriptions in FY12 were $41,000. Annual inflation is estimated at 6% over the next four years. Consequently, the College will need to invest additional funds to maintain its robust journal collection that will be one cornerstone of this new program (FY13 $2460, FY14 $2608, FY15 $2763, FY16 $2950).

Indexes and Databases

The core indexes to the relevant information for this program are Medline (1950-present), CAB Abstracts (1973-present) and Web of Science (1970-present). The OSUL maintain access to all as these are core to many of OSU's primary research areas.

Library staff and expertise:

Expertise within the OSUL is spread among several librarians with varying responsibilities. These include Laurel Kristick, Janet Webster and Hannah Rempel. In 2011, the librarian who oversaw Veterinary Medicine, Pharmacology and the Medical Science departed, and we have not replaced that expertise. Given staffing shortages in the faculty ranks, this position is currently partially covered by Janet Webster.

Respectfully submitted,

Janet Webster

Janet Webster
Head of Branch Libraries
May 14, 2012

Appendix 2 - Participating Faculty

	2010			2011			
	Pubs	Grants Funded		Pubs	Grants Funded		
		Agency	Title		Agency	Title	Continuing funding (awarded pre-2010)
College of Veterinary Medicine							
Baltzer, Wendy				6			
Bermudez, Luiz	7	Penn State	Project 3 (Yr 6) M. Paratuberculosis Interaction with the Intestical Mucosa	7	HP	HP Study of Mycobacterium Chelonae	NIH, USDA,Gates Foundation
"		NIH	Genes Associated with M. Avium Pathogenesis				
"		Coord Prgrm Dvlp	Effic of Oral Aminoglycoside-Cochleate Formulations				
"		HP	HP Study of Mycobacterium Chelonae				
Bildfell, Rob	9			8	ODHS	Cryptococcus PCR Testing	CDC
Cebra, Chris				4	Morris Animal	Effects of Technique on Survival of Transfused Erythrocytes in Alpacas	Lllama Foundation
"					NW Camelid	Glucagon Like Peptide - 1 Dosing in Camelids	
Chappell, Pat	2	MJ Murdock	Circadian Clock Disruption Effects on GnRH Hormone	2			NIH, NSF
"		DHHS	Circadian Reg of Gonadotropin-Releasing Hormone				
Craig	4			6			AES, Foundations
Dolan, Brian							
Hall, Jean	5	Ag Res-OSU	Inorganic Selenium in Salt-Mineral Mixes May Be Greatly Degraded by Moisture.				USDA
Häse, Claudia	6	Ag Res-OSU	Detection of Vibrio tubiashii toxin oyster hatcheries	3			NIH, USDA, NOOA
Helfand, Stuart					Winn Feline	Cetuximab Targeting of Epidermal Growth Factor Receptor in Feline Oral Squamous Cell Carcinoma	Morris Foundation
Jin, Ling	1			4			NIH, USDA
Jolles, Anna	3	Morris Animal	Feline Immunodeficiency Virus in Free-Ranging African Lions (Panthera Leo): A Survey of Viral, Bacterial, and Parasitic Coinfections	5	Morris Animal	Rift Valley Fever Interactions w/ Bovine Tuberculosis	NSF
Kent, Mike	16			18			NIH, Foundations
Löhr, Christianne	6	Merial Lmtd	2010 Merial Veterinary Scholars Research Program	7	Merial Lmtd	Merial Veterinary Scholars Program 2010	Alpaca Foundation
Magnusson, Kathy	5						NIH
McKenzie, Erica		Morris Animal	An Epidemiologic Study and Genetic Survey of Exertional Rhabomyolysis in Endurance Race Horses	4			Morris Foundation
Medlock, Jan							
Mustacich, Debbie	3						NIH, Foundations
Pastey, Manoj	5			6	Ag Res-OSU	Rapid nd Sensitive Method Using Real-Time PCR for Diagnosis of Infections by Bovine Parainfluenza Virus 3 in Clinical Samples	NIH
Rockey, Dan	4	SIGA	Therapeutic Countermeasures Against CDC Category A and B Threat Agents		SIGA	Broad Spectrum Antiviral Testing	NIH, Companies
Ruaux, Craig		Morris Animal	Biological Variation in Cardiac Biomarkers in Healthy Dogs and Dogs with Stable Heart Disease	3	Morris Animal	Influence of Transfusion Technique on Survival of Autologous Red Blood Cells in Cats	Morris Foundation
Sarker, Mahfuzur	3	Ag Res-OSU	Inhibitory Effects of Nisin Against Clostridium perfrigens Growth in Meat Products	5			DOD
Semevolos, Stacy				1			
Shulzhenko, Natalia							

