

IOWA STATE UNIVERSITY
College of Veterinary Medicine

UNIVERSITY OF
Nebraska
Lincoln



2017
Self-Study
Oct. 29 - Nov. 3
AVMA COE
ACCREDITATION



SELF-STUDY REPORT

IOWA STATE UNIVERSITY

College of Veterinary Medicine

Ames, IA

Lincoln, NE

*for the American Veterinary Medical
Association Council on Education*

October 29 - November 3, 2017

Table of Contents

	Page
Table of Contents	i
Council on Education's Standards and Components by page number	iii
Glossary	vi
 Self-Study Report	
Executive Summary	1
Standard 1. Organization	3
Standard 2. Finances	5
Standard 3. Physical Facilities and Equipment	8
Standard 4. Clinical Resources	14
Standard 5. Information Resources	23
Standard 6. Students	24
Standard 7. Admission	27
Standard 8. Faculty	30
Standard 9. Curriculum	35
Standard 10. Research Programs	39
Standard 11. Outcomes Assessment	44

Self-Study Appendices

	Page
Standard 1. Organization	
Appendix 1.3.1. University Structure - ISU	1
Appendix 1.3.2. University Structure - UNL	2
Appendix 1.4.1. Administrative Structure - ISU CVM	4
Appendix 1.4.2. Administrative Structure - UNL SVMBS	5
Appendix 1.5.1. Committees of the College - ISU	6
Appendix 1.5.2. Committees - UNL	9
 Standard 2. Finances	
Appendix 2.1.A. Financial Table A	10
Appendix 2.1.B. Financial Table B	11
Appendix 2.3. Revenue Graphs	12
Appendix 2.6. Revenue and Projections	14

Standard 3. Physical Facilities and Equipment

Appendix 3.1. Facility and Equipment Updates Since the Last Site Visit (ISU and UNL)	15
Appendix 3.2.1. Area Map - ISU	19
Appendix 3.2.2. Area Map - ISU Off-Campus	20
Appendix 3.2.3. Area Map - UNL	21
Appendix 3.2.4. Off-Campus Facilities Information	22

Standard 4. Clinical Resources

Appendix 4.4.D. Off-Campus Facilities Table D	24
Appendix 4.4.E. Off-Campus Facilities Table E	25

Standard 5. Information Resources

-no appendix-

Standard 6. Students

Appendix 6.1. Tables A, B, C, D	26
Appendix 6.4.1. Syllabus Template	29
Appendix 6.4.2. Fall Orientation - ISU	31
Appendix 6.4.3. Fall Orientation - UNL	35

Standard 7. Admission

Appendix 7.2. Admissions Committee Evaluation Rubric	40
--	----

Standard 8. Faculty

-no appendix-

Standard 9. Curriculum

Appendix 9.7. Curriculum Committee SOP Diagram	44
--	----

Standard 10. Research Programs

-no appendix-

Standard 11. Assessment

Appendix 11.2.C. Awards 2012-2016 - ISU	45
Appendix 11.2.D.1. VEA (and Qualifying Exam) Results 2012-2016	48

ISU CVM Self-Study

COUNCIL ON EDUCATION'S STANDARDS AND COMPONENTS BY PAGE NUMBER

STANDARDS		Self-Study Page Reference
1. ORGANIZATION		
1.1	Mission statement	3
1.2	Part of an institution of higher learning	3
1.3	Institutional accreditation	3
1.4	Relationship between college and parent institution	Appendices 1.3.1 and 1.3.2
1.5	Qualifications and responsibilities of the dean	4
1.6	Qualifications of the director of the veterinary medical teaching hospital(s)	4
1.7	Adequacy of administrative staff – quantitative factors	4 and Appendices 1.4.1 and 1.4.2
1.8	Adequacy of administrative staff – qualitative factors	4 and Appendices 1.4.1 and 1.4.2
1.9	Administrative structure (governance)	4 and Appendices 1.5.1 and 1.5.2
2. FINANCES		
2.1	Adequacy of financial support for professional teaching programs and the mission	Pages 5-8; Appendices 2.1-2.3
2.2	Delineation of funding and impact of ancillary undergraduate programs	Pages 5-6 Page 3 (No undergraduate major)
2.3	Primary function of teaching hospital(s) and other clinical resources is education	Pages 5, 6 and 8
3. PHYSICAL FACILITIES AND EQUIPMENT		
3.1	Adequacy of instructional environments	Pages 8-9; Appendix 3.1
3.2	Service areas for students	Pages 8-9; Appendix 4.4D
3.3	Adequacy of administrative and faculty offices	Page 8 and tour
3.4	Adequacy of veterinary teaching hospital	Pages 8-11; Appendix 3.1
3.5	Adequacy of off-campus veterinary hospitals	Pages 11-12
3.6	Adequacy of diagnostic and therapeutic services	Pages 10-12; Appendix 3.1
3.7	Safety and facilities management plan	Pages 9-10 and 12-14
3.8	Animal housing facilities	Pages 8-9, 11 (and tour)
3.9	Research and laboratory facilities	Page 9; Appendix 3.1
4. CLINICAL RESOURCES		
4.1	Adequacy of animals for DVM teaching purposes (normal vs. clinically diseased, in- vs. out-patient, field service, ambulatory, herd health)	Pages 14-18
4.2	Clinical educational resources or programs	Pages 19-20
4.3	Off-campus clinical instruction sites	Pages 11-12, and Pages 20-21; Appendices 4.4 D & E
	Students' involvement in the healthcare management of patients (and involvement with clients)	Page 21
4.5	Integration of subject-matter experts and clinical resources	Page 21
4.6	Adequacy of medical records system	Pages 21-22
5. LIBRARY AND INFORMATION RESOURCES		
5.1	Adequacy of information retrieval resources	Page 23
5.2	Access to information resources on and off campus	Page 23
5.3	Qualifications of support personnel	Page 23

5.4	Access to support personnel	Page 23
5.5	Support for development of instructional materials	Page 23 (Section 5.2)
5.6	Training and support for students to effectively retrieve and evaluate veterinary information	Page 23
6. STUDENTS		
6.1	Appropriate student body (size and representation) given mission and resources	Appendix 6.1 (Note, Tables A-D with trend analysis are all included in the appendix)
6.2	Additional clinical year students, veterinary technician or undergraduate students	Appendix 6.1 (Note, Tables A-D with trend analysis are all included in the appendix)
6.3	Adequate post-graduate programs	Appendix 6.1 (Note, Tables A-D with trend analysis are all included in the appendix)
6.4	Student support services	Pages 24-25
6.5	Adequacy of information provided by academic catalogues and on-line resources	Page 26
6.6	Student complaint policy and procedure	Page 26
7. ADMISSION		
7.1	Admission policy clear and accessible	Page 27
7.2	Appropriately structured admission committee	Appendices 1.5.1 and 1.5.2 (Committees)
7.3	Fair and unbiased student selection process	Pages 27-29 and Appendix 7.2
7.4	Academic requirements	Page 27
7.5	Prerequisite requirements	Page 27
7.6	Non-academic achievement admission criteria	Pages 27-28 and Appendix 7.2
8. FACULTY		
8.1	Faculty – quantitative factors	Pages 30-33
8.2	Faculty – qualitative factors	Pages 30-33
8.3	Promotion and tenure policies	Page 33
8.4	Performance review procedures	Page 34
8.5	Faculty retention/stability	Pages 30-32
8.6	Role of interns, residents, and graduate students in teaching and evaluating veterinary students	Page 34
9. CURRICULUM		
9.1	Length of didactic and clinical curriculum	Page 35
9.2	Regular, central review and management (revision) of the curriculum by a faculty curriculum committee in conjunction with the dean's office	Pages 36-37; 50; Appendices 1.5.1 and 1.5.2 (Committees); Appendix 9.7
9.3	Adequate rigor and sequence of courses	Pages 35-36 and Curriculum Digest in Supplemental Materials
9.4	Students acquire an understanding of basic biological principles and applied clinical applications of veterinary medicine	Pages 35-36
9.5	Fair and equitable testing/grading systems	Page 38
10. RESEARCH PROGRAMS		
10.1	Adequate integration of research in the professional program	Page 41
10.2	Active student participation in research	Pages 41-44
10.3	Size and breadth of college research program	Pages 39-40

10.4	Quality of college research program	Pages 39-40; 43-44
11. OUTCOMES ASSESSMENT		
11.1	Program outcomes measured, analyzed, and used for program improvement	Pages 48-50
11.2	Pre-clinical, clinical, and post -graduate student achievement measured and utilized	Pages 44-46; 50
11.3	New graduates have the scientific knowledge, skills and ability to provide entry level care upon graduation	Pages 44-46
11.4	Direct and indirect measures of student learning outcomes are used to evaluate clinical competence	Pages 44-46
11.5	1. Patient diagnosis, appropriate use of clinical resources, record management	Pages 44-45
11.6	2. Treatment planning and referral	Pages 44-45
11.7	3. Anesthesia, pain management, patient welfare	Pages 44-45
11.8	4. Basic surgery skills, experience, case management	Pages 44-45
11.9	5. Basic medicine skills, experience, case management	Pages 44-45
11.10	6. Emergency and intensive care case management	Pages 44-45
11.11	7. Health promotion, disease prevention/biosecurity, zoonosis, food safety	Pages 44-45
11.12	8. Client communications, Ethical conduct	Pages 44-45
11.13	9. Critical analysis of information and research	Pages 44-45
11.14	Annual and cumulative NAVLE scores	Page 46
11.15	Student attrition rates with reasons	Pages 46-47
11.16	Employment rates of graduates	Pages 47-48

Glossary of Acronyms

AAAS	American Association for the Advancement of Science	LN2	Liquid Nitrogen
AAHA	American Animal Hospital Association	LVMC	Lloyd Veterinary Medical Center
AAALAC	Association for Assessment and Accreditation of Laboratory Animal Care	MRI	Magnetic Resonance Imaging
AASV	American Association of Swine Veterinarians	NADC	National Animal Disease Center
AAVLD	American Association of Veterinary Laboratory Diagnosticians	NAVLE	North American Veterinary Licensing Examination
AAVMC	Association of American Veterinary Medical Colleges	NIFA	National Institute of Food and Agriculture
ABSL	Animal Biosafety Level	NIH	National Institutes of Health
ACGIH	American Conference of Governmental Industrial Hygienists	nsf	net square foot
ACVIM	American College of Veterinary Internal Medicine	NSF	National Science Foundation
ACVP	American College of Veterinary Pathologists	NSF-GRFP	NSF Graduate Research Fellowship
ACVS	American College of Veterinary Surgeons	NVDC	Nebraska Veterinary Diagnostic Center (UNL)
ADA	Americans with Disabilities Act	OASA	Office of Academic and Student Affairs
ALARA	As Low As Reasonably Achievable	OSCE	Objective Structured Clinical Examination
AMR	Antimicrobial Resistance	OSHA	Occupational Safety and Health Administration
AMVC	Audubon-Manning Veterinary Clinics	P & T	Promotion and Tenure
APHIS	Animal and Plant Health Inspection Service	PACS	Picture Archiving and Communication Systems
ARS	Animal Resource Station	PDI	Personnel Decisions International
ASCI	Animal Sciences Complex (UNL)	PEDV	Porcine Epidemic Diarrhea Virus
ATI	Acculabs Technologies, Inc.	PEF	Equine Performance Evaluation Facility
AVMA-AVMF	American Veterinary Medical Association-American Veterinary Medical Foundation	PI	Primary Investigator
BMS	Biomedical Sciences Department	PIKE	Production Immersion Knowledge Experience
BPZ	Blank Park Zoo	PPVM	Professional Program in Veterinary Medicine (UNL)
BQA	Beef Quality Assurance	PRRS	Porcine Reproductive Respiratory Syndrome
BSL	Biosafety Level	PRS	Position Responsibility Statement
CLIM	Computer, Library & Information Management	RMF	Resource Management Funds
CDDR	Controlled Drug Disposition Record	RMM	Resource Management Model
CFSPH	Center for Food Security and Public Health	ROI	Return on Investment
CHS	Capital Humane Society	SAAR	Student Academic Accommodation Requests
CR	Credit Hour	SAVMA	Student American Veterinary Medical Association
CT	Computed Tomography	SCAVMA	Student Chapter of the American Veterinary Medical Association
CTE	Chronic Traumatic Encephalopathy	SDR	Student Disability Resources
CVIS	Cyclone Veterinary Information System	SLS	Student Legal Services
CVM	College of Veterinary Medicine	SMEC	Swine Medicine Education Center
DOD	Department of Defense	SOAP	Subjective Objective Assessment Plan
EH&S	Environmental Health and Safety - ISU	SRT	Stereotactic Radiation Therapy
EHS	Environmental Health and Safety - UNL	SSD	Services for Students with Disabilities (UNL)
EMR	Electronic Medical Records	SSRP	Summer Scholar Research Program
ENREC	Eastern Nebraska Research and Extension Center	SVIP	Swine Veterinary Internship Program
FACH	Food Animal and Camelid Hospital	SVMBS	School of Veterinary Medicine and Biomedical Sciences (UNL)
FTE	Full Time Equivalent	T35	Short-Term Institutional Research Training Grants (NIH)
gsf	gross square foot	UNL	University of Nebraska Lincoln (UNL)
GPVEC	Great Plains Veterinary Educational Center	USDA	United States Department of Agriculture
HEPA	High-Efficiency Particulate Air	USDA-ARS	USDA-Agricultural Research Service
HIV	Human Immunodeficiency Virus	USMARC	U.S. Meat Animal Research Center
HPAI	Highly Pathogenic Avian Influenza	VADDS	Practice Management for Pathology (medical records)
IACUC	Institutional Animal Care and Use Committee	VBS	Veterinary Medicine and Biomedical Sciences (UNL)
ICAN	Iowa Center for Advanced Neurotoxicology	VCS	Veterinary Clinical Sciences Department
ICU	Intensive Care Unit	VCSL	Veterinary Clinical Skills Laboratory (UNL)
IDC	Indirect Cost	VDL	Veterinary Diagnostic Laboratory
IRB	Institutional Review Board	VDPAM	Veterinary Diagnostic and Production Animal Medicine Department
ISU	Iowa State University	VEA	Veterinary Educational Assessment
IT	Information Technology	VFS	Veterinary Field Services
IVS	Iowa Veterinary Specialties	VIRT	Violent Incident Response Training
JD	Juris Doctor	VML	Veterinary Medical Library
LAR	Laboratory Animal Resources	VMPM	Veterinary Microbiology and Preventive Medicine Department
LIDIF	Livestock Infectious Disease Isolation Facility	VMRI	Veterinary Medical Research Institute
LMS	Learning Management System	VPTH	Veterinary Pathology Department

Iowa State University College of Veterinary Medicine
2017 SELF STUDY REPORT

EXECUTIVE SUMMARY

Pat Halbur, DVM, MS, PhD

Interim Dr. Stephen G. Juelsgaard Dean of Veterinary Medicine

Since the last AVMA COE site visit, we have accomplished major advances in support of our mission: *“The College of Veterinary Medicine at Iowa State University is dedicated to enhancing the health and well-being of animals and humans through excellence in education, research, professional practice, and committed service to the State of Iowa, the nation, and the world.”*

The Iowa State University College of Veterinary Medicine (ISU CVM) ranks in the mid-point of the U.S News and World Report, which is substantially higher than rankings of 10 years ago. Based on the AAVMC Comparative Data report, which utilizes more objective analysis, the college ranks in the top 5 to 10 in key impact areas, including 1st in USDA funding, 2nd in minority faculty, 1st in large animal case load, 4th lowest total cost of education (resident), and 10th lowest overall educational debt (among US schools). Selected examples of strengths and weaknesses based on AVMA COE Standards are listed below.

Strengths

Standard 1. Organization. An experienced CVM administrative team is in place. The CVM Dean reports to the Senior Vice President and Provost who oversees University Academic Programs. The Senior VP and Provost reports directly to the ISU President. Important recent administrative roles providing added benefit include the Director of Hospital Operations (2015), Assistant Dean for Research (2017), and Assistant Dean for Academic and Student Affairs (2017).

Standard 2. Finances. Within the past five years, there has been significant positive growth in revenue in the Teaching Hospital (47.1%), Veterinary Diagnostic Laboratory (81.6%), and endowment income (50.6%).

Standard 3. Physical Facilities and Equipment. Overall, our facilities and equipment are functional and safe. We have redesigned and renovated facilities for clinical instruction, added high quality teaching technology resources, and enhanced the classroom teaching environment. In addition, professional students access multiple high-quality off-site facilities.

Standard 4. Clinical Resources. Across all patient species there has been an overall increase in clinical patient visits (22%), patients hospitalized (91%) and total hospital days (22%) over the five-year reporting period. These patient care activities have resulted in a significant increase in student contextual clinical educational opportunities with relevant, spontaneously occurring health and disease assessments. Furthermore, students have opportunities for meaningful exposure to animals in the VM1-VM3 years through educational activities in physical examination and animal handling. In addition to core educational experiences, students are provided numerous elective opportunities to learn in a variety of care-delivery settings and with diverse patient characteristics.

Standard 5. Information Resources. Through the College’s Veterinary Medical Library, students have access to 27,995 volumes and an expanding e-book collection, as well as 97,352 journal subscriptions, 84,174 of which are available online. Highly qualified librarians are available to assist students, staff, and faculty. Instructional and classroom technology specialists (2 FTE) provide support to instructional faculty and staff.

Standard 6. Students. The CVM has a highly engaged student body. In addition to core educational activities there are numerous student organizations that provide peer-driven educational opportunities. The CVM provides support services that are supplemented with campus-wide resources including mental health counseling, financial counseling, legal counsel, ADA compliance, and career guidance.

Standard 7. Admissions. The Admissions process focuses on identifying highly qualified applicants and enriching the student body. The process involves a review of academic achievement and other factors such as relevant experience, letters of reference, special circumstances, diversity, and personal development. The Admissions committee has been proactive in considering the effect of admissions processes on achieving college goals and making appropriate adjustments.

Standard 8. Faculty. Faculty numbers and expertise are sufficient to fully support our core curriculum and provide a rich variety of elective offerings. The college works diligently to provide a supportive environment for recruitment, hiring, and retention. This includes an advancement policy that allows flexibility in rewarding faculty for excellence. Our faculty remain strong national and international opinion leaders in their areas of expertise and regularly share their knowledge with peers and colleagues in local, national, and international venues.

Standard 9. Curriculum. Our curriculum provides a strong foundation in basic sciences, critical thinking, and application. There are embedded “hands-on” opportunities for skill development in both simulated-patient and “real-world” settings. Through outcomes assessment, the college is committed to a continual process of curricular improvement.

Standard 10. Research Programs. A research mindset is fully integrated into the DVM program, providing multiple channels for DVM students to apply the scientific method. The college has a robust research enterprise that addresses disease problems affecting both humans and animals. These research activities are supported by extramural funding from various agencies (e.g. NIH and USDA NIFA). The annual research expenditure at the CVM has consistently ranked in the top 10 among all CVMs for the past five years. Of particular note, the CVM’s biomedical research funded by NIH has experienced a significant increase and USDA funding has been ranked 1st among CVMs for multiple years.

Standard 11. Outcomes and Assessment. The ISU CVM relies on a rich set of measures to assess student competency, provide individual performance feedback, identify the need for remediation, and provide direction for programmatic change. A dedicated Office of Curricular and Student Assessment supports clinical competency assessment, program assessment, and educational research. Outcomes assessment findings are regularly communicated to the Curriculum Committee and other stakeholders and used to guide subsequent curricular change.

Weaknesses

Standard 2. Finances. Increases in tuition and fees have been necessary to address increases in university-assessed allocated expenses, and relatively minimal, or in some cases, decreasing state appropriations. Sponsored program income has fluctuated, but is now increasing, and continues to be very strong when compared to other veterinary colleges.

Standard 3. Physical Facilities and Equipment. Significant facilities improvements and additions have been completed over the past few years; however, additional improvements in key areas are important for supporting the college mission. Key planned facilities improvements include: 1) the Veterinary Diagnostic Laboratory renovation project; 2) more dedicated student study and testing space; 3) office space, 4) more ADA compliant expanded restrooms, and 5) additional high quality research space.



Standard 7. Admissions. The CVM has struggled to recruit a more diverse student body. A special committee on Diversity and Inclusion was formed to address this challenge, and presented findings to the college in spring of 2017.

Standard 10. Research Programs. As research space is limited relative to opportunity, additional high quality research space would allow us to be more competitive with high impact hires and support active research.

OBJECTIVES

The ISU CVM has the following primary objectives to help it achieve its mission (See Standard 1.) Those objectives are: 1) become opinion leaders in clinical and diagnostic medicine; 2) continue to lead in One Health/Translation Medicine/Research; 3) be recognized as leaders in veterinary teaching and curriculum development; 4) become the top veterinary college in which to grow and make a career; and 5) establish fiscal sustainability with the ongoing capacity to invest in the college's future.

STANDARD 1. ORGANIZATION

1.1. Provide a college mission statement for the undergraduate, DVM, or equivalent program.

MISSION STATEMENT

"The College of Veterinary Medicine at Iowa State University is dedicated to enhancing the health and well-being of animals and humans through excellence in education, research, professional practice, and committed service to the State of Iowa, the nation, and the world." Encompassed by that mission is a commitment to providing high-quality instruction, "real-world" clinical opportunities, and scientific-based research experiences for professional and graduate students across a wide variety of disciplines in a wide variety of domestic species including food animal, equine, and companion animal. Our college does not offer an undergraduate major. However, college faculty provide instruction in a number of courses that support undergraduate education across the university. Additionally, in 2017 our College approved a new Undergraduate Pharmacology/Toxicology Minor in the Biomedical Sciences Department.

VISION STATEMENT

"The Iowa State University College of Veterinary Medicine aspires to be a preeminent institution recognized for excellence in professional and graduate education and the application of knowledge to promote animal and human health with significant influence on society's food supply, while providing a caring and supportive work environment."

1.2. Identify the body that accredits the university and the current status of accreditation.

Iowa State University is accredited by the Higher Learning Commission, a commission of the North Central Association of Colleges and Schools. The last accreditation was granted on February 8, 2016, with the next Reaffirmation of Accreditation scheduled for 2025-26.

1.3. Provide a flow chart indicating the position of the college of veterinary medicine in the university structure and show lines of authority and responsibility, and give the names and titles of principal university administrative officers related to the college.

ISU University Structure - (See Appendix 1.3.1.)

The University of Nebraska – Lincoln (UNL) University Structure - (See Appendix 1.3.2.)

1.4. Provide a flow chart of the organizational design of the college listing names, titles (deans, associate/assistant deans, directors, department heads, etc.), academic credentials, and assignments of the college administrators.

ISU ADMINISTRATIVE STRUCTURE: COLLEGE OF VETERINARY MEDICINE

The Dean of the CVM is a veterinarian and reports directly to the University Senior Vice President and Provost, who in turn reports directly to the President. The Dean is advised and assisted in matters of policy and operations by the Dean's Cabinet, composed of two Associate Deans, two Assistant Deans, five Department Chairs, a Director of Hospital Operations, a Director of the Veterinary Diagnostic Laboratory, a College Equity Advisor, a College Fiscal Officer, a College Director of Human Resources, a College Communications Director, and a faculty representative of the CVM Governance Council. The administrative officers responsible for the professional, ethical, and academic affairs of the medical teaching hospital and other clinical facilities are veterinarians. *See Appendices 1.4.1. (ISU) and 1.4.2. (UNL) for a complete overview of College administrative structure.*

1.5. Describe the role of faculty, staff, and students in the governance of the college and list the major committees of the college, and their appointment authority.

The college governance document was revised and ratified in November 2016

(<https://vetmed.iastate.edu/about/faculty>).

Faculty "have primary responsibility for educational policies and procedures, including admission requirements, graduation requirements, curriculum and course revisions, new degree programs, grading procedures, academic standards, and methods of instruction." The faculty also recommends candidates for diplomas and degrees. Staff participate as voting members of the Safety, Computer Library and Information Management, Awards, and Dean's Budget Advisory Committees. Students participate as members of the Curriculum and Student Faculty Relations Committees. The Governance Council, comprising one faculty member from each department and two college staff members, represents the general interests of faculty and staff in their relations with the administration of the college. The Governance Council faculty members are elected by their departments; staff members of the Governance Council are appointed by the dean. Faculty, staff, and students participate in evaluation of the dean.

Committees of the College - (See Appendix 1.5.1.-ISU and 1.5.2.-UNL)

The College has 16 standing committees. Prospective committee members are nominated by academic departments and appointed by the dean in consultation with the cabinet. Academic departments determine the selection process for their nominees. One additional faculty member may be appointed to each committee by the Governance Council, at the Governance Council's discretion. Committee members are appointed to three-year terms with the possibility of being reappointed for an additional term. Committee terms of service are staggered. The college also has several ad hoc committees, including a Committee on Reducing the Cost and Improving the ROI of an ISU DVM Degree, and a committee to identify roadblocks to recruitment and success of non-traditional/underrepresented students in our college and the veterinary profession. College committees are advisory to the Dean or the dean's designee (e.g. Associate Dean). College faculty also have representation on university-wide committees and the faculty senate.

UNL GOVERNANCE

Details regarding governance at UNL are available at the following URL:

<http://ianr.unl.edu/ianr-policies#tab1>

1.6. If the college plans to change its current organization, provide a summary of those plans.

The college has no plan to change its current organization.



STANDARD 2. FINANCES

ISU

2.1. Complete Tables A and B for the past five years and analyze the trends for each category. (See Appendix 2.1.A.)

Analysis of Trends for Each Category:

Expenditures (Per Categories in Table A): (See Appendix 2.1.A.)

Instruction, academic, and student support expenditures. Expenditures from these categories increased 12%, 57.9%, and 30.4% respectively over the past five years. Expenditures in FY16 for Academic Support were uncharacteristically high due primarily to utilization of carryforward funds for renovation projects, lab equipment purchases and additional faculty hiring to bridge to retirements.

The Teaching Hospital- Lloyd Veterinary Medical Center (LVMC) has increased expenditures 36.6% due to expanded service offerings and increasing depth of faculty expertise and technician support.

The Veterinary Diagnostic Laboratory increased expenditures 38.8% acquiring needed supplies, equipment, personnel, and expanding services for required federal and state testing, test development and responding to emerging and reemerging diseases. Caseload has doubled in the last five years.

The “other” category showed a 100% decrease because Racing Chemistry laboratory expenses were transferred to the Veterinary Diagnostic Laboratory (VDL).

Un-sponsored Student Aid expenditures have increased 80.2% in efforts to increase the professional student scholarship pool.

Sponsored student aid expenditures have seen a modest increase in donations.

Sponsored research and other sponsored activity (including external and internal support) has decreased 8.2% over the reporting period, primarily attributable to the departure of two research-intensive faculty members; however, recent research faculty hires are expected to reverse this trend. Even with the modest decline, research activity and funding is strong; the CVM has ranked 1st among veterinary colleges in USDA funding for the past five years.

Extension and Public Services expenditures have decreased 14.9%. This category includes services beneficial to individuals and groups external to the university, such as the Center for Food Security and Public Health (CFSPH), study abroad, veterinary field services, veterinary pathology services, and extension.

Allocated Expenses (See Appendix 2.1., Table A.1.) fund central administrative units and services such as the library, student services, information technology services, business services, and facility services. Allocated expenses have increased significantly over the reporting period.

Revenue (Per Categories in Table B): (See Appendix 2.1.)

State Appropriations are assigned from the University using the Resource Management Model (RMM) which was implemented in 2009. Resource Management Funds (RMF) are distributed to colleges according to university funding metrics. The college also receives a percentage of university indirect costs (IDC) to reflect effort and commitment in attracting and managing external grants and contracts. An administrative fee is also assessed by CVM administration on external sales from service center activities such as in the hospital and the diagnostic laboratory. The administrative fee for these units was 3.5% for the reporting period and will increase to 4.25% in FY18. Table B.1. (Appendix 2.1.) shows the distribution of these three categories. Overall, state appropriations grew modestly over the reporting period.

Tuition and Fees have increased 20% during the reporting period, with the largest growth occurring between FY12 and FY14.

Endowment Income represents funds generated by endowed gifts that are available to the CVM for immediate use. The amount of endowment income is based on the foundation's spending policy which is currently 4.25% of the 12-quarter average of the endowment's market. This endowment income plus the expendable receipts make up the total available cash. Endowed receipts used to create or add to an endowed fund are not included in these categories because these funds become part of the invested principal of the endowment, and are not available for current spending. Endowment income has grown steadily since FY12.

Funds (Gifts) for Current Use are tracked by expendable receipts that are available to the CVM immediately and can be spent in accordance with the specific designation identified by the donor. Funds for current use have fluctuated between \$1.2 M and \$2 M for the reporting period.

Sponsored Program (research) Income comes from external sources including federal, state, industry, and private sources. These include direct funds and the PI portion of the IDC (15%). This funding decreased significantly between FY12 and FY15, and is now rebounding (see FY16).

Other revenue primarily includes fees generated from the fourth year clinical training program for students attending Ross, St. George's and St. Matthew's universities, as well as miscellaneous agency accounts (accounts held by ISU, but owned by another party). These funds have increased consistently throughout the reporting period.

Sales and Services revenues have seen strong growth both in teaching hospital (Lloyd Veterinary Medical Center (LVMC)) and Veterinary Diagnostic Laboratory (VDL) client revenue. **Other Sources from Sales & Services** include Clinical Pathology Services, Veterinary Field Services, and (pre-FY14) Racing Chemistry. In FY14, Racing Chemistry services were incorporated into the VDL, accounting for the dip in Other Sources revenue and a portion of the increase in VDL revenue.

2.2. Comment on the strengths and weaknesses in revenues over the past five years.

Strengths: 1) Teaching Hospital (LVMC) revenues have grown by 47.1%, with the LVMC functioning with a positive year-end margin during recent fiscal years. This has been accomplished by a) strategic hiring of faculty and support staff, b) allocation of CVM funds to assist in resource stability, especially for required equipment, pharmacy compliance, and increased biosecurity programs. 2) Veterinary Diagnostic Laboratory (VDL) revenues have increased 81.6% in the reporting period. The major area of revenue increase includes a) expanded testing in the area of molecular diagnostics, b) federal testing requirements that increase case submissions for transboundary (porcine epidemic diarrhea (PED)) or foreign animal diseases (highly pathogenic avian influenza (HPAI)), and c) integration of research discovery translated to testing. 3) Considering both endowment income and funds for current use, the total cash available from all foundation accounts increased 35.5% over the reporting period. These funds should further increase with the initiation of the new major University Foundation Campaign. 4) State appropriations have increased 5.4% over the past five years.

Weaknesses: 1) Tuition and fees revenue has increased 20% or \$3,303,538. In FY18, tuition will increase an additional 4% for residents and 3.5% for non-residents. Per the AAVMC Comparative Data report, for FY17 the ISU CVM ranked 14th highest (\$98,750) for residents and 9th highest (\$198,145) for non-residents in overall tuition and fees (all four years) among US veterinary colleges. The relatively low cost of living in Iowa reduced the relative overall cost of education; however, which ranked 26th highest (\$152,978) for residents and 19th highest (\$252,389) for non-residents. Nonetheless, despite the competitive overall cost of education, given current student debt levels, we do not see further substantial tuition increases as a viable strategy for increasing revenue. 2) Sponsored program income, as mentioned above, declined 31.5% due to the loss of several research-intensive faculty. However, recent hires are

now receiving grant awards and during FY16 several PIs received NIH, USDA, and DOD awards. It is projected that the level of sponsored program revenue will, therefore, increase.

2.3. Provide a comprehensive trend analysis of revenue sources that have supported the professional teaching program over the past five years (graphs or other visual presentations would be helpful). (See Appendix 2.3.)

The State of Iowa's commitment to its veterinary college is strong, despite recent difficult economic conditions. Nonetheless, state appropriations have not met rising costs, particularly those associated with university allocated expenses, utilities, and salary increases. The college has compensated by increasing revenue streams. Appendix 2.3. illustrates changes in specific revenue streams.

2.4. Describe how revenues over the past five years have impacted the college's ability to provide a contemporary professional teaching program and ancillary support services.

Overall, the college has received sufficient revenue across all sources to support high quality facilities and the necessary faculty and staff to provide a quality teaching program. For example, during the reporting period we have 1) completed the expansion/renovation of the Hixon-Lied Small Animal Hospital, 2) renovated and equipped a new clinical skills lab, 3) remodeled the surgical teaching area and added a community outreach component to that course, 4) improved our facilities for ADA compliant testing, and 5) initiated the construction of a new commons/café area for students. Still, essentially flat state appropriations and college-funded salary and benefit increases pressure the CVM to increase tuition rates when the student debt to income ratio is already unacceptably high.

2.5. Compare the percentage of hospital income to total hospital operational costs.

The primary purpose of the teaching hospital is education. Nonetheless, the hospital also provides a valuable source of revenue. From FY12-FY16, LVMC income has increased 27% and total hospital operational costs have increased 23%. The hospital income has exceeded costs by \$108,378 (2012), \$122,955 (2013), \$212,432 (2014); \$402,780 (2015) and \$384,862 (2016). Therefore, since 2012, hospital income has exceeded hospital costs by a significant margin (these figures are based on accrual accounting).

2.6. Describe anticipated trends in future revenues and expenditures

Revenues: Appendix 2.6. depicts actual revenue sources, as well as projected changes in revenue/expenses through FY18. Iowa Legislature support of the CVM is expected to remain strong, as the CVM is a recognized and respected resource in Iowa for its role in animal health. Nonetheless, a probable state-wide reduction in funding for higher education is likely to affect the CVM; as a result, more revenue will be generated by tuition than state appropriations beginning in FY17. The college continues to plan for stable increases in revenue to offset reductions in state funding. The LVMC has experienced steady revenue growth over the past five years, and that trend is expected to continue as the college continues to add high quality clinical experiences for students and excellent service for referring veterinarians and clients. A satellite companion animal clinic in Des Moines (Iowa Veterinary Specialties (IVS)) also offers opportunities for enhanced teaching and student learning, and will continue to provide revenues for the college. Research awards are expected to increase due to the hiring of several research-intensive faculty and establishment of a clinical research laboratory. We will also continue to vigorously pursue fundraising. Foundation goals are focused on increasing student scholarships to offset student debt, increasing endowed faculty positions, and fundraising for a new VDL. The college is currently participating in a \$70 million campaign (ending in FY20). The FY16 value of CVM endowments was \$33.9 million. Fund raising production was \$18 million for FY17 (\$8 million above the target), and the fundraising target for FY18 is \$10 million. The CVM currently has 13 endowed faculty positions (one deanship, five chairs and seven professorships) and these are expected to increase. Tuition revenue is expected to grow modestly due to concerns over current student debt. As cost savings, legislated changes to merit contract employee compensation will reduce labor costs.



STANDARD 3
PHYSICAL FACILITIES
AND EQUIPMENT

Expenditures: We do not anticipate major changes in the nature of expenditures. We will continue to modernize facilities and infrastructure, provide increases for faculty and staff salaries, and invest in recruitment and retention. Student support service expenses are likely to increase due to anticipated need for student wellness programs and testing accommodations. Likely investment expenditures include 1) increasing student scholarships, 2) the addition of a stereotactic radiotherapy facility and associated operations, 3) a new MRI in the LVMC, 4) expansion of the existing field services building, and 5) a new veterinary diagnostic laboratory and repurposing of the vacated space.

Standard 2 - Finances, UNL

A broad summary of finances for UNL is shown in the table below.

Fiscal Year	PPVM Total Budget	% State Funded	% Tuition Dollars	Total Expenditures
2016	\$1,770,687	70%	30%	\$1,636,998
2015	\$1,801,086	66%	34%	\$1,535,448
2014	\$1,796,090	68%	32%	\$1,545,860
2013	\$1,766,547	51%	49%	\$1,481,162
2012	\$1,740,046	51%	49%	\$1,653,451

STANDARD 3. PHYSICAL FACILITIES AND EQUIPMENT

3.1. Provide a brief description of the major functions of, or activities that take place in the facilities used by the college in fulfilling its mission.