Appendix 2 - Participating Faculty

	2010			2011			
	Pubs	**Grants Funded**		**Pubs**	**Grants Funded**		
		Agency	**Title**		**Agency**	**Title**	**Continuing funding (awarded pre-2010)**
Steinauer, Michelle	2			1			
Valentine, Beth	5			7			Morris Foundation
"		Morris Animal	Morris Animal Foundation Vet Student Scholarship				
College of Pharmacy							
Filtz, Theresa		NIH	Cell signalling	3	NIH	Cell signalling	NIH
Indra, Arup	1	NIH	Skin Cancer	2	NIH	Skin Cancer	NIH
Kioussi, Chrissa	3	NIH	development		NIH	Development	NIH
Leid, Mark	3		Transcription regulator in development	1	NIH	Transcription regulator in development	NIH
Morgun, Andriy	1			2			
Sikora, Alek			Novel drug targets in bacteria	1		Novel drug targets in bacteria	
College of Public Health and Human Sciences							
Harding, Anna	1	CDC	Environmental health	1	CDC	Environmental Health	CDC
Kile, Molly	1	NIH	Environmental, maternal, child health	1	NIH	Environmental, maternal child health	NIH
College of Agricultural Sciences							
Bobe, Gerd	9	Diamond V	Yeast Culture supplementation of transition dairy cows	3	Diamond V	Yeast Culture supplementation of transition dairy cows	
Cherian, Gita							
Kutzler, Michelle	1	Collie Health	GnRH immunization for treatment of urinary incontinence in spayed bitches	1		Collie Health	GnRH immunization for treatment of urinary incontinence in spayed bitches
		OR Comm Fnd	EM Education for Elementary Children			OR Comm Fnd	EM Education for Elementary Children
Antonio Torres	3			2			
College of Engineering							
McGuire, Joseph	3	NIH	Microchannel dialyzer development	3	NIH	Dual function catheter	Amgen
Higgins, Adam	2	Med Research Foundation OR	Optimal Loading of Cryoprotectant Additives for Vitrification of Cells and Tissues	1	NSF	Microfluids for Cell Cryopreservation	
Schilke, Karl	4			2			

Appendix 1 – Graduate Student Progress Evaluation Form

Criteria to Define Satisfactory Progress of Graduate Students in the College of Veterinary Medicine

Report due July 1st, Faculty evaluation July 15th, Graduate Committee Evaluation September 1st

A graduate student will:

1. Maintain good academic performance, GPA of 3.0 or higher.
2. Participate in the academic activities of the Department/College/or important activities as directed by the mentor.
3. Demonstrate interest in the project by keeping abreast of the literature.
4. Communicate data generated in the project, either/or in meetings and publications.
5. Keep a good level of collegiality with peers and faculty.

Enrolled students will undergo annual review by the Graduate Committee, the mentor and the College Graduate Committee. If appropriate progress has not been made, the College Graduate Committee will make recommendations to the mentor and the student.

Two consecutive unsatisfactory reports should trigger a review by the student's Graduate Committee.