ISU - College of Veterinary Medicine Campus, Ames, IA

The College of Veterinary Medicine (CVM) main building functions as the primary instructional building, housing major classrooms, a library, study areas, numerous seminar and meeting rooms, a café, research laboratories, faculty and staff offices, dean, associate dean and departmental administrative offices, the necropsy laboratory, and other support services. This main college building complex includes the large and small animal teaching hospitals and VDL, and contains a major portion of the Laboratory Animal Resources (LAR) animal housing area.

The Lloyd Veterinary Medical Center (LVMC) is an American Animal Hospital Association (AAHA) accredited facility with the small and large animal clinical space and shared supporting service areas such as diagnostic imaging and pathology. The LVMC is the primary teaching hospital for student learning. This facility includes: 1) the small and large animal hospitals, 2) faculty and staff offices for the departments of Veterinary Clinical Sciences (VCS) and Veterinary Diagnostic and Production Animal Medicine (VDPAM), 3) the Veterinary Pathology (VPTH) clinical pathology laboratory, offices, and teaching laboratory, 4) the clinical skills teaching laboratory, and 5) research laboratories. See <https://vetmed.iastate.edu/vmc>.

The Ambulatory Field Service Building supports food animal, camelid and equine ambulatory services and includes field service staff offices, laboratories, a pharmacy, and housing for vehicles. <https://vetmed.iastate.edu/vmc/large-animal/veterinary-field-services>.

The Equine Performance Evaluation Facility (PEF) and Farrier Station is an indoor facility adjacent to the LVMC with an indoor equine riding arena and farrier shop. Farrier services and education are provided by the certified journeyman farrier who is a full-time hospital employee.

The Veterinary Diagnostic Laboratory (VDL) is an American Association of Veterinary Laboratory Diagnostics (AAVLD) accredited facility housing areas for sample (including pathology, microbiology, serology, toxicology) accessioning and processing, benchtop laboratories, personnel offices, seminar

rooms, and teaching areas. The VDL offers comprehensive diagnostic services, and faculty and technical staff have grown from 11 faculty and 20 staff in 1976 to 25 faculty (academic department VDPAM) and 115 technical staff currently, processing over 75,000 diagnostic submissions and conducting 1.5M diagnostic assays each year for livestock and poultry producers and pet owners. Electronic case records are retrievable and used in teaching and investigative research. <https://vetmed.iastate.edu/vdl>

Research related facilities

In addition to multiple research facilities in the main CVM building, the college employs the following: 1) The Freezer Facility at VMRI houses ultralow and liquid nitrogen freezers to store irreplaceable biological, clinical, and diagnostic samples in a secure location; 2) The Livestock Infectious Disease Isolation Facility (LIDIF) constructed in 1999 is a BSL2 facility for livestock research with LAR staffing and offices. It is managed by the VP for Research and used extensively by the CVM; 3) Building 40 and Building 29 have animal housing for rodents and small domestic species and small livestock, respectively, and are managed under the VP for Research; and 4) The Animal Biosafety Level-3 (ABSL-3) modular facility, 760 gsft, attached to the existing BSL-3 laboratory, is used to address new strategies to prevent and control foreign animal and zoonotic diseases.

Emergency Power has been installed to provide back-up power, reduce power fluctuations and implement monitoring and security systems for the Vet Med building.

(See Appendix 3.1. for major facility and equipment updates since 2012.)

3.2. Provide an area map that indicates the principal facilities of the college and describe distance and travel time to off-campus facilities.

ISU - (See Appendix 3.2.1. - campus, and 3.2.2. - off-site); **UNL** - (See Appendix 3.2.3.); *Other off-campus facility information (See Appendix 3.2.4.)*

3.3. Describe the college's safety plan and facilities management plan including mechanisms documenting compliance.

The college's safety-related plan and related documents can be found under the "Safety" tab in the CVM's intranet (VetZone; <https://vetzone.cvm.iastate.edu/safety/>) and includes areas such as general building safety, response to injuries/accidents, animal-human safety protocols, rabies suspect handling, biosecurity, and emergency response. The college has a 20-year facilities plan which is maintained and regularly reviewed with ISU Facilities Planning and Management. This plan will be made available to the site visit team as part of the supplemental material. Highlights of the college's safety and facilities management plans as they relate to student safety are described as follows.

Environmental Health and Safety (EH&S) is the university-wide health and safety division that provides training for faculty, staff and students as well as monitoring. EH&S has responsibility in all areas of safety including fire, biological, chemical/biohazards, animal, emergency management, and radiation. Periodic fire drills are performed by EH&S. <http://www.ehs.iastate.edu/>

Formaldehyde monitoring in the Biomedical Sciences (BMS) anatomy laboratory is supervised by anatomy faculty working with EH&S. Formaldehyde monitoring is done by placing ATI passive diffusion badges on CVM students, analyzing the badges, and providing a report. For the last 10 years, the formaldehyde levels have been below the required OSHA level and below the American Conference of Governmental Industrial Hygienists (ACGIH) ceiling of <0.3ppm. Faculty, technicians, and staff who spend a substantial amount of time in the VPTH necropsy laboratory and/or histopathology laboratory are also monitored by EH&S.

Radiation safety protocol in the Diagnostic Imaging unit requires that faculty staff, and students involved in radiography, fluoroscopy, and nuclear medicine are monitored via dosimetry badges. Every radiology technologist, resident and faculty member involved in the radiology section wears three dosimeter badges -- one on their collar, one at their waist, and one on their finger. Dosimeter badges are

checked every three months to monitor the amount of radiation. Pregnant women also wear a fetal badge that is checked monthly. The radiology department operates under the time, distance, shielding, and ALARA (as low as reasonably achievable) principles to keep exposure to a minimum. Personal protection equipment includes lead aprons, lead gloves, thyroid shields, and lead shields. Training for laser safety occurs via EH&S <http://www.ehs.iastate.edu/radiation> <http://www.ehs.iastate.edu/radiation/laser>.

The Institutional Animal Care and Use Committee (IACUC) reviews and approves animal care and use protocols in all teaching and research settings, with the exception of the care of client-owned animals in the hospital. IACUC review ensures humane care and use and ensures compliance with guidelines and regulations. (See: <http://www.compliance.iastate.edu/iacuc/>)

The Institutional Biosafety Committee reviews, approves, and issues a biohazardous materials use authorization for any teaching or research project that involves biosafety hazards including recombinant or synthetic nucleic acid molecules, human or animal pathogens, biological toxin, and similar potential biohazards. (See: <http://www.compliance.iastate.edu/committees/ibc>)

CVM Building access is controlled via card access for all external and some internal doors. The main college entrance has a check-in system with visitor badges. A full-time police lieutenant is present during the standard work day with community service officers patrolling the facilities after hours. A college safety committee reviews safety-related issues for the college and provides recommendations.

Controlled drugs/pharmacy. Two licensed pharmacists oversee the LVMC pharmacy which includes a HEPA filtered unit for compounding. The disposition (including administration waste and return) of all controlled drugs in the LVMC must be documented on the Controlled Drug Disposition Record (CDDR) retained in the patient's medical record; the CDDR is available from the pharmacy or ICU. Six Omnicell units with electronic password ID log in and tracking dispensary capabilities are used for drug dispensing throughout the hospital and field services. The food animal ambulatory unit obtains pharmaceuticals through University approved suppliers. Controlled substances are assigned a log number upon arrival to track usage, and are locked and maintained under regulatory compliance. Audits of controlled drugs occur twice per year.

Biosecurity. The CVM has an Infectious Disease Control Committee that primarily focuses on the creation and review of infectious disease protocols for the LVMC and related college functions.

3.4. Describe the adequacy (pertains to all facilities used by the college whether on-campus or off-campus).

CVM Campus

The Veterinary Medical College main building, is over 187,000 net square foot (nsf) with updated IT capable classrooms equipped for laptop use and lecture capture. Recently remodeled teaching laboratories are used for teaching histology, microbiology, pathology, clinical pathology, parasitology, microbiology, surgery, and anesthesia. The VPTH and VDL necropsy floors were also recently renovated. The college also includes study rooms, a library complex, and a café (currently being expanded and renovated to include a commons area). Additional space for offices, study areas, and research laboratories would be beneficial.

The Lloyd Veterinary Medical Center (LVMC) includes a Large Animal Hospital, Small Animal Hospital, and supporting services. The Large Animal Hospital was completed in 2008 is 123,818 gross square foot (gsf) and includes client receiving, animal receiving, food animal holding and surgery areas, equine holding areas, examination and treatment rooms, equine induction and recovery area, equine surgery suites, student rounds/work rounds, radiology, an ICU, and an isolation wing. A 2,700 gsf bovine-camelid addition (completed in May 2012) provides additional stalls for ruminant (8) and camelid (4) inpatients and outpatients. The Hixson-Lied small animal hospital and associated office suite (121,481 gsf) was completed in 2012 with client reception, examination rooms (22), treatment rooms, animal housing, small animal ICU, pharmacy, anesthesia induction and recovery area, surgical suites, dental

suites, isolation facility, rehabilitation area, animal holding areas, and student rounds rooms. The office suite includes faculty offices (39), departmental administration offices (6), conference rooms (4), and work rooms (2). Equipment includes a new digital X-ray unit for fluoroscopy, additional rehabilitation equipment, sterilization machine, an x-ray c-arm machine, 16-slice CT, MRI machine, and computers throughout the hospital. The VPTH clinical pathology laboratory is centrally located near ICU and surgery. Facilities are modern and well designed. Increased faculty hiring has increased the need for office space.

The Clinical Skills Laboratory is in the small animal hospital with security card access to 1452 nsf of space. It contains teaching models and simulators, anesthesia equipment, work stations, GoPro® cameras and web cams for self-recording, space for large demonstrations, a mobile camera boom, and lecture capture. The Clinical Skills Laboratory is staffed by a full-time veterinarian.

The Veterinary Medical Research Institute has undergone a number of renovations, and buildings consist of laboratories (BSL 2 grade) and offices. Due to the age of the buildings, there is a consistent demand for re-investment and upgrades. Utility infrastructure limits future renovation and expansion.

The ISU Veterinary Diagnostic Laboratory's (VDL) sustained trajectory of growth in diagnostic service revenues realized over the past six years has enabled the VDL to reinvest for continual improvement in capabilities, capacity, quality and scope of diagnostic services provided to the \$32.6 billion animal agriculture industry in Iowa. During 2014-2017, the VDL has strategically coordinated efforts to plan, internally fund (\$2.75M) and execute several renovation projects (High-Throughput Molecular Diagnostic Suite, Poultry Salmonella Lab, Health Assurance Testing Services, and Histopathology). The VDL funded (\$550,000) redesign of the VDL's Receiving and Accessioning Area, Necropsy Floor Entry Space, and the Necropsy Technical Staff Office/VDPAM 455 Student Room. The VDL also funded the Veterinary Medicine Temporary Annex which provides 12 diagnostic pathology faculty offices and dual-use conference/rounds room and address some of the most urgent needs for more space. The VDL footprint has expanded from 48,600 nsf to over 59,500 nsf of lab/office space in the past six years. Recent renovations have helped to accommodate growth but additional space has been requested due to doubling of the caseload, lack of space to accommodate testing for a major foreign animal disease (foot and mouth disease virus, classical swine fever), and biocontainment and biosafety issues which are complicated by poor layout, non-optimal workflow patterns, and poor control of heating, ventilation and air conditioning systems (see 3.6.). Efforts to secure funding (\$124 million) for building a new, stand-alone VDL are in progress.

CVM Off-Campus Learning Sites

All off-campus facilities used by our professional educational program are fully adequate to support student learning and safety, and are briefly described below:

Iowa Veterinary Specialties (IVS) 6110 Creston Ave, Des Moines, IA 50321. IVS is a 7200 nsf ISU affiliated emergency and specialty small animal practice that hosts veterinary students in mentored clinical programs, including emergency medicine, oncology, and ophthalmology. Because IVS handles a different type of caseload than the ISU LVMC, students rotating through IVS are likely to see a broader range of cases than at LVMC alone. <http://www.iowaveterinaryspecialties.com/>

Shelter Medicine Facilities consist of three major shelters used for senior rotation instruction: Wayside Waif's Inc., Kansas City, MO http://www.waysidewaifs.org/site/PageServer?pagename=About_us_new; The Animal Rescue League in Des Moines, IA <http://www.arl-iowa.org/>; and the Nebraska Humane Society, Omaha, NE <http://nehumanesociety-px.rtrk.com/about-nhs/>. Capital Humane Society (Lincoln, NE) is also used for instructing VM2 students at UNL.

The Blank Park Zoo (BPZ) (7401 SW 9th St, Des Moines, IA 50315) is a 25-acre zoological park on the south side of Des Moines. The zoo is a member of the Association of Zoos and Aquariums and is the only

accredited zoo in Iowa. BPZ facilities were recently expanded to include student living quarters, a student rounds room, an operating room, a post-operative and hospitalization care unit, and an observation area.

The Great Plains Veterinary Educational Center (GPVEC) provides clinical experiences for 12 rotation courses, including beef cow-calf, beef feedlot, sheep production medicine, swine production medicine, and equine dentistry. The GPVEC provides clinical education to veterinary students and practitioners through a cooperative agreement between ISU, UNL and the US Meat Animal Research Center (USMARC). The USMARC consists of over 34,000 acres near Clay Center, NE and presently includes approximately 8000 breeding females and their offspring representing 18 breeds, a 6000-head beef feedlot, over 2500 ewes of 10 breeds, approximately 950 litters of pigs farrowed per year, and approximately 35 head of working horses. Students stay in on-site dormitories.

The ISU Beef Nutrition Farm includes a modern open-front, 60-pen feedlot, a 7-pen feedlot with an electronic feed intake management system, and a 16-pen open-front feedlot. All pen sizes are adequate for up to six animals. There are 120 acres of improved pasture available for grazing research and several small open lots with fence line feed bunks. A modern, indoor animal handling facility, feed mill and indoor and outdoor feed storage structures are present.

The ISU Beef Teaching Farm includes a modern cattle handling chute within a heated building. A cattle collection area just outside of the building with a tub and alley way makes it easy to funnel cattle into the chute for processing, herd health, or treatment.

The ISU Dairy Science Farm is a modern dairy operation located approximately three miles from the Vet Med campus that milks approximately 400 cows year-round in a double-12 milking parlor. DVM students visit the dairy daily to provide examinations and treatments for cows and young stock.

The ISU Sheep Teaching Farm consists of approximately 200 mature ewes and is comprised of three different production systems: a flock of Hampshire and Suffolk cross ewes, a registered Hampshire flock, and a 100-head commercial white face flock.

ISU Swine Teaching and Research Farms There are three main swine farms that provide teaching opportunities and are serviced by veterinarians from our Swine Medicine Education Center (SMEC) (described in Section 4.3.) and ISU CVM Veterinary Field Services unit. These sites balance functions of research, teaching, and production. All three sites are inspected every six months by the ISU Institutional Animal Care and Use Committee. Further, a weekly conference call to review health, research schedules and biosecurity priorities is conducted that includes ISU CVM veterinarians, the University Veterinarian and other stakeholders.

Eastern Nebraska Research and Extension Center (ENREC), near Mead, NE. The ENREC is located on roughly 400 acres of land with a beef herd of approximately 90 adult animals used primarily for teaching and research.

Gudmundsen Sandhills Laboratory, Whitman, NE. has approximately 500 adult cows on over 11,600 acres of sandhills range and is utilized primarily for production systems teaching and research.

3.5. For safety and educational purposes, protocols must be posted in the isolation facilities and the facilities must be used for instruction in isolation procedures (biocontainment).

The CVM Infectious Disease Control Committee primarily focuses on creating, reviewing and implementing recommendations of infectious disease protocols for the LVMC and related college areas. Protocols are found in student manuals, hospital operational manuals, and online:

<https://vetzone.cvm.iastate.edu/policies-and-documents/infectious-disease-control/>. Posted protocols are located at each high-risk area. Protocols for use of isolation units are posted in those areas. Students are trained in isolation procedures and practice those procedures under supervision in the small and large animal hospital facilities. LVMC orientation occurs the first day of each rotation where students are instructed regarding processes, safety, and procedures in the clinic. Also, VM4 Student Handbooks with

procedures are posted on VetZone <https://vetzone.cvm.iastate.edu/students/>. Principal investigators and laboratory managers are responsible for safety procedures in their laboratories. There are annual inspections of research laboratories by the university EH&S department to determine compliance with safety and health standards and regulations. Chemical and biological hazard disposals follow university protocols, and annual certifications are conducted of biological safety cabinets and chemical exhaust hoods.

3.6. Describe current plans for improvement.

A number of improvement projects are planned, including the following: 1) The VDL Capital Project is the #1 priority for Iowa State University and the Iowa Board of Regents, and will be the legislative request for FY18. The VDL caseload has more than doubled in the last six years, which has added to the critical shortage of functional and programmatically appropriate space. The VDL currently occupies about 60,000 nsf in the College of Veterinary Medicine and in VMRI facilities. The space assessment identified the need for a total of approximately 83,000 nsf to support the current and future needs of the laboratory and associated teaching and research activities. Following construction of the new VDL facility, vacated CVM space will be repurposed for needed research space, student teaching/learning space, testing space, and other priorities. 2) The Commons-Café Renovation Project has been initiated to provide functional and comfortable student study areas, as well as space for group meetings, student activities and special events. Concurrently, food service and dining areas will also be upgraded. 3) The BMS Anatomy Laboratory will undergo additional air handling renovations, add washing stations, and add a human cadaver lab (for use by the BMS Master's Program). 4) Room 1485 is being renovated into a modern flexible small classroom and study space. This room will be used primarily for elective courses, student study space, and video conferencing. 5) Jr. Surgery kennel area, treatment room, and walk-in freezer renovations will accommodate the spaces needed to support Jr. Surgery courses, animal welfare and community outreach activities and clinical skills sessions. 6) The Clinical Skills Lab will add a demonstration table and theater and hallway monitor for small classroom teaching. 7) A stereotactic radiation therapy (SRT) is planned to be installed and in operational use by 2018. 8) The Veterinary Field Services (VFS) building opened in 2011 to address the need for more clinical experiences for veterinary students and to meet the demand for food animal clinical services in the region. Caseload, field-based research activities, and the number of students using VFS have all grown substantially since it opened. It is estimated that approximately 4,500 nsf is needed to double the work room area, and include a classroom for 20-30 students, faculty offices, and storage. 9) The LVMC has plans to upgrade the current MRI.

Standard 3 - Physical Facilities and Equipment, UNL

The primary instructional spaces for the Professional Program in Veterinary Medicine (PPVM) are located in the School of Veterinary Medicine and Biomedical Sciences (SVMBBS) Hall, the Animal Sciences Complex (ASCI), the Veterinary Clinical Skills Laboratory (VCSL, formerly referred to as the Animal Holding Facility), the Nebraska Veterinary Diagnostic Center (NVDC), and the Ken Morrison Life Sciences Research Center located on the East Campus of the University of Nebraska-Lincoln. These facilities are primarily used to provide didactic and laboratory teaching experiences for the first two years of the PPVM program and the majority of PPVM classes are held in three different classrooms (one in VBS, one in NVDC, one in ASCI) and four different teaching laboratories (two in ASCI, one in NVDC, one in VCSL).

A new Veterinary Diagnostic Center opened in June 2017, and contains substantial high quality teaching space.

The Veterinary Clinical Skills Laboratory (at UNL) was renovated in 2011 from a holding facility for large research animals to a teaching laboratory with space and equipment for the instruction of small



animal clinical skills and small animal surgery techniques. This facility also includes six large kennels for the long-term housing of dogs which are used as part of the teaching program.

Environmental Health and Safety (EHS) continues to monitor formaldehyde levels in the anatomy laboratory on an annual basis to ensure levels are compliant with OSHA standards. Downdraft tables were purchased for the anatomy laboratory in 2013 to help ensure that formaldehyde levels do not exceed acceptable standards. During their first few weeks in the PPVM, all veterinary students receive biosafety training from EHS and training on the use of animals in teaching and research from the Institutional Animal Care Program. All teaching laboratories undergo annual audits by EHS and all teaching activities involving animals are approved by the Institutional Animal Care and Use Committee. Since 2011, the GPVEC inventory control system has been implemented and GPVEC technicians monitor all pharmaceuticals on a monthly basis for handling, storage, removal, and disposal as per protocols.

STANDARD 4. CLINICAL RESOURCES

ISU

4.1. Complete Tables A, B, C for the past five years and analyze trends for each species (category). Include only those patients, farm call, and animals examined that have direct student involvement.

Table A.

Teaching Hospital FY16

Animal Species	Number of Patient Visits	Number Hospitalized	Number of Hospital Days
Bovine	1,358	1,326	2,131
Canine	11,981	3,286	7,433
Caprine	109	84	255
Equine	4,091	3,301	3,797
Feline	2,236	674	1,185
Ovine	298	279	355
Porcine	68	44	68
Caged Pet Birds	190	12	104
Caged Pet Mammals	261	55	77
Avian Wildlife	-	-	-
Camelid	63	58	103
Other small	317	197	254
Other large	4	3	13

Teaching Hospital FY15

Animal Species	Number of Patient Visits	Number Hospitalized	Number of Hospital Days
Bovine	1,258	1,223	1,959
Canine	11,153	3,061	7,572
Caprine	86	83	145
Equine	3,877	2,521	3,763
Feline	2,051	594	1,058
Ovine	167	163	150
Porcine	35	23	17
Caged Pet Birds	179	8	19
Caged Pet Mammals	124	27	45
Avian Wildlife	-	-	-
Camelid	39	32	109
Other small	452	179	254
Other large	-	-	-

Teaching Hospital FY14

Animal Species	Number of Patient Visits	Number Hospitalized	Number of Hospital Days
Bovine	1,200	1,037	1,492
Canine	10,432	2,397	6,376
Caprine	66	51	65
Equine	3,946	2,294	4,251
Feline	2036	468	981
Ovine	156	133	110
Porcine	30	11	12
Caged Pet Birds	160	9	17
Caged Pet Mammals	202	29	23
Avian Wildlife	-	-	-
Camelid	25	18	47
Other small	293	113	149
Other large	-	-	-

Teaching Hospital FY13

Animal Species	Number of Patient Visits	Number Hospitalized	Number of Hospital Days
Bovine	1,076	757	1,724
Canine	10,910	1,877	6,424
Caprine	45	35	153
Equine	3,784	1,922	4,111
Feline	1,909	335	950
Ovine	146	89	153
Porcine	19	10	4
Caged Pet Birds	191	7	34
Caged Pet Mammals	228	32	40
Avian Wildlife	-	-	-
Camelid	21	9	30
Other small	245	48	130
Other large	-	-	-

Teaching Hospital FY12

Animal Species	Number of Patient Visits	Number Hospitalized	Number of Hospital Days
Bovine	882	598	1,257
Canine	10,670	1,675	5,789
Caprine	61	43	103
Equine	2,822	2,037	4,628
Feline	2,146	311	776
Ovine	138	92	153
Porcine	15	8	12
Caged Pet Birds	139	20	70
Caged Pet Mammals	197	18	24
Avian Wildlife	-	-	-
Camelid	54	39	71
Other small	91	5	16
Other large	8	7	19

Trend analysis -- Teaching Hospital. The overall trend in patient visits, number hospitalized, and number of hospital days is positive across the five year reporting period, and from year to year. Across all species there was an increase of 3,749 patient visits (22%), 4,463 patients hospitalized (92%), and 2,915 hospital days (23%) between 2012 and 2016. This increase was seen in all of the species categories with the exception of “other large” which decreased modestly. These increased patient numbers provide students with increased “hands-on” clinical experiences and educational activities.

Table B.**Ambulatory/Field Service Program FY16**

Animal Species	# of Farm (site) Calls	# Animals Examined/Treated
Bovine	1,404	9,154/6,296
Caprine	78	452/120
Equine	1,378	16,64/1,660
Ovine	75	679/121
Porcine	90	4,420/228
Other	25	51/32

Ambulatory/Field Service Program FY15

Animal Species	# of Farm (site) Calls	# Animals Examined/Treated
Bovine	1,093	8,118/5,915
Caprine	61	525/104
Equine	1056	1320
Ovine	60	703/45
Porcine	78	3,616/56
Other	17	544/36

Ambulatory/Field Service Program FY14

Animal Species	# of Farm (site) Calls	# Animals Examined/Treated
Bovine	1,136	8,613/5,890
Caprine	46	290/62
Equine	1,090	1362
Ovine	47	451/71
Porcine	76	2,980/490
Other	14	4,155/24

Ambulatory/Field Service Program FY13

Animal Species	# of Farm (site) Calls	# Animals Examined/Treated
Bovine	994	5,322/4,248
Caprine	36	225/50
Equine	1,130	1412
Ovine	29	193/59
Porcine	63	5,730/1,454
Other	21	3,339/22

Ambulatory/Field Service Program FY12

Animal Species	# of Farm (site) Calls	# Animals Examined/Treated
Bovine	929	5,199/4,899
Caprine	33	160/262
Equine	1,832	1878
Ovine	37	108/45
Porcine	56	2,394/1,439
Other	32	1,751/61

Notes (Table B). Other includes: Camelids –Alpacas, Llamas, and Camels; Poultry; Zoo Animals – Kudus, Water Buffalo, etc.

Trend analysis ambulatory/field service: Ambulatory case numbers have remained stable or increased modestly over the reporting period.

Table C. (note: more detailed resources also in 3.1., 3.4.)

Herd/Flock Health Program

Faculty expertise present in all species below.	Describe your clinical resources for production medicine training by production group below
Dairy	ISU Dairy Science Farm: 400 cows; double-12 milking parlor
Beef/Feedlots	GPVEC, ISU Beef Nutrition and Teaching Farm
Cow-Calf	GPVEC, ISU Beef Nutrition and Teaching Farm
Small Ruminants	ISU Sheep Teaching Farm, fast growth industry, 4H
Swine	SMEC, ISU Swine Teaching, Nutrition, Breeding, Farrow to Finish
Poultry	ISU Poultry Farm, Hy-Line and other corporate partners
Fish	Fisheries, DNR, aquatic student organization; diverse aquaculture species
Equine	ISU Horse Farm, numerous local stables, GPVEC
Other (camelids, zoo)	Camelid private farms, Blank Park Zoo

Note. In addition to resources listed in this table, ISU has ambulatory services for all species above except fish; an aquatic expert and consultant is on the CVM faculty. Preceptorships exist for all listed species.

4.2. Describe and analyze the adequacy of normal and clinically diseased animals (hospitalized, out-patient, field service/ambulatory and production medicine) and how they are used for the DVM teaching program.

Years 1-3

Students are first introduced to live animal interactions in their 1st semester in the Clinical Foundations course where they perform canine physical examinations, restraint and handling, observe behavior, and learn medical records. They also encounter live patients (both normal and clinically diseased) during their required Surgery Lab in fall of their 3rd year. During this surgery lab, all students examine at least 20 patients, perform at least six spay and/or neuter operations (minimum of two as the primary surgeon, two as assistant surgeon, and two as anesthetist), provide pre- and post-operative patient care, and complete medical records. Patients in the surgery Lab come from local shelters, and are not counted in the hospital or ambulatory animal counts provided above. During the fall semester 2016, 155 canine and 201 feline patients were evaluated and treated by students in the core surgical laboratory course. One hundred forty one elective surgery procedures were performed in dogs (98 spays, 43 neuters) and 188 (116 spays, 72 neuters) in cats.

Students (VM3 and VM2) can elect to take a large animal Clinical Foundations course where they spend one day each on farms experiencing handling and physical examination procedures and reviewing basic production standards for beef, dairy, swine, ovine, caprine and camelids; they can also participate in internship programs focusing on swine, dairy, or beef.

Year 4

The majority of live animal interaction for ISU CVM students occurs during 4th year clinical rotations. While student experiences vary depending on their schedules, all students are required to complete core rotations in Primary Care, Small Animal Medicine, Small Animal Surgery, Equine (Medicine, Surgery or Field Services), Radiology, Anesthesiology, Intensive Care/Emergency Medicine, Food Animal Medicine/Surgery, and Necropsy/Clinical Pathology. In these core experiences students are exposed to dogs, cats and horses, and a variety of production animal species. The number of cases seen vary by service and time of year, but provide students with regular opportunities to have primary responsibility for cases and to complete required clinical skills.

The Primary Care Rotation exposes students to common small animal clinical problems focusing on preventive care procedures and promotion of health. The Primary Care Rotation also supports student-client communication training; all students are videotaped interacting with a client and receive expert feedback. Primary Care Services also provides exposure to avian and exotic pets, nutrition, alternative medicine, and elective surgery (primarily spay-neuter). Equine Field Services sees common syndromes and health checks in horses in the field. The Equine Clinical Skills course provides hands-on experience with equine veterinary diagnostic skills related to theriogenology, medicine, surgery, radiology, and ophthalmology. Many of the other clinical services accept patients on a referral basis as tertiary care activities. Specialty services include small animal and equine internal medicine, surgery, critical care/emergency, rehabilitation and sports medicine, cardiology, dermatology, oncology, ophthalmology, theriogenology, and zoological medicine. Clinical support services develop additional student expertise in anesthesia, radiology, clinical pathology and necropsy. Instruction is provided in the majority of these clinical services by AVMA board-certified specialists (Standard 8, Faculty.).

VDPAM provides live animal interaction with production animals, and has a clinical teaching focus on animals for food and fiber production. VDPAM emphasizes creating practice ready veterinarians by giving students numerous opportunities for physical examinations of sick and healthy animals. There is significant depth in faculty expertise (54 faculty). Practical teaching especially occurs in the rotational courses Food Animal & Camelid Medicine and Surgery (required of all students, and where they receive foundational clinical skills) and Food Animal & Camelid Field Services. In the latter, students participate in an up-to-date, working ambulatory veterinary clinic involving the diagnosis and treatment of animals within the ISU farm system and private clients of the Veterinary Field Services Unit (VFS). For example, at the ISU dairy farm, students with faculty oversight examine over 1000 animals per year, both sick and healthy, in a lower stress environment without client interactions. Within dairy production medicine courses, students evaluate the entire operation, and learn the economics of preventative medicine and health improvement programs. Students learn that successful businesses are an outcome of successful veterinary care. For these rotational courses, after each examination, students must: 1) develop options for interventions and disease management or further diagnostics; 2) have a discussion with the clinician, and 3) develop a final diagnosis and treatment plan.

All cases from the LVMC provide teaching material for other rotations and courses. Additionally VCS-approved preceptorships provide a variety of hands-on teaching experiences. Between 2014 and 2016, ISU CVM students participated in preceptorship experiences at 157 practices and/or universities, as well as 27 shelter medicine locations. Additional non-core educational experiences are provided through student organizations under veterinary faculty supervision, including shelter medicine programs, foal ICU, and foal and calf birth monitoring teams.

4.3. Describe unique clinical educational resources or programs that enhance the educational mission.

1. Communication instruction and assessment are integrated throughout the curriculum. Students participate in one standardized client communication experience in year 1, four experiences in year 3, and

a video recorded/evaluated interaction with a client in year 4 during the required Primary Care Rotation. Educational support is provided through a 0.5 FTE communications faculty member from campus.

2. Numerous student organizations provide seminars and hands-on experiences with internal or external experts to augment clinical education. These organizations are supported by faculty advisors, the ISU campus organization office, the CVM student organizations liaison, and IACUC (when appropriate).

3. Iowa Veterinary Specialties (IVS) provides an opportunity for students to experience small animal emergency care in an urban setting. IVS veterinarians primarily specialize in emergency medicine, critical care, and oncology.

4. Small Animal Overpopulation Medicine and Surgery (fourth year rotation) and the Feral Cat Alliance Student Organization provide significant numbers of wellness checks and surgical experiences. The Overpopulation Medicine and Surgery rotation utilizes three primary animal shelters to provide surgical procedures, physical exams, immunizations, treatments, disease surveillance, and behavioral evaluations. Shelter Medicine is offered prior to year 4 as an elective course designed to educate veterinary students about issues of relevance to companion animal population and shelter medicine and welfare. The Feral Cat Alliance is a CVM veterinary student organization that works to reduce the feral cat overpopulation through a humane trap-neuter/spay-release program that involves monthly clinics at the CVM.

5. The rotation at the Blank Park Zoo provides clinical experience in husbandry, nutrition and training of exotic animals in a zoo environment.

6. In VDPAM Beef Production Immersion Knowledge Experience (PIKE), six students (2nd or 3rd year) have total immersion in feedlot production medicine with two 50,000 head feedlots for a total of 12 weeks over the summer.

7. Beef Quality Assurance (BQA) programming is in the curriculum at several levels. For example, in Beef Records Analysis, students learn the issues and impacts due to errors such as poor injection site technique. The training results in BQA certification by the Iowa BQA Director through the Iowa Beef Industry Council. During the VDPAM Food Animal & Camelid Field Services and Food Animal & Camelid Medicine and Surgery rotations, BQA principles are applied and reinforced with both hospitalized and field service patients.

8. The Dairy Veterinary Internship Program matches veterinary students with companies sponsoring research-based summer internships. Students are provided training specific to the dairy industry and study design, data collection techniques, and writing skills. At the conclusion students prepare an abstract for submission at a national meeting.

9. In the Swine Veterinary Internship Program (SVIP), each year, 25-30 veterinary students gain extensive clinical and research experiences sponsored by VDPAM in partnership with several biopharmaceutical companies that help fund stipends to offset student cost.

10. The Swine Medicine Education Center (SMEC) is an active collaboration between ISU CVM and AMVC Management Services LLC in Audubon, Iowa -- an industry leader and advocate for sustainable livestock production. AMVC currently manages around 1.4 million pigs on 198 farms. As a distributed organizational unit, most of the observational and sample collection portions of SMEC training occurs on modern pig farms, constructed to employ current technology to meet and exceed the biological, health and welfare needs of the animals. SMEC provides access to management, veterinary, nutritional (formulation, ordering, and tracking of all diets), marketing, transportation/equipment, and employee expertise, as well as support for animal welfare, environmental stewardship, and quality and traceability of meat products. On-farm activities occur with the consent of the clients and herd owners in collaboration with AMVC and provide a wide range of case load access for our students. Rounds discussions, problem solving and lecture activities are conducted at ISU CVM classrooms or nearly identical classroom facilities at AMVC <http://www.smec.iastate.edu/>. All farms as part of SMEC activities are subject to State of Iowa regulations regarding animal care, environmental safety, and

employee safety, as well as CVM requirements for student safety. One of the following conditions is required for each location: 1) ISU faculty have direct knowledge of the farm due to a previous site visit OR 2) a referring veterinarian, with knowledge of the program objectives, recommends the site and provides details to ISU faculty to evaluate the training value of the farm and health conditions.

4.4. *If off-campus clinical instruction sites are used regularly by multiple students, complete Table D and describe the planning, supervision, and monitoring of students; and contracting arrangements for non-institutional based faculty.*

Table D. Off-Campus Facilities

(See Appendix 4.4.)

Table E. Off-Campus Facilities

(See Appendix 4.4.)

Please provide a brief description of training and evaluation of faculty, levels of case management by the students, and assessment tools for measuring student progress for the remote site(s). Describe student access to content experts.

Iowa Veterinary Specialties (IVS)

VM4 students may participate in patient care with a board-certified ophthalmologist from the CVM who travels to IVS one day a week. They are supervised and evaluated by a faculty member in the Ophthalmology service at ISU. Iowa Veterinary Specialties also provides a formal emergency mentorship program for VM1-VM3 students. The emergency mentorship program is administered by a faculty member in Biomedical Sciences at the CVM who is also an employed veterinarian at IVS. IVS also provides preceptorship opportunities for students. Students in IVS preceptorships are required to submit a daily professional activities log and a formal referenced case report or other topic paper. The mentor also provides a written evaluation of the student's performance.