Learning Objectives for PhD and MS Programs

	PhD	MS
1.	Students will have met the objectives for learning outcomes in the undergraduate education relevant to the graduate field of study (minimal admission standards)	Students will have met the objectives for learning outcomes in the undergraduate education relevant to the graduate field of study (minimal admission standards)
2.	Students are able to summarize central issues and current research problems in their fields (minimum standard in classwork).	Students are able to summarize central issues and current research problems in their fields.
3.	Students are able to identify and explain areas of gap in knowledge in their fields.	--
4.	Students are able to identify where ethical issues may arise in their work or discipline.	Students are able to identify where ethical issues may arise in their work or discipline.
5.	Students are able to articulate strategies to address gaps in knowledge in the field of study (Preliminary exam).	--
6.	Students will have designed, carried out and presented original work of research (written thesis and oral defense)	Students will have completed and defended: A. an original manuscript B. mastery of appropriate course work and techniques in the field (written thesis and oral defense)

Graduate Student Annual Review

Candidate Name: Degree:

Year Program Began: Current Year:

Check list	Does not meet expectations	Meets expectations	Exemplary performance	N/A
1. Problem definition				
2. Literature knowledge				
3. Approach				
4. Results				
5. Quality of written communication				
6. Quality of oral presentation				
7. Critical thinking				
8. Publications				

N/A = Not Applicable

Comments:

Student Signature	Date	Advisor Signature	Date
Committee Member	Date	Committee Member	Date
Committee Member	Date	Committee Member	Date

Molecular and Cellular Biology Program
Oregon State University, 3021 ALS Bldg, Corvallis, Oregon 97331-7303
T 541-737-3799 | **F** 541-737-3045 | http://www.mcb.oregonstate.edu

April 15, 2012

Dr. Cyril Clarke
Lois Bates Acheson Dean
College of Veterinarian Medicine
Oregon State University
Corvallis OR 97331

RE: Interdisciplinary graduate program in Comparative Health Sciences

Dear Cyril,

In my position as the Director of the Molecular and Cellular Biology graduate program, it is my pleasure to provide enthusiastic support for the proposed Comparative Health Sciences graduate program. With its clinical focus on animal models of disease, this program will attract new graduate students to OSU and complements existing interdisciplinary programs, such as MCB, which are directed to more basic research areas. This new graduate program will provide students with an interdisciplinary curriculum and training opportunities. I anticipate that several MCB courses, such as Bioinformatics and Genomics, will be useful for some of these prospective graduate students.

Sincerely,

Barbara J. Taylor, Ph. D
Professor, Department of Zoology
PHONE: 541 737-5344
FAX: 541-737-0501
EMAIL: taylorb@science.oregonstate.edu

Director, Molecular and Cellular Biology Graduate Program
http://www.mcb.oregonstate.edu/

Mark Zabriskie, PhD
Dean

OSU/OHSU COLLEGE OF PHARMACY
Pharmacy Building, Room 203
1601 SW Jefferson St. Corvallis, OR 97331-3507
T 541-737-5781 | **F** 541-737-3999 | http://pharmacy.oregonstate.edu

March 21, 2012

Dr. Cyril Clarke
Dean, College of Veterinary Medicine
Oregon State University

Dear Cyril:

I am writing on behalf of the OSU College of Pharmacy to enthusiastically endorse the Category I proposal you are submitting to establish an interdisciplinary graduate program in Comparative Health Sciences at OSU. This program is very well aligned with the OSU strategic plan, the goals of the Division of Health Science, and is particularly timely as our Division increases its focus on developing integrative, multidisciplinary collaborations and establishing a greater emphasis on translational research.

The timeliness of this proposal is further emphasized by the recent establishment at the National Institutes of Health of the National Center for Advancing Translational Sciences. The emphasis of NCATS is to promote the transfer of basic biomedical laboratory discoveries into clinical applications that will advance human health. This type of translation research is necessarily multidisciplinary and it relies on demonstrating effective outcomes in animal models before advancing to human trials – both factors that underscore the relevance of this initiative. NCATS emphasizes the need to educate and train clinicians and biomedical researchers who can navigate the intricacies of complex multidisciplinary research projects while opening new federal funding avenues for investigators and graduate trainees. A Comparative Health Sciences (CHS) program at OSU would be well positioned to capitalize on these opportunities.