Small Animal Overpopulation Medicine and Surgery Locations: Wayside Waifs Inc., Kansas City, MO; The Animal Rescue League in Des Moines, IA, and the Nebraska Humane Society, Omaha, NE. On-site veterinarians are present at the shelters and a faculty member from the LVMC is a liaison to these shelters. Students write a one-page reflection, prepare a two-page referenced case report or topic paper, maintain a professional activities log, and submit a signed surgery log. The site mentor submits an evaluation of the student.

Blank Park Zoo (BPZ) is a 25-acre zoological park on the south side of Des Moines. Student supervision is provided by an ISU CVM faculty member who is the supervising zoo veterinarian and a VCS Clinical Assistant Professor. She spends 80% of her time at the BPZ, and accepts students on rotation for training in zoological medicine and surgery. Because the BPZ experience is a normal ISU CVM rotation under the direction of an ISU CVM faculty member, student evaluations occur as they do with any other rotation.

Great Plains Veterinary Educational Center (GPVEC) (described in Section 3.4.) Students stay in on-site dormitories, and are supervised by GPVEC faculty at all times. Beef PIKE students are housed in the dorm at the GPVEC during the summer. Due to the CVM participation in the UNL "2+2 Program", ISU students have priority placement with supervision and monitoring by the GPVEC faculty and Program Director.

4.5. Describe the involvement and responsibilities of professional students in the healthcare management of patients (and clients) in clinical programs of the college.

Students are responsible for gathering and recording an accurate history from the owners, conducting the initial physical exam, reporting their findings for discussion to the clinicians on duty, discussing diagnostics and rule outs for the clinical signs, and developing either a diagnostic plan to confirm the diagnosis or a treatment plan. In VDPAM hospital rotations, (see also section 4.2.), 4th year clinical students in the Food Animal and Camelid Hospital (FACH) and Food Animal Medicine and Surgery course are also responsible for treatment plans which include the legal use of medications in food animal species and withdrawal times. Following development of a treatment plan, all students are responsible for calculating accurate dosages of medications and performing patient treatment and client education. Routine procedures such as catheter placement, orogastric intubation, ultrasonography, and minor surgical procedures are directly performed by students whenever possible. Students scrub in on all major surgeries to allow them to assist in surgical procedures under strict supervision. Students are responsible for recording all activities related to the patient, surgery reports and integrated case summaries (e.g. discharges), and when possible, client communication. At farm locations, student case interactions are the same as described above, including interactions between the student, client, and faculty member. When there are herd implications, students are asked to develop preventative herd health recommendations and/or standard operating procedures.

4.6. Describe how subject-matter experts and clinical resources are integrated into clinical instruction.

In the LVMC, faculty with clinical expertise educate the professional students. The majority of the clinical faculty are board-certified diplomates of AVMA-recognized specialties (currently 82%). These same faculty provide both didactic and traditional laboratory teaching in the VM1-VM3 curriculum, most significantly in the clinical didactic courses in the VM3 year. Visiting clinicians and seminar speakers are recruited based on educational needs and opportunities. National and international experts are invited from animal industry (genomics and facility design), ISU departmental faculty (Ag Econ and Animal Science) and individual disciplines from within ISU CVM (epidemiology, theriogenology, infectious disease, etc.). Outside subject-matter experts are beneficial for the students to hear multiple perspectives on treatment approaches and management. In Advanced Small Ruminant Production Medicine (VM4 elective), subject matter experts include a cervid technical veterinary specialist, a previous USDA APHIS Scrapie Program Coordinator, and regulatory experts. For beef courses, there is an active caseload through the Veterinary Field Services (VFS) (cow/calf and feedlot) where progressive clients share their expertise on their production practices and animal care. For dairy courses, subject matter experts come from industry and the animal science department. Individuals are selected based on in-depth specific subject matter knowledge and ability to provide an unbiased perspective.

4.7. Describe the adequacy of the medical records system used for the hospital(s), including field service and/or ambulatory and population medicine. Records must be comprehensive and maintained in an effective retrieval system to efficiently support the teaching, research and service programs of the college.

The LVMC has a robust electronic medical records (EMR) system, CVIS (Cyclone Veterinary Information System), working in conjunction with the commercial applications Vetstar and VADDS, which provide practice management functions for the clinic and the pathology labs respectively. CVIS has both a secure web interface and communication hooks into Vetstar and VADDS. Vetstar is used by both college personnel and external clients and referring veterinarians; VADDS produces automatic reports tied to appropriate events, such as verification of lab results and visit summaries. Automatic reports are delivered (both internally and to clients/referrers) in email form, or fax, or direct to remote printer, depending on stored recipient preference. VADDS is linked electronically to the most heavily used lab instruments for prevention of manual entry errors. The EMR stores videos, images, and imported results, and provides trend reports for laboratory data. The EMR is used in numerous courses for teaching. All EMR are searchable for teaching and research purposes.

In the VDPAM Veterinary Field Services (VFS) unit, medical records are recorded in the unit's comprehensive practice management software (Advantage +) after each call. This process captures the medical record and procedures that are performed, and creates an invoice for the call. The process is currently adequate to retrieve procedures, and yearly trends are tracked on specific procedures.

4.8. Describe how the college has responded to increasing/decreasing clinical resources.

The LVMC case load has increased about 10% per year for the last two years. In response to the case load increase, we have increased our technical staff and the number of house officers employed by the hospital.

4.9. Describe the means used to maximize the teaching value of each case across the curriculum.

Animals admitted to the LVMC provide contextual experiences for professional students in the rotations where they are admitted as well as in supporting services such as clinical pathology, histopathology, pathology, necropsy, radiology, anesthesiology, and so forth. Cases are also used to provide clinical instruction and augment basic sciences instruction throughout the college in a variety of ways, including the following: 1) The Department of Veterinary Pathology (VPTH) uses samples derived from LVMC cases for instruction in required core courses, and uses case information for a capstone case analysis assignment called the Case Correlation Assignment. Case Correlation Assignments are then used to teach first year students. 2) Radiology, microbiology and other services use case material in didactic and laboratory sessions. 3) Case study, physiology, and anatomy courses utilize clinical cases to illustrate the application of basic sciences to actual clinical case problems and analysis. 4) Clinical faculty use case images, videos, diagnostic test results and other clinical outcomes for teaching and providing practice activities in classes in the first three years. 5) In addition to clinical service rounds with VM4 students, weekly rounds are held within the hospital by the faculty, house officers and VM4 students including Grand Rounds and topic rounds in Food Animal Theriogenology, Medicine and Surgery and Equine Medicine and Surgery. 6) Cases seen in the food animal and camelid hospital service frequently involve consultation with other services such as neurology, ophthalmology, dermatology, clinical microbiology, radiology, pathology, and necropsy, which allows additional learning for VM4 students across rotations. 7) Numerous cases involve diagnostic laboratory testing and samples are often submitted to the VDL which allows students on those rotations to understand sample collection, submission and interpretation. 8) Cases at the college also are used by the 4th year veterinary students for the required grand rounds presentations.

Standard 4 - Clinical Resources, UNL

Additional instructional facilities available for UNL students include the GPVEC in Clay Center, Nebraska, the Eastern Nebraska Research and Extension Center (ENREC) near Mead, Nebraska, and the Gudmundsen Sandhills Laboratory in Whitman, Nebraska. These offsite facilities primarily provide instructional opportunities in large animal clinical skills, especially related to beef cattle, for veterinary students in the first, second, and fourth years of the program. The GPVEC provides access to beef cows, sows, and ewes via the USDA-ARS U.S. Meat Animal Research Center (USMARC). The ENREC is located on roughly 400 acres of land with a beef herd of approximately 90 adult animals used primarily for teaching and research. The Gudmundsen Sandhills Laboratory has approximately 500 adult cows on over 11,600 acres of sandhills range and is utilized primarily for production systems teaching and research. PPVM has developed a strong relationship with the Capital Humane Society (CHS) in Lincoln, Nebraska. Small groups of second year veterinary students visit the CHS one afternoon each week during both the fall and spring semesters to perform pre-surgical physical examinations, blood collections, vaccinations, and basic diagnostic testing on shelter cats and dogs. Occasionally small mammals, birds, and reptiles are also sheltered at CHS, allowing students the opportunity to practice handling and examining these animals.



STANDARD 5. INFORMATION RESOURCES

ISU

5.1. Describe and comment on the adequacy of information retrieval and learning resources.

The Veterinary Medical Library (VML), a part of the ISU Library system, is 6,600 nsf and housed in the CVM complex. The physical collection at the VML is 27,995 volumes. The ISU Library subscribes to 97,352 journals with 84,174 available online. During 2015-2016, the VML continued to expand access to electronic books via ScienceDirect, Wiley Online Library, Ebrary and R2 Digital Library. The e-book collection continues to show extensive growth; each relevant title is purchased as soon as it is available as an e-book via one of the platforms mentioned above. The VML is open seven days per week (83.5 hours) and offers extended hours during dead and finals weeks. The environment for learning and research is supported by group study areas and a quiet personal study area. A Bookeye 4 overhead scanner, new duplexing printer, and a mediascape station (a means for collaborative student discussions) are available in the VML.

5.2. Briefly describe the availability of learning and information technology resources support for faculty and students, including personnel and their qualifications.

The veterinary medical librarian holds a Bachelor of Science degree in Biology from the University of Alaska Fairbanks and a Master of Science degree in Library and Information Science from the University of Michigan. The VML is staffed approximately 50 hours a week by two experienced full-time library employees, and student assistants who run the library nights/weekends and have access to a supervisor by phone. The VML also houses the primary accommodation testing room. The College employs an Instructional Support Specialist with an advanced degree in instructional technology and an Instructional Development Coordinator with a degree in medical technology, both of whom support faculty and staff in developing instructional materials.

5.3. Describe the methods of access to library information resources for faculty and students when they are on and off campus.

While at the CVM, students/faculty can access the library's electronic resources via their laptops or on one of six library computers. Remote proxy access to electronic materials and resources is available to anyone affiliated with ISU, including our UNL students. *Vet Med Express* is a free delivery service for obtaining books and journals from the main campus library. Materials not held by ISU can be requested via traditional interlibrary loan or through the BorrowItNow service.

5.4. Describe the resources (training, support) available to students for improving their skills in accessing and evaluating information relevant to veterinary medicine for sources in any media.

The veterinary medical librarian (VML) provides sessions regarding library services and how to find and utilize resources for incoming VM1 students, incoming 3rd year students from UNL, and participants in the Summer Scholars program. The librarian is also available to provide instructional sessions in topics such as utilization of abstracts and indexing services, and bibliographic reference management tools (Mendeley and Endnote). Online library guides are included on the CVM's library homepage <http://www.lib.iastate.edu/research-tools/collections-areas/vet-med-library> and include information about library resources, a listing of books that are on reserve for CVM courses, and a listing of resources available for use in studying for the board exam.

5.5. Describe current plans for improvement.

To provide students/faculty/staff remote desktop access to full-text articles, journal subscriptions will continue to be switched to electronic format when practical and economically feasible. Some library shelving will be removed to provide more student study space. New ceiling lighting is also planned.



Standard 5 - Information Resources, UNL

The primary library facility available for PPVM students is the C.Y. Thompson Library on UNL's East Campus. The SVMBS has a dedicated subject librarian who provides training to PPVM students regarding library resources at both UNL and ISU. In addition, she developed and maintains a supply of e-books for use by PPVM students and SVMBS faculty and staff.

STANDARD 6. STUDENTS

ISU

6.1. Complete Tables A, B, C, and D, and analyze trends.

(See Appendix 6.1. for Tables A, B, C, and D and analysis of trends)

6.2. Provide a listing of student services. These services must include, but are not limited to, registration, testing, mentoring (advising), counseling, tutoring, peer assistance, and clubs and organizations.

Student Services include:

Course registration. The office of the Registrar (University) registers students, and CVM Office of Academic and Student Affairs (OASA) staff schedule students and courses, certify all credentials for student enrollment status, and give presentations regarding how to select rotations. Faculty from VCS and VDPAM provide a career roadmap session. The records analyst assists with applications and credentials, and provides student data to NAVLE for reporting purposes. The CVM maintains all academic records of veterinary students (both at ISU and UNL), student registration procedures and processes, scheduling classes, degree audits, and graduation.

Testing. Most examinations occur during regular classroom times and in classroom settings. Testing accommodations are available (see ISU Student Disability Resources, below).

Advising and Peer Assistance. We utilize both faculty and peer mentoring. First year students are assigned a faculty advisor and a peer second-year mentor. Faculty advisors have access to their advisees' grades and are notified at mid-term if there is academic risk. Mentors and/or peers are available to assist with study skills, time management, location of campus and community resources, course selection, career planning, workshops, drop/add procedures, referrals for tutoring, and related areas.

Counseling/Wellness. Mental health and wellness counseling is available to all CVM students through the ISU counseling service. Annual reviews are held with the campus counseling service to identify specific issues or concerns. OASA and campus counseling staff coordinate to offer focused small group meetings on topics of special interest such as end-of-life care. A Student Stress Relief Committee plans wellness-related activities such as Yoga, Zumba and Tai Chi classes, an annual faculty-student hockey game, pumpkin carving, puzzles, flag football, and invited speakers.

Tutoring. The tutoring program provides one-on-one and group tutorials to students at academic risk. OASA staff create specific tutoring plans for students and assist in identifying and overcoming study skill weaknesses.

Clubs/Student Organizations. The CVM supports over 30 clubs and organizations which provide educational, networking, and wellness opportunities. Club officers are required to meet academic requirements. There is an OASA liaison to the groups. See: <https://www.stuorg.iastate.edu/orgtype/24>.

Event coordination. The CVM coordinates a variety of student events including the White Coat Ceremony, orientations, graduation, pre-veterinary events, Student American Veterinary Medical Association (SAVMA) meetings, scholarship receptions, and recruitment events.

Financial literacy/Contracts. Experts from ISU central campus offer on-site office hours and campus appointments in financial planning and financial aid. Services include budget development, understanding

financial aid eligibility and deadlines, scholarship opportunities, completing applications, loan repayment, and options for financing college costs. Financial literacy instruction is presented in year 1 of the curriculum.

Opportunity/Federal Compliance. The college has an in-college contact (CVM Equal Opportunity Information Advisor) for Title IX compliance; all students, staff, and faculty are required to complete university Title IX training. Student advisors and student administrative support personnel are required to complete FERPA training modules.

Health Care. Students are not required to have health insurance at ISU. However, student fees include access to the Thielen Health Center <http://www.cyclonehealth.org/>. Students are required to have proof of measles and rabies immunizations.

ISU Student Disability Resources (SDR). The ISU SDR office evaluates and approves accommodation requests (Student Academic Accommodation Requests; SAARs). OASA staff work with ISU SDR to ensure accommodations are implemented appropriately. Several CVM rooms provide low distraction testing.

Veterans Center. Veterinary students, staff, faculty who are veterans and their immediate family (spouse, domestic partner, children) can find support, information and a shared camaraderie at the Veterans Center on main campus.

Student Legal Services (SLS). The University provides free legal assistance for currently enrolled ISU students and ISU registered student groups. It is staffed by two attorneys who advise and often represent students in a variety of cases and are available for consultation with respect to most legal concerns.

Student Safety. There is a university police lieutenant on-site in the CVM who provides training and addresses safety and security concerns. Student community officers patrol the building after hours. The lieutenant is experienced in assessing and addressing threats to self or others. The college offers Violent Incident Response Training (VIRT).

License and State Examinations. The VetZone (college intranet) contains links to information regarding the NAVLE, state examinations, and state requirements.

Cultural and Global Experiences/ Study Abroad. ISU provides an array of cultural events and leadership conferences designed to celebrate a rich variety of cultural backgrounds. Study abroad programs are administered by ISU and OASA. <https://vetmed.iastate.edu/student/future-dvm-students/apply-to-the-college/international-programs-study-abroad>.

Information Technology. The college offers a variety of Information Technology resources including an instructional digital imaging system, Learning Management System (LMS) and Lecture Capture (Echo360). Veterinary students were hired to caption older existing teaching videos for hearing impaired (Americans with Disabilities Act; ADA compliance). Student laptop computers have automatic backup via the web to insure no data are lost. Wireless connectivity is available throughout the campus.

6.3. Provide a summary of college activities in support of placement of graduates.

OASA disseminates job opportunities for veterinary students through CyHire, a university-supported web portal. OASA staff also are available to assist with resumes and job seeking skills, and facilitate interviews with veterinarians. The college also provides links to a variety of job search resources: <http://www.vetmed.iastate.edu/student/current-dvm-students/services-and-resources/job-search-resources>. OASA staff also assist students and alumni with licensing procedures for national and state examinations and federal accreditation, and certify graduation requirements. A comprehensive annual student job placement report is constructed from multiple surveys to inform the dean and other stakeholders regarding job placement trends.

6.4. Provide academic catalogue(s) (or an electronic address for this resource) and freshman/upper-class orientation materials.

Admissions: <https://vetmed.iastate.edu/students/future-dvm-students/apply-college>

Curriculum: <http://www.vetmed.iastate.edu/students/curriculum>

University Catalog: <http://catalog.iastate.edu/collegeofveterinarymedicine/>

Academic Information: academic calendar, financial aid/scholarships, financial assistance, concurrent enrollment, curriculum, tuition and fees <https://vetmed.iastate.edu/academic-information>.

Academic Policies: academic standards, remediation, honor code, technical standards, ISU policies, CVM syllabus template <http://www.vetmed.iastate.edu/students/student-assessment-and-outcomes/policies>. (See Appendix 6.4.1.)

Student Life: <https://vetmed.iastate.edu/students/current-dvm-students/student-life>

Orientation: materials are presented in the appendices. (See Appendix 6.4.2.-ISU, Appendix 6.4.3.-UNL)

6.5. Describe the system used on an ongoing basis to collect student suggestions, comments, and complaints related to the standards for accreditation.

The CVM provides links to the AVMA-COE standards and provides a tab specifically for feedback regarding college compliance with accreditation guidelines on the CVM internal website:

(<https://vetzone.cvm.iastate.edu/accreditation/>). The college also provides an online anonymous survey for comments, suggestions, and complaints (<https://vetmed.iastate.edu/about/about-college/cvm-feedback-form>), as well as an anonymous physical drop box. Student feedback is also frequent and ongoing through the Student Leadership Assembly, Student Chapter of the American Veterinary Medical Association (SCAVMA), Student-Faculty Relations Committee, and meetings with the dean and associate dean (at least once per semester).

6.6. Describe current plans for improvement in resources for students.

Most of our current plans for improving student resources involve facilities improvements, such as the construction of the Commons Café, improvement of classroom 1485, and improvements in the Clinical Skills Laboratory. We have also created temporary study spaces in hallways and alcoves throughout the building.

Standard 6 - Students, UNL

UNL and ISU share student resources, especially in the areas of student organizations, seminars, and courses. UNL student resources are organized by the Coordinator of the PPVM and information is provided in the PPVM Student Handbook. Specific resources that are available include on-campus counseling services with a provider that has a special interest in veterinary students, and tutoring by fellow PPVM students. These services are paid for by the PPVM program. The UNL Services for Students with Disabilities (SSD) office provides evaluation of student disabilities and guidance to faculty on how to provide academic accommodations. The PPVM also organizes educational seminars for students by the UNL Family Resource Center, Health Center, SSD office, and Student Money Management Center. In addition, ISU and UNL IT services is used to share courses, student organization seminars, and meetings of interest to UNL students.

Incoming students are required to participate in a one-day orientation at UNL and 1.5 days of orientation at ISU prior to their first week of classes (See Appendix 6.4.3.-UNL). The PPVM Coordinator also meets with class and student organization officers 1-2 times each year to provide updates on program policies and answer questions from the new executive teams. Since 2015, the PPVM Coordinator and the Director of the SVMBS have held annual meetings with each class (first through fourth years) of veterinary students in the PPVM to provide program updates and elicit feedback from the students regarding concerns or suggestions for program improvement. The PPVM Coordinator and SVMBS Director also have open door policies for students to provide feedback throughout the year.



STANDARD 7
ADMISSION

PPVM Students:

Class of 2012: 25 matriculated, 24 graduated

Class of 2013: 26 matriculated, 24 graduated

Class of 2014: 26 matriculated, 22 graduated

Class of 2015: 26 matriculated, 23 graduated

Class of 2016: 26 matriculated, 24 graduated

Class of 2017: 26 matriculated, 26 current students

Class of 2018: 26 matriculated, 26 current students

Class of 2019, 26 matriculated, 24 current students

Class of 2020, 26 matriculated, 25 current students

Other: residents = 1 (Anatomic Pathology); SVMBS graduate students = 16 (14 Ph.D., 2 M.S.);

undergraduate students = 153 (pre-veterinary medicine, veterinary technology, veterinary science).

STANDARD 7. ADMISSION

ISU

7.1. State the minimum requirements for admission.

Minimum requirements for admission are: 1) cumulative undergraduate GPA of 2.50 on a 4.00 scale in all undergraduate coursework, 2) Graduate Record Examination score, and 3) completion of pre-veterinary courses or their equivalents with a grade of “C” (2.00) or better. All but two of the required science courses must be completed by the end of the fall term prior to matriculation. Remaining required courses must be completed by the end of the spring term prior to matriculation. All credits to be applied toward pre-veterinary requirements must have been earned at a regionally accredited college or university and taken for a letter or numeric grade. All applications must be accompanied by three letters of recommendation. More detail can be found at <http://vetmed.iastate.edu/students/future-dvm-students/apply-college>. Prerequisites Course Requirements can be found here:

<http://vetmed.iastate.edu/student/future-dvm-students/apply-to-the-college/pre-veterinary-requirements/course>, and are:

English Composition	6 sem/9 qtr cr
Oral Communication	3 sem/4-5 qtr cr
General Chemistry*	7 sem/11-12 qtr cr
Organic Chemistry*	7 sem/11-12 qtr cr
Biochemistry*	3 sem/4 qtr cr
Physics*	4 sem/6 qtr cr
General Biology*	8 sem/12 qtr cr
Genetics*	3 sem/4-5 qtr cr
Mammalian Anatomy and/or Physiology*	3 sem/4-5 qtr cr
Arts, Humanities and/or Social Sciences	8 sem/12 qtr cr
Electives	8 sem/12 qtr cr

*Science requirement - These courses are used to calculate the required science GPA.

7.2. Describe the student selection process, including measures to enhance diversity.

Each application is reviewed by three members of our admissions committee. Since the last COE review, the Admissions Committee has been expanded in number and diversity of career and life backgrounds of its members. The committee has 22 members including college faculty, private practitioners and public service veterinarians. The following criteria are used to select applicants for admission:

The academic review (50% of the overall score) is performed by OASA staff who review applicant information, and determine the following: Science GPA and last 45 hours GPA equally weighted = 35%; GRE = 10%; and course load = 5% <https://vetmed.iastate.edu/future-dvm-students/apply-college/selection-criteria/academic-review-50>.

The admissions committee review (25% of the overall score) is based on a detailed rubric used to score non-academic factors such as work and animal experience, essays, letters of reference, special circumstances (social, economic, family, health) and personal development (leadership, awards, civic and community activities, volunteerism). (*See Appendix 7.2. for the full rubric.*) The admissions committee does not have access to an applicant's academic scores until their reviews are completed.

<https://vetmed.iastate.edu/future-dvm-students/apply-to-the-college/selection-criteria/admissions-committee-review>.

The interview (25% of the overall score) is a behavior-based interview that evaluates experiences, behaviors, knowledge, skills and abilities in the following competency areas: 1) acts autonomously and confidently, 2) demonstrates integrity, 3) demonstrates adaptability and resilience, 4) uses sound judgment, 5) thinks innovatively, and 6) communicates effectively. The interview protocol was designed by Personnel Decisions International (PDI). The trained two-member interview panels consist of faculty, animal health professionals, and veterinarians from industry, animal health companies, government, and private practice. To prevent knowledge of academic performance from influencing interview decisions, interviewers are not provided academic information and admissions committee members are not allowed to be interviewers. Each interviewer scores the applicant individually and then determines a consensus score for each competency. <http://vetmed.iastate.edu/student/future-dvm-students/apply-to-the-college/selection-criteria/interview>.

Once the academic and admissions committee reviews are completed, the committee scores are normalized and averaged for each applicant, and used in creating the initial ranked list of applicants to invite for interviews. Admissions Committee members can positively or negatively flag a candidate in the ranked list and after interviews. The positive flag is used for candidates that may have had unique circumstances that impact their trajectory, such as military service, or other unique characteristics. Admissions committee members also can call references if there are conflicting comments. Those not selected for interviews are sent letters of denial. After interview scores are completed, the final list consists of applicants and alternates that will be extended an offer or denied. Students not selected for admission can make an appointment in OASA to have their application information individually reviewed in a personal meeting, and receive recommendations for improvements. Group seminars also are held by OASA staff to advise on application and/or resubmission.

Diversity is enhanced in the admissions process by allowing committee members to identify and flag unique enhancing factors, including cultural background and experiences, personal development, and factors that bring unique experiences or insight to the college.

7.3. List factors other than academic achievement used as admission criteria.

The admissions committee review and interview (outlined above) are an assessment of non-academic achievement. The admissions committee review rubric consists of the following factors: 1) Evidence of responsibility and/or advancement in a paid work setting. 2) Animal/Veterinary/Research experience. Maximum points are gained for 200+ hours of total experience in one or any combination of the three areas, with more weight given to greater levels of responsibility and hands-on involvement. 3) References. Reviewers consider preparation for veterinary school and the profession. 4) Essays. Reviewers consider career goals, understanding of the profession, and life experiences that would contribute to the diversity of the profession. 5) Communication skills. Points are awarded for essay quality. 6) Community leadership/honors/awards. Points are awarded for evidence of leadership, initiative, independent problem solving, and regional or national awards. 7) Personal development. Reviewers consider volunteer experience, study abroad, sports, self-initiated experiences, and similar experiences. 8) Special circumstances: Reviewers consider evidence of social, economic, health, or family situation(s) beyond the control of the applicant with significant impact on the student record; unique background that will add a new dimension to the class.

7.4. Complete Table A. (below)

Table A.

YEAR (Entering)	STATE RESIDENTS		NON- RESIDENTS		CONTRACT STUDENTS		TOTAL	
	A/P*	O/A**	A/P	O/A	A/P	O/A	A/P	O/A
2016	108/56	66/56	718/50	111/50	97/41	53+(26)/15+(26)	923/146	230+(26)/120+(26)
2015	102/63	67/63	819/47	154/45	139/41	36+(31)/15+(26)	1060/149	257+(31)/123+(26)
2014	98/53	53/53	829/55	142/55	115/41	21+(28)/15+(26)	1042/149	216+(28)/123+(26)
2013	116/61	63/61	834/47	188/47	142/41	36+(29)/15+(26)	1092/149	287+(29)/123+(26)
2012	128/63	63/63	903/45	117/45	151/41	30+(31)/15+(26)	1182/149	210+(31)/123+(26)

Note. UNL numbers are in parentheses

*A/P = Applications/Positions Available

**O/A = Offers Made/Acceptances

7.5. Describe current plans for assessing the success of the selection process to meet the mission of the college.

We regularly review our admissions process and its outcomes. In an effort to streamline prerequisites we have explored predictive relationships among prerequisite courses and achievement in veterinary school. Additionally, a survey was conducted of applicants who interviewed at ISU for the fall 2016 class (response rate = 58%) to determine why they interviewed at the College. Overall, resident and non-resident responses for reasons to interview were that they were invited to interview, the quality/variety of programs, the curriculum, and low tuition. Reasons to accept were similar. The Admissions Committee continuously reviews and attempts to improve the admissions process. As an example, the college has made improving student success (including reducing the debt burden) and increasing class diversity strategic priorities. The admissions committee in response recently voted to reduce the amount of veterinary experience required for consideration for admission, thereby potentially reducing time required in the prerequisite years and increasing the potential diversity of applicants. Additionally, college faculty are currently voting on a proposal to discontinue admissions interviews in order to remove a socioeconomic barrier to admission and to improve the reliability of the selection process.

7.6. Describe your policies and procedures for admitting transfer students who will receive a degree from your institution, and state the number of transfer students admitted per year for the last five years.

Transfer applications are processed by the OASA Director of Student Programs to ensure that applicants will be placed appropriately in our curriculum based on the courses they have completed. The college academic standards committee then reviews each transfer applicant and makes a decision based on academic standing, letters of reference, and available positions in the class. (See: <http://www.vetmed.iastate.edu/student/future-dvm-students/apply-to-the-college/transfer-admissions/application-process>.) To be considered for admission, transfer students must have completed similar prerequisites to those required by ISU, and must have been in good academic standing throughout their entire period of enrollment in their current college of veterinary medicine. Equivalency tables are provided to assist interested transfer students. (See: <http://vetmed.iastate.edu/student/future-dvm-students/apply-to-the-college/transfer-admissions/requirements>.)

The following table shows the number of transfer students accepted per year during the past five years.

Year	2016	2015	2014	2013	2012
Transfer students	5	0	3	4	1



STANDARD 8
FACULTY

Standard 7 – Admission, UNL

Nebraska students seeking admission to the PPVM directly apply through ISU. The admissions criteria are equal to those at ISU. ISU initially screens applicants to determine if they have met the minimum qualifications for admission. The application materials are then forwarded to UNL for additional processing. This includes a review by the UNL Admissions office to ensure that each applicant qualifies as a Nebraska resident. The Nebraska Admissions Committee, composed of three UNL faculty members and two practicing Nebraska veterinarians, reviews the applications for Nebraska residents, following the evaluation rubric provided by ISU. Following academic and application evaluation, the entire Committee conducts applicant interviews and makes recommendations regarding admission and denial of applicants. The Committee forwards their recommendations to the Director of SVMBS and then to the Deans of UNL's College of Agricultural Sciences and Natural Resources and ISU's CVM for final approval. The Coordinator and the Administrative Associate for the PPVM have access to Nebraska applicant information on ISU's online Admissions System and the Veterinary Medical College Application Service (VMCAS) website, allowing access to applicant materials, current applicant statuses, and message boards. Once ISU forwards the list of Nebraska applicants to UNL, the Coordinator and the Administrative Associate for the PPVM communicate with applicants until the class is completed. Frequent email and phone conferences occur throughout the year to resolve any questions regarding applicants or the admissions process, primarily between the ISU CVM Coordinator of Admissions and the Coordinator and the Administrative Associate for the PPVM. Since the 2014-15 admissions cycle, an ISU faculty member has attended and participated in the applicant interviews at UNL. In 2015, the coordinator of admissions at ISU attended the PPVM admissions workshop organized by the PPVM Coordinator, the Undergraduate Student Coordinator for the SVMBS, and the Recruitment and Retention Coordinator for the SVMBS. This visit allowed the ISU Coordinator of Admissions to review the admissions process at UNL.

STANDARD 8. FACULTY

ISU

8.1. Complete Tables A and B, and assess the strengths of the faculty and support staff in fulfilling the college mission.

Table A. Loss and recruitment of faculty (both tenure track & clinical track/equivalent)

Data for past five years (FY 2012 – FY 2016: covering November 1, 2011 – October 31, 2016):

DEPT.	LOST		RECRUITED		Year
	#	DISCIPLINE/SPECIALTY	#	DISCIPLINE/SPECIALTY	
BMS	2	Biomedical Teaching (2)	5	Translational Pharmacology Anatomy Human Anatomy Curriculum Coordinator Biomedical Research	FY 2016
VMPM	1	Biomedical Teaching	0		FY 2016
VPTH	0		0		FY 2016
VDPAM	4	Diagnostic Pathology Dairy Production Pharmacology LA Medicine/Field Service	4	Analytical Chemistry Large Animal Medicine Bacteriology Microbiology/Bacteriology	FY 2016
VCS	8	Neurology Surgical Education Primary Care/Shelter Med Critical Care Shelter Medicine Small Animal Internal Med Equine Emergency Surgery	10	Ophthalmology Small Animal Surgery Emergency Critical Care Emergency Medicine (2) Translational Health Equine Emergency Surgery(2) Primary Care	FY 2016

DEPT.	LOST		RECRUITED		Year
	#	DISCIPLINE/SPECIALTY	#	DISCIPLINE/SPECIALTY	
		Dermatology		Clinical Skills	
BMS	0		0		FY 2015
VMPM	0		2	Microbial Endocrinology Bioinformatics/Comput. Biology	FY 2015
VPTH	1	Parasitology	1	Anatomic Pathology	FY 2015
VDPAM	9	Large Animal Internal Med Microbiology Swine Production Theriogenology Beef Production (2) Small Ruminant Diagnostic Pathology (2)	11	Diagnostic Pathology (3) Field Services Swine Production Medicine Poultry Extension Theriogenology Swine Extension Field Service/Small Ruminant Bacteriology Large Animal Internal Medicine	FY 2015
VCS	6	Equine Surgery Small Animal Medicine (2) Equine Med/Equine Field Service Equine Emergency Surgery Small Animal Emergency Med	7	Small Animal Med/Oncology Small Animal Med (3) Cardiology Primary Care Equine Emergency Surgery	FY 2015
BMS	2	Anatomy Vaccinology/Infect Disease	1	Vaccinology/Infectious Disease	FY 2014
VMPM	1	Microbiology	0		FY 2014
VPTH	2	Parasitology Clinical Pathology	2	Global Parasitology Clinical Pathology	FY 2014
VDPAM	8	Swine Extension Beef Production Anatomic Pathology Poultry Medicine Food Safety Anatomic Pathology Food Animal Field Service Diagnostic Serology	6	Anatomic Pathology (5) Food Animal Medicine/Surgery	FY 2014
VCS	9	Ophthalmology Shelter Medicine Primary Care Surgery Equine Medicine Small Animal Medicine Equine Emergency Primary Care Anesthesia	7	Anesthesia (2) Small Animal Surgery Equine Field Service Community Practice/Primary Care Equine Emergency Communication	FY 2014
BMS	1	Vaccinology/Infect Disease	0		FY 2013
VMPM	1	Vaccinology/Infect Disease	0		FY 2013
VPTH	2	Anatomical Pathology Global Parasitology	2	Anatomical Pathology Clinical Pathology	FY 2013
VDPAM	1	Int'l Outreach/Extension	2	Theriogenology Diagnostic Pathology	FY 2013
VCS	6	Theriogenology Dermatology Equine Field Service Anesthesiology Shelter Medicine	7	Theriogenology Internal Medicine Dermatology Critical Care Community Practice	FY 2013

DEPT.	LOST		RECRUITED		Year
	#	DISCIPLINE/SPECIALTY	#	DISCIPLINE/SPECIALTY	
		Emergency Equine Surgery		Emergency Equine Surgery Critical Care	
BMS	2	Neuroscience Anatomy	1	Anatomy	FY 2012
VMPPM	2	Microbiology (2)	1	Microbiology	FY 2012
VPTH	3	Clinical Pathology Pathology Parasitology/Clinical Pathology	0		FY 2012
VDPAM	2	Theriogenology Food Animal	0		FY 2012
VCS	2	Theriogenology Shelter Medicine	5	Ophthalmology Equine Surgery Shelter Medicine Theriogenology Anesthesia	FY 2012
TOTAL	75		74		

Table B. Staff support for teaching and research

AREA	FTE CLERICAL	FTE TECHNICAL	OTHER
CLINICAL TEACHING	3.86	50.95	0
NON-CLINICAL TEACHING	1.82	4.35	0.61
RESEARCH	1.55	23.75	29.6
TOTAL	7.23	79.05	30.21

While the college mission is broad, there is a focus on hiring faculty and staff who advance veterinary and translational education, outreach, and discovery, and fulfill the Land Grant University mission for the benefit of the State of Iowa, especially related to the animal health economy. Current faculty and support staff numbers and expertise are adequate to provide a high quality education across a broad spectrum of veterinary medicine including all areas required by the COE. We seek to increase support staff modestly in the Office of Academic and Student Affairs to accommodate a growing need to support wellness and accommodations, and to better balance administrative load.