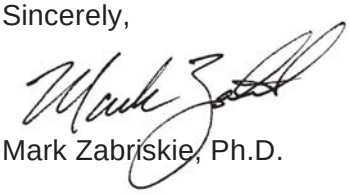
The focus of the CHS program on whole animal studies is particularly needed on campus and will nicely complement the existing interdisciplinary program in molecular and cellular biology (MCB). In fact, I believe it will be attractive to many of the same investigators, including a strong group of researchers in the Department of Pharmaceutical Sciences who work on developing novel mouse models of human diseases. I also envision opportunities for participation in the program by our growing number of investigators working in drug discovery, delivery and disposition. Additionally, several graduate classes offered by Pharmaceutical Sciences should be attractive electives to CHS students.

Importantly, I believe the Comparative Health Sciences program will eventually attract a new group of graduate students that are interested in the type of compelling applied biomedical problems that can only be addressed through multidisciplinary approaches and creative programs such as this one. These students will enrich the research and training climate in numerous laboratories across campus, just as the students in the MCB program have done. Additionally, offering such innovative programs will be an important element to expanding the graduate student population at OSU and

In summary, I want to reiterate my enthusiastic support for establishing an interdisciplinary graduate program in Comparative Health Sciences at OSU. It is a timely proposal that fulfills a need on campus to prepare graduates for new opportunities in biological and medical research that focus on whole animal models and their role in advancing human health.

Please let me know if I can provide any further support of this project.

Sincerely,



Mark Zabriskie, Ph.D.

College of Public Health and Human Sciences
Oregon State University, 123 Women's Building, Office of the Dean, Corvallis, Oregon 97331-6802
Phone 541-737-3256 | **Fax** 541-737-4230

March 19, 2012

Cyril R. Clarke, BVSc, MS, PhD
Diplomate ACVCP
Lois Bates Acheson Dean
College of Veterinary Medicine
Oregon State University
200 Magruder Hall
Corvallis OR 97331-4801

Re: Proposal for a New Academic Program – Interdisciplinary Graduate Program in Comparative Health Sciences (CHS)

Dear Cyril,

As the Dean of the College of Public Health & Human Sciences (CPHHS), I am writing in support of the Proposal for a New Academic Program – Interdisciplinary Graduate Program in Comparative Health Sciences (CHS). This proposed program will provide an opportunity to achieve critical mass in a disciplinary program identified by the Division of Health Sciences (DHS) for priority development. DHS supports the value of educating graduates to think in more innovative and interdisciplinary ways, and to focus at the whole animal level and use animal models of disease. The CHS program will provide an opportunity for students to be trained in multidisciplinary approaches to address biological and medical problems. With this program in place, all units within College of Veterinary Medicine (CVM) will participate in graduate education and encourage the integration of several related areas of emphasis currently existing in other units.

My understanding is that initially the program will have one option, Biomedical Sciences, which will accommodate students with advisors in the CVM. The role of CPHHS will be to provide graduate courses currently available to complete the elective course requirements in the proposed option, including courses in Nutrition, Exercise and Sport Science, and Public Health. In addition, CVM students will benefit from taking courses taught by CPHHS faculty who receive extramural-funded research, primarily from NIH and USDA. At a later date, there will be opportunities to add other options as the interdisciplinary program expands to include related areas of emphasis in health sciences.

The CHS Program exemplifies both the OSU and the DHS Strategic Plan. The OSU Strategic Plan Phase II advances three signature areas of distinction and CHS relates to, *Improving Human Health and Wellness*. In 2010, consistent with the OSU Strategic Plan, realignment among the colleges produced the DHS with the overriding goal to promote the development of interdisciplinary programs. I am very supportive of the proposed new academic program and the opportunities for students and faculty to engage in multidisciplinary approaches to address complex biological, medical and public health problems.

Sincerely,

Tammy Bray, PhD
Executive Dean, Division of Health Sciences
Dean, College of Public Health and Human Sciences