8.2. State the current number of academic faculty (head count) who possess credentials as listed in Tables C and D. (See Tables C and D, below)

8.3. Assess the challenges for your college in maintaining faculty numbers and quality.

The private sector salaries can be a challenge for faculty hiring. However, the ISU CVM attempts to be competitive with salary and benefits compared to other CVMs. ISU and the ISU CVM have a supportive infrastructure for hiring and retention <http://www.provost.iastate.edu/administrator-resources/recruitment>; including University benefits, new CVM facilities, dual career policies/resources <http://www.provost.iastate.edu/administrator-resources/recruitment/dual-career>, and clearly defined career advancements plans for promotion and tenure and non-tenure track advancement (also 8.5. and 8.7.).

8.4. Provide information on the loss (what discipline/specialty) and recruitment of faculty (Table A).

Table A (above) provides details regarding loss and recruitment of faculty. Generally over the reporting period we have maintained a stable population of faculty, both in terms of numbers and expertise areas.

Table C. Non-Veterinarians

TITLE	MS	PhD	BOARD CERT.	BOARD CERT. & MS	BOARD CERT. & PhD
Administrator	1	1	0	0	0
Professor*	6	10	0	0	1
Associate Professor*	2	7	0	0	1
Assistant Professor*	3	5	0	0	0
Instructor	1	1	0	0	0
Lecturer (2) ** Clinician (1)	2	2	0	0	0
Part-time Faculty (less than 75% time)	2	4	0	0	0

*does not include clinical track because Iowa State University had Senior Clinician/Clinician and Senior Lecturer/Lecturer during this reporting period

** Senior Clinicians and Clinicians are included with Lecturers

Table D. Veterinarians

Title	DVM (only)	MS	PhD	BOARD CERT.	BOARD CERT. & MS	BOARD CERT. & PhD
Administrator	0	3	2	0	0	2
Professor*	0	13	8	3	6	13
Associate Professor*	0	4	4	0	6	5
Assistant Professor*	2	11	9	6	8	9
Instructor***	18	1	0	0	1	0
Lecturer (2) ** Clinician (28)	8	8	4	8	3	1
Part-time Faculty (less than 75% time)	1	3	2	0	1	3

* does not include clinical track because Iowa State University has Senior Clinician/Clinician and Senior Lecturer/Lecturer during this reporting period

** Senior Clinicians and Clinicians are included with Lecturers

***Residents/Interns classified as Adjunct Instructors and any other Adjunct faculty positions included

8.5. Provide a concise summary of promotion and tenure policies, and the policy to assure stability for non-tenured, long-term faculty.

The faculty advancement policy at all career stages is clearly outlined by the University, including for tenure track <http://www.provost.iastate.edu/faculty-and-staff-resources/advancement> and non-tenure track faculty (NTE) <http://www.provost.iastate.edu/faculty-and-staff-resources/advancement/nte>. Both tracks have clear and well-defined advancement structures, and advancement is based on the Position Responsibility Statement (PRS), which describes areas of responsibility. Scholarship is key to promotion and tenure and is defined as a creative, systematic, rational inquiry into a topic and the honest, forthright application or exposition of conclusions drawn from that inquiry; encompassing all job areas, and resulting in a product that is shared with others and peer-reviewed. The Faculty Handbook outlines all related policies and procedures and is available online: <http://www.provost.iastate.edu/faculty-and-staff-resources/faculty-handbook>. Each department provides department-specific guidance for advancement, and the CVM Director of Faculty and Staff Advancement and Equity provides college-wide training and other resources for advancement.

8.6. Provide an estimate of the weight assigned to promotion/tenure and or compensation for teaching, research, service, or other scholarly activities.

At ISU, the job assignment is defined by the Position Responsibility Statement (PRS), which has individualized duties for each faculty member. Most tenure-track faculty have teaching, research and service responsibilities, but the percentages of time/effort assigned to each area can vary dramatically. Faculty are evaluated according to their specific PRS.

8.7. Briefly describe faculty professional development opportunities available in the college/university.

The university offers numerous seminars in areas such as professional development, university processes, teaching and learning, grantsmanship, and the promotion and tenure process. The College provides discussion sessions regarding promotion and advancement for tenure-track and non-tenure track (NTE) faculty, and well as workshops in areas such as teaching and learning, assessment, grantsmanship and peer review.

8.8. Describe current plans or major changes in program direction that would be affected by faculty retirements, recruitment and retention.

We do not have current plans for major program changes. However, we are constantly planning with pending retirements and recruitment opportunities in mind to ensure that we maintain strong programs and build our programs strategically. Department chairs work with College administration to anticipate open positions and evaluate ongoing needs.

8.9. Describe measures taken to attract and retain a diverse faculty.

The university recently hired a VP for Diversity and Inclusion and a number of resources are available <http://www.provost.iastate.edu/faculty-and-staff-resources/equity>. The CVM Equity Advisor meets and trains each search committee in best practices to attract a diverse candidate pool based on the University ADVANCE program. <http://www.provost.iastate.edu/faculty-and-staff-resources/development/isu-advance>.

8.10. Describe programs for on-campus delivery of curricular content by individuals not employed full time by the institution (other than occasional guest lecturers), including subjects taught. Estimate the percentage of core curricular content delivered in this way.

The only required course in this category is Veterinary Law and Ethics (one credit) taught over 2.5 days by Dr. James Wilson, DVM, JD, and Dr. Lance Roasa, DVM, JD. Therefore the % of core curricular content delivered this way is 1/160 or 0.63%. Elective on campus instruction is also taught overwhelmingly by full-time faculty.

8.11. Describe the role of interns, residents, and graduate students in teaching and evaluating veterinary students.

Interns and residents provide student instruction primarily in the VM4 year, and less commonly in the VM1-VM3 years. These individuals also provide instruction in clinical teaching laboratories and are involved in the assessment of students in these educational activities.

Standard 8 – Faculty, UNL

There are currently 36 faculty members in the SVBMS. Of these faculty members, 18 currently contribute to teaching in the PPVM. Eleven of these 18 (61%) faculty members hold a DVM degree and all hold a terminal degree. The ranks of these faculty members are: Professor = seven, Associate Professor = four, Assistant Professor = two, Associate Professor of Practice = one, Assistant Professor of Practice = three, and Research Associate Professor = one. In addition, one administrative associate, one curriculum specialist, and two teaching laboratory managers provide full-time support for the PPVM.

FY2016: Two losses were the result of the retirement of a virologist and a redox biologist. The terms for two research associate professors also expired during the fiscal year. One addition to the faculty was a One Health epidemiologist.



FY2015: The loss of one faculty member occurred when the previous PPVM coordinator resigned and an existing faculty member took over the position. Two part-time lecturers also left the school and their instructional responsibilities were covered by a remaining full-time faculty member.

FY 2014: The loss of one faculty member occurred from the retirement of a veterinary pathologist. Additions included an instructor for the Animal Physiology courses and an instructor for the Anatomic Radiology course, as well as the interim Director of the SVMBS.

FY2013: The Director of the GPVEC position was filled.

FY2012: Losses included three grant-funded research assistant professors.

The UNL Faculty Handbook is available online: <http://ncta.unl.edu/faculty-staff-handbook-policies>

STANDARD 9. CURRICULUM

ISU

9.1. State the overall objectives of the curriculum and describe how those objectives are integrated into individual courses.

The overall objectives of the curriculum are that by the time of graduation, graduates of the ISU CVM will:

1. Demonstrate mastery of the principles and mechanisms underlying disease and health and the history of important animal diseases to support the competent practice of veterinary medicine.
2. Handle patients safely and effectively.
3. Perform anesthesia and manage pain effectively.
4. Attend to animal welfare in all aspects of veterinary practice including behavior, husbandry, animal handling and care, and client education.
5. Diagnose common diseases and abnormalities in a variety of animal species including effective use of the medical interview, physical exam, and appropriate diagnostic testing (including clinical laboratory testing).
6. Manage records effectively and in adherence with all relevant laws and professional standards.
7. Create appropriate treatment plans for a variety of common diseases/conditions.
8. Plan and perform common surgical procedures and ensure appropriate aftercare.
9. Manage common medical cases, including performance of common clinical procedures, appropriate medical decision making, and patient referral when appropriate.
10. Manage emergency and intensive care cases.
11. Utilize health promotion strategies that prevent the transmission of zoonotic and other diseases, and ensure food safety.
12. Communicate effectively with clients and co-workers.
13. Seek out and utilize new information and research findings relevant to cases encountered in every day practice.
14. Function as ethical, respectful professionals.
15. Manage financial and other business functions in a way that facilitates professional success.

The ISU CVM has a four-year core (required) curriculum, with six semesters of didactic courses followed by no fewer than 44 weeks of hands-on instruction in clinical rotations. This instruction is associated with the overall curricular objectives as follows:

Semesters 1-3 primarily address Objective 1, with 43 credit hours (CR) of instruction in anatomy, physiology, molecular and cellular biology, immunology, pathology, microbiology, and parasitology. Instruction in these semesters also introduces a variety of more applied topics, including 10 CR of instruction related to Objectives 2 (handling), 4 (welfare), 5 (radiology and case study courses), 8 (surgery), 14 (ethics), and 4 & 9 (nutrition). We also incorporate financial modules in Semester 1 to address Objective 15, and to serve as a foundation in the area of financial management. Objective 13 is addressed in various courses throughout the curriculum, as described in section 10.13., beginning in

semester 1, where, for instance, students are expected to utilize peer reviewed research to critically evaluate food additives.

Semesters 4-6 primarily focus on applied topics (46 CR) including objectives 8 (surgery), 3 (anesthesiology and pharmacology), 5 (clinical pathology, medicine, surgery), 7, 9, and 10 (medicine and surgery), 11 (public health and case studies), and 12 (communication). They also cover general pharmacology and virology, (6 CR). These semesters also introduce students to the hospital medical records system (Objective 6), and veterinary law (Objectives 6 and 14).

Year 4 provides students with the opportunity to integrate knowledge gained through fourth year clinical rotations. All students are required to participate in two-week rotations in the following areas: small animal medicine; equine medicine, field services, or surgery; radiology; primary care; anesthesiology; small animal surgery; food animal & camelid medicine/surgery; and necropsy/clinical pathology. Students must also complete a four-week rotation in ICU/emergency medicine. In addition to these 20 weeks of instruction, students must complete an additional 24 weeks of clinical rotations, choosing to focus in one of four species-focused options: small animal, equine, mixed, or food animal.

9.2. Describe major curricular changes that have occurred since the last accreditation.

As a result of outcomes assessment, a number of major revisions were enacted in 2009, just prior to the last AVMA COE site visit, including a new 4th year curriculum, removal of a core biochemistry course in the 1st year, addition of two 1st year courses (Molecular and Cellular Biology, and Nutritional Biochemistry), and changes in course sequence throughout the first three years. (The SOP for approving curricular changes can be found in Appendix 9.2.) The revisions made during the past accreditation cycle include:

- Client communication training has been expanded throughout the curriculum. Students now participate in one standardized client communication experience in year 1, four experiences in year 3, and are recorded/evaluated in interaction with clients (combined with communication debrief) in year 4 during the required Primary Care Rotation.
- The College introduced new formal processes for experimental course review, inclusion of new courses in the curriculum, and an SOP to prevent curricular drift between ISU and UNL.
- A financial literacy component was incorporated into our 1st year Veterinarian in Society course.
- The Small Animal Option of the 4th year curriculum was reviewed and modified to require Soft Tissue Surgery of all students, rather than allowing a Shelter Medicine substitute experience.
- A clinical skills laboratory was established and associated educational activities have been incorporated into core and elective courses
- Our VM3 Surgery Course was modified to focus primarily on spays and neuters with shelter animals, ending our practice of utilizing terminal canine surgeries. There was a concurrent increase in student hands-on experience with animal handling, diagnostics, treatment planning, treatment, and medical record keeping.

9.3. Describe the process used for curriculum assessment (including course/instructor evaluation) and the process used to assess curricular overlaps, redundancies, and omissions.

The following processes assess the curriculum: 1) All faculty are evaluated by students each semester using a standard set of nine questions that address the instructor's apparent interest in teaching/the students, organization/planning, and instructional skills. Students also evaluate all courses for clarity of course expectations, grading, and quality of the course as a whole. These evaluations are conducted using E-Value, an online Healthcare Education Management system. 2) All VM4 students are offered the opportunity to complete a survey regarding the curriculum upon graduation. 3) All alumni are invited to complete a survey regarding the curriculum at one and five years post-graduation. 4) All Employers of alumni are given the opportunity to evaluate our graduates' preparation in specific curricular areas one year post graduation. 5) All students take the Veterinary Educational Assessment (VEA) at the beginning

of the sixth semester of instruction. This measures their preparation in basic science concepts. 6) Faculty complete standard evaluations of students throughout the curriculum (primarily in the 4th year). 7) NAVLE scores serve as an indication of the appropriateness of the curriculum.

Data from each of the above sources are provided in the form of a variety of reports to faculty in general, the Dean's Cabinet, and the Curriculum Committee.

Curricular overlaps, redundancies, and omissions are primarily identified through faculty and course evaluations, exit surveys, alumni surveys, and employer surveys. The Curriculum Committee reviews a summary of recommendations/areas of potential need for revision from these sources. For instance, removal of Biochemistry, addition of a Nutrition course (both in 2009), and increased emphasis on communication training and financial literacy (ongoing) were implemented as a result of information from those surveys. Curriculum mapping has provided another mechanism for identifying overlaps, redundancies, and omissions. Additionally, the college recently underwent a full curricular review.

9.4. Describe the strengths and weaknesses of the curriculum as a whole.

Strengths:

Our curriculum provides a strong foundation in the knowledge underlying medicine, surgery, and clinical/diagnostic reasoning, and practical hands-on experience with a variety of species. The foundational principle is to produce a well-rounded, day one "practice-ready" veterinarian. Below are several broad areas of strength consistently identified by our alumni and employers (based on data from the last five graduating classes, with sources of evidence in parentheses):

- An overall strong foundation in veterinary knowledge (Alumni, Employers, VEA)
- A strong foundation in veterinary technical skills (Employers, Alumni)
- Strong preparation in veterinary non-technical skills (Employers, Alumni)
- A strong foundation in diagnostic reasoning (Employers, VEA (Path))
- A recognized program in Food Animal Medicine (Employers, NAVLE, Alumni)

Weaknesses:

Significant curricular weaknesses that threaten the overall success or competence of our graduates have not been identified. Some alumni and/or their employers recommend additions to the curriculum, such as more hands-on experience, or more training in law, business, behavior, and nutrition. These topics are currently offered in both core and elective instruction. Overall, as veterinary knowledge continues to expand, there is the continual challenge of adequately addressing a growing body of content without excessively increasing student workload or expanding the time/money required to offer the curriculum.

9.5. Describe preceptor and externship programs (including the evaluation process).

Our major preceptorship programs are within the two clinical departments, VCS and VDPAM. VDPAM uses preceptorships to augment herd health, food animal, and mixed animal programs. See <http://vetmed.iastate.edu/vdpam/academics/DVM-program>. VDPAM faculty with species-specific expertise are instructors-in-charge of preceptorship courses, and review and approve preceptorship experiences. VCS and VDPAM on-site preceptor mentors are provided the CVM syllabi that contain learning objectives, emergency contacts, instructor-in-charge contacts, and ISU and CVM policies including: student conduct; IT use; mentor/faculty and student harassment and discrimination policies; and disability, religious, civic, and military accommodations (*See Appendix 6.4.*). Preceptorships in VDPAM focus in swine, beef, poultry, fiber, and dairy species. VDPAM preceptorships can occur in a variety of settings, including Applied Production Animal Medicine, Mixed Animal Practice with a Food Animal Emphasis, General Mixed Animal Practice, Government Agency, and Food Processing. VCS preceptorships involve companion animal, exotic, and equine species. Preceptorship mentors evaluate students using a standard rubric. Students are also required to submit a refereed topic or case report paper and to log selected procedures. Students provide written feedback to the instructor-in-charge regarding the preceptorship experience.

9.6. Curriculum Digest – (See Supporting Documents, per Policies and Procedures Guide) and University Catalog: <http://catalog.iastate.edu/collegeofveterinarymedicine/>

9.7. Describe current plans for curricular revisions.

The college recently underwent a comprehensive curricular review, completed April of 2016. The review engaged 18 instructors and 20 students as members of five different taskforces. Four of the taskforces, each composed of three faculty members and three to four students, reviewed a different year of the curriculum, examining content, horizontal integration, instructional effectiveness, efficiency, and student well-being. The fifth taskforce examined the entire curriculum, primarily for vertical integration across years. This process produced a number of recommendations that were reviewed by the Curriculum Committee. At this time, the Curriculum Committee is pursuing three of those recommendations: 1) Improve vertical and horizontal integration of the curriculum, 2) Establish a robust spay-neuter program, and 3) Explore strategies to improve NAVLE scores where ISU falls below the national mean. Work has begun in all three areas. In the first area, a plan has been approved for identifying coordinators for each year of the curriculum. Planning in the two additional areas is still preliminary.

9.8. Provide a description of the testing/grading system (scoring range, pass levels, pass/fail) and the procedures for upholding academic standards.

The University does not have a uniform grading system; each syllabus serves as a contract between the instructor and student. The University catalog contains the type of grading system used with each course: graded, pass-not pass, satisfactory-fail, and the additional results of incomplete or not reported. Policies are posted on the CVM website for academic standards, remediation, honor code, technical standards, ISU policies, the CVM syllabus template <http://www.vetmed.iastate.edu/students/student-assessment-and-outcomes/policies> and the full academic standards document is available in VetZone. The Academic Standards Committee meets at the end of each semester to review student academic standing and transfer student applications. Students not meeting the standards receive warnings, probation, or dismissal letters, per the academic standards policy. OASA and the Academic Standards Committee chair provide guidance for each student's specific situation. Students and faculty receive a presentation of the CVM Honor Code at the beginning of each semester.

9.9. Describe the opportunities for students to learn how different cultural and other influences (e.g., ethnic origin, socio-economic background, religious beliefs, educational level, disabilities and other factors) can impact the provision of veterinary medical services.

Students who participate in study abroad programs have a requirement to present their experiences at student organization meetings. All students take required courses in ethics, law and ethics, and animal welfare, which address some of these issues. Finally, socio-economic background, differing abilities, and educational level are all significant factors in client communication in year 4.

Standard 9 – Curriculum, UNL

Since 2011, a one-credit-hour Anatomic Radiology course was added to the first year curriculum. The coordinator of the PPVM continues to serve as the UNL representative on the ISU CVM Curriculum Committee to facilitate communication with ISU regarding curricular matters. Since course numbers, titles, and credit hours vary between UNL and ISU, a spreadsheet is maintained that outlines course equivalencies and is shared between the institutions. In addition, course syllabi are electronically shared between UNL and ISU. Three times per year (before the fall semester, between the fall and spring semesters, and after the spring semester), the PPVM Coordinator organizes a meeting of all PPVM instructors as a means to facilitate communication among faculty and provide a mechanism to discuss any concerns regarding courses or students. In 2015, the PPVM Curriculum Specialist began working with all PPVM faculty to draft a searchable map of the PPVM curriculum.



STANDARD 10. RESEARCH PROGRAMS

ISU

Research is integrated into the DVM educational program, providing multiple channels for DVM students to learn and explore. These opportunities include didactic lectures, seminars, and hands-on research experience such as the Summer Scholar Research Program (SSRP), clinical research-focused internships, and hourly employment in research laboratories and on farms. All VM1 students also participate in two course sessions during the VM1 Seminar Series that introduce them to conducting and utilizing research. The college has a robust research enterprise that addresses disease problems affecting both humans and animals. These research activities are supported by extramural funding from various agencies (e.g., NIH and USDA NIFA). The annual research expenditure at the CVM has consistently ranked in the top 10 among all CVMs for the past five years. Of particular note, the CVM's biomedical research funded by NIH has experienced a significant increase and ISU CVM USDA funding has been ranked #1 among CVMs for multiple years.

10.1. Describe up to five programs of research emphasis and excellence that integrate with and strengthen the professional program.

CVM research covers broad and diverse topics, fully embracing the One Health initiative. Five programs represent the strengths of CVM research, and all have inter-related scientific discovery, with collaborators across the ISU campus, other institutions, and USDA federal laboratories. These programs provide research experiences for DVM students, as well as related scholarly course instruction.

1. The Neuroscience and Neurotoxicology program focuses on environmentally linked neurodegenerative diseases (e.g. Parkinson's and Alzheimer's), environmental toxicology, neuropharmacology (human beings, animals, parasites), drug abuse, spinal muscular atrophy, epilepsy, traumatic brain injury and chronic traumatic encephalopathy (CTE), retinal degeneration, and learning/memory, ranging from disease mechanisms to novel therapies. Investigators in the program are well funded by NIH. Clinical, diagnostic, and interventional neurology also includes small animal, wildlife, and hoof stock/bovine species. The ISU CVM leads the university *Center for Advanced Neurotoxicology (ICAN)*, <https://www.vetmed.iastate.edu/research-grad-studies/centers-institutes/ican>, a university-wide center fostering interdisciplinary collaboration in the fields of toxicology, neuroscience, and related fields, directed by a CVM Distinguished Professor, Endowed Chair in Neurotoxicology, and Chair of the Biomedical Sciences Department.

2. The Infectious Disease program focuses on infectious diseases that affect both animal and human health. Topics cover bacterial, viral, and parasitic infections including pathogenesis, diagnostics, innate and adaptive immunity, vaccine development, and host-microbe interactions. Researchers use classic and contemporary approaches including genomics and computational biology. Funding is provided from a variety of sources including NIH, USDA, DOD, NSF, and biologic corporations. Also, the *Center for Food Security and Public Health (CFSPH)* engages in zoonotic, transboundary, and emerging infectious disease research and education (<http://www.cfsph.iastate.edu/>).

3. The Translational and One Health program embraces the One Health concept and has been leading the university-wide research effort on Translational and One Health. This program is strategically important for ISU and has been one of the President's High Impact Hire Initiatives, resulting in hiring of new faculty members who conduct Translational/One Health research. Research areas include zoonotic and emerging diseases; development of animal models for studying human diseases such as platelet disorders, retinopathies, and cancer; development of medical devices; comparative ophthalmology; locomotive disturbances; spinal cord injury; immunotherapies; and gastrointestinal and respiratory diseases. The CVM leads the university-wide effort on the development of novel vaccines against infectious agents that are important for animal and human health, such as HIV, influenza, PEDV, PRRS, and biodefense agents. The CVM is a major partner for the university-wide Nanovaccine Initiative <http://www.nanovaccine.iastate.edu/>.

4. The Food Safety and Antimicrobial Resistance program includes faculty conducting basic and applied research on foodborne pathogens, such as *E. coli*, *Salmonella*, and *Campylobacter*, covering epidemiology, transmission, and ecology; fundamental biology and colonization mechanisms; and development of intervention strategies. The CVM leads a university-wide initiative on antimicrobial resistance (AMR), which covers mechanisms of AMR; persistence, transmission and evolution of AMR; systems approach to understanding AMR; and development of innovative interventions for AMR. Additionally, the CVM has a major effort on the microbiome and understanding its role in health and disease.

5. The Animal Health and Welfare program includes infectious and non-infectious diseases/factors impacting multiple animal species, including swine, cattle, sheep, and poultry. Research areas include diagnosis, prevention, treatment, and management of animal diseases; epidemiology and risk analysis; and pain management and animal welfare. CVM researchers are at the forefront in the prevention and control of emerging infectious animal diseases, such as porcine epidemic diarrhea virus and high pathogenic avian influenza. Molecular methods and high throughput DNA sequence technologies are used for rapid and accurate detection of pathogens, understanding evolution of pathogens and diseases, identification of genetic changes associated with disorders and diseases, and development of next-generation diagnostics.

10.1.a. Provide a description (one page or less) of other measures of faculty research activity, apart from publications and grants enumerated in Tables 10.3.b. and 10.3.c. (e.g., faculty participation and presentation of original research in scientific meetings, involvement of faculty in panels, advisory boards or commissions, and national and international research awards received).

CVM faculty members are frequently invited to deliver lectures and seminars in scientific meetings nationally and internationally. Some examples include the annual meetings of the American Society for Microbiology, American Veterinary Medical Association, Society for Neuroscience, International Society of Veterinary Ophthalmology, American Association of Swine Veterinarians, National Institute of Animal Agriculture, the American College of Veterinary Internal Medicine forum, the American College of Veterinary Surgeons forum, and International Association for Biologicals. CVM researchers have served in leadership and advisory board roles in a number of professional organizations, such as the Conference of Research Workers in Animal Diseases, the Society of Toxicology, the American Society for Microbiology, the AVMA, the US Department of Interior Federal Advisory Committee on Invasive Species, the International Society for Computational Biology, the American College of Veterinary Surgeons, and the American Board of Veterinary Practitioners. Each year there are a number of CVM faculty members serving on grant review panels for various funding agencies both in the U.S. and internationally, such as NIH Study Sections, USDA NIFA grant review programs, National Pork Board, and NSF-GRFP for Neuroscience. CVM faculty are recognized locally, nationally, and internationally for scientific contributions, such as elected fellows of AAAS, American Academy of Microbiology, and Academy of Toxicological Sciences; elected member of National Academy of Medicine; elected member of the National Academy of Inventors; USDA APHIS Administrator's Award for Life-Time Achievements in Animal Health; and the Presidential Award from the American College of Veterinary Pathologists. The following table provides a summary of ISU CVM faculty achievement given several such measures of faculty research productivity.

Calendar year	Scientific presentations	Other presentations including abstracts	Panels, advisory boards, and commissions	National & international research awards
2016	577	740	79	28
2015	585	511	39	18
2014	470	599	36	20
2013	511	637	45	23
2012	588	463	56	28

Student Experiences

10.2. Describe courses or portions of the curriculum where research-related topics are covered (for example – literature review/interpretation; research ethics, methods, or techniques; and study design).

Numerous courses involve examining current literature and a review of the research methods and design. Twenty-nine core courses contain objectives that require active research knowledge and application, and 21 courses contain objectives that require research knowledge and awareness. Course objective examples include “integrate information across basic science disciplines to solve clinical problems,” “analyze a veterinary scientific publication,” “conduct a literature search”, and “critical analysis of new information and research findings relevant to veterinary medicine”. Additionally, two 90-minute seminars introducing various aspects of medical research have been added to the Freshman Seminar Series course. This course is presented to all first year students in the CVM and introduces and discusses key aspects of research including: understanding the impact of research on medicine and clinical practice, critical review of research information including sources and peer reviewed publications, components of medical research publications and presentations, formulating hypotheses, experimental design, data analysis, research funding interpretation, IACUC and IRBs, scientific integrity, confidentiality, experimental design in clinical settings, and medical research opportunities at ISU and similar institutions. The Ethics course contains a session on research ethics and related topics that impact research. These courses and lecture series have ensured that every student is exposed to research.

10.2.a. Describe/list the current opportunities for participation in research, including summer research programs (Merial, NIH, Howard Hughes, etc.), academic year programs (NIH fellowships, industry funded, curricular time allowed for research), student employment in research labs and projects, and individually mentored research experiences.

The CVM offers numerous research opportunities for DVM students in ISU research laboratories, USDA laboratories, University of Nebraska-Lincoln (UNL), and even international laboratories. These opportunities offer experience in basic, applied, and clinical studies as well as farm-based field trials. The SSRP provides 20-25 DVM students each summer with intensive research experience in clinical medicine, infectious diseases, epidemiology, pharmacology, biomechanics, neuroscience, immunology, parasitology, molecular genetics, and molecular pathology: <https://vetmed.iastate.edu/research-grad-studies/student-research-opportunities/summer-research-program>. The program includes hands-on laboratory experience, tours of the USDA National Animal Disease Center (NADC), poster presentations at local and national conferences, and the potential to publish or co-author a manuscript. Funding is from a NIH T35 training grant, Merial, Morris Animal Foundation, Boehringer Ingelheim Vetmedica, Inc., USDA, the Iowa Livestock Health Advisory Council, and other sources. The program finishes with a college-wide Research Day that includes a poster session, luncheon, keynote speech, and poster and manuscript awards (10.3.d.). Also, an outstanding student can receive an AVMA-AVMF \$5,000 fellowship/scholarship to continue their research. DVM students can also gain research experience from various internships including Swine Medicine Applied Research Internship, Dairy Veterinary Internship, and Beef Production Immersive Knowledge Experience, that all require students to create, plan, and execute an applied research project or field trial. Many CVM research laboratories also offer hourly employment for DVM students, allowing them to work on a research grant or project. These research opportunities allow for integration of DVM students with undergraduate, graduate, and postdoctoral researchers to further enrich perspectives and experiences of DVM students.

10.2.b. Describe college research seminars and presentation for veterinary medical students, including the number of internal and external speakers, endowed research lectureships, DVM student research seminars, DVM student poster presentations, and college research days and awards and presentations made by DVM students at scientific meetings or seminars at external sites.

DVM students have ample opportunities to attend seminars and lectures given by nationally and internationally renowned speakers. CVM has two endowed research lectureships: the Ramsey Lecture Series and the One Health Lecture Series. The Ramsey Lecture Series features three to four keynote

speakers per semester who are leading animal and human health experts. The One Health Lecture Series invites one to two keynote speakers throughout the academic year and select DVM students from the SSRP to display their poster that relates to the keynote speaker's expertise. The CVM holds an Annual Research Day where DVM students in the SSRP, graduate students, and postdoctoral researchers in CVM present their research projects, via poster presentations, to a campus-wide audience followed by a luncheon including a keynote speech given by a renowned researcher and award ceremonies. Awards include 1st, 2nd, and 3rd place awards in poster categories for the DVM students, graduate students, and postdoctoral researchers and for DVM student manuscripts prepared while in the SSRP. Additionally, students from this program often present their posters at other local and national conferences including the National Veterinary Scholars Symposium. During the fall semester, the SSRP students have an additional poster presentation at the CVM to share their projects and experience with DVM students, graduate students, postdoctoral researchers, and faculty. Furthermore, the Grand Rounds allow fourth-year students to give seminars and case presentations on selected subjects.

10.2.c. Describe efforts by the college that facilitate the link between veterinary medical student research and subsequent or concurrent graduate education, and that enhance the impact of college research on the veterinary professional program.

Concurrent education at ISU has been an established program for over 35 years and allows the DVM students to enter either a MS, PhD, or certificate program by earning course credits and participating in research. Students must select a major program, and be approved by the Departmental Officer of Graduate Education, Associate Deans, and Graduate College. For concurrent degree students, approximately 75% pursue a MS degree and 25% pursue a PhD degree (10.3.a.). Students may choose to postpone their 4th year as a DVM student for one year to pursue their graduate studies and research; however, more commonly, students continue beyond DVM graduation to complete the advanced degree. Additionally, the CVM recently established the Lora and Russ Talbot Graduate Fellowship Program, which recruits outstanding post-DVM students to the college's graduate program. The SSRP has provided a pipeline for DVM graduate students at the ISU CVM or other CVMs to enter research careers. Some of these students have now returned to the ISU CVM as faculty members.

10.3. Complete the following tables

Table 10.3.a.

Academic Year	Total number of students	Number of students in funded & unfunded research projects	Number of peer reviewed publications in which DVM students are authors/co-authors	Number of veterinary medical students in a joint DVM/graduate academic program	
				PhD (or equivalent)	Master's (or equivalent)
Year 2016	586	141	15	4	7
Year 2015	584	111	8	3	8
Year 2014	592	131	17	1	16
Year 2013	586	131	10	0	14
Year 2012	588	132	10	2	16

Table 10.3.b.

	Number of faculty	Total faculty FTE	Number of faculty involved in research	Number of research faculty involved in delivering the professional curriculum	Total research FTE	Number of unique, original peer-reviewed research publications	Number of original book chapters
BMS 2016	29	26.62	23	14	14.28	46	8
VDPAM 2016	52	50.55	49	38	12.75	124	12
VMPM 2016	18	16.22	17	6	9.99	30	6
VCS 2016	65	63.58	45	44	9.6	63	12
VPATH 2016	16	15.42	14	13	5.42	18	24
TOTAL 2016	180	172.40	148	115	52.04	281	62

BMS 2015	27	25.25	21	19	11.15	61	15
VDPAM 2015	50	48.80	41	40	8.96	97	14
VMPM 2015	19	17.52	16	10	7.87	41	2
VCS 2015	73	71.92	55	42	7.58	49	23
VPATH 2015	17	16.17	15	15	5.41	12	13
TOTAL 2015	186	179.65	148	126	40.97	260	67
BMS 2014	27	25.25	26	22	14.72	45	6
VDPAM 2014	49	46.22	40	36	9.69	143	6
VMPM 2014	17	16.67	17	15	8.31	52	6
VCS 2014	71	68.52	41	39	8.09	53	35
VPATH 2014	17	16.17	16	11	5.28	17	1
TOTAL 2014	181	172.82	140	123	46.09	310	54
BMS 2013	25	23.25	26	21	15.03	35	26
VDPAM 2013	51	49.20	42	39	9.27	144	10
VMPM 2013	20	19.75	18	14	9.2	49	10
VCS 2013	71	68.45	35	33	6.69	48	17
VPATH 2013	21	19.08	17	15	5.04	13	4
TOTAL 2013	188	179.73	138	122	45.23	289	67
BMS 2012	26	24.15	23	14	11.55	32	10
VDPAM 2012	47	44.70	44	25	10.66	127	20
VMPM 2012	21	20.75	18	14	9.2	66	4
VCS 2012	71	68.25	38	30	7.4	63	19
VPATH 2012	21	18.75	14	12	5.28	20	6
TOTAL 2012	186	176.60	137	95	44.09	308	59

Note. The decrease in faculty from 2015 to 2016 is owing primarily to a gradual reclassification of interns and residents, who are no longer classified as faculty.

Table 10.3.c.*

	Extramurally-sponsored federal grants		Extramurally-sponsored state grants		Extramurally-sponsored private contracts		Patents
	Number	Value	Number	Value	Number	Value	Number
V ADMIN 2016	2	71,400	1	330,000	0	0	0
BMS 2016	14	3,060,827	0	0	4	157,550	I=0 F=5
VCS 2016	0	0	0	0	5	119,345	0
VDPAM 2016	10	1,540,425	0	0	18	738,228	I=3 F= 9
VMPM 2016	21	3,915,665	0	0	11	1,741,490	I=4 F= 1
VPATH 2016	3	43,237	0	0	4	1,018,214	0
TOTAL 2016	50	8,631,554	1	330,000	42	3,774,827	I=7 F=15
V ADMIN 2015	2	138,920	0	0	0	0	0
BMS 2015	8	2,398,050	0	0	3	198,484	I= 2 F=4
VCS 2015	0	0	2	298,206	7	233,106	0
VDPAM 2015	11	1,836,424	1	30,000	27	1,278,473	I=0 F=8
VMPM 2015	30	6,534,557	0	0	6	497,411	I=0 F=1
VPATH 2015	6	74,774	0	0	2	645,498	I=0 F=2
TOTAL 2015	57	10,982,725	3	328,206	45	2,852,972	I=2 F=15
V ADMIN 2014	2	125,221	0	0	0	0	0
BMS 2014	15	4,599,218	0	0	8	1,097,832	I=0 F=5
VCS 2014	0	0	2	269,569	8	143,440	0
VDPAM 2014	8	1,544,882	3	172,014	32	2,839,675	I=0 F=5



VMPM 2014	25	2,561,226	0	0	8	957,794	0
VPATH 2014	3	64,391	0	0	3	662,809	0
TOTAL 2014	53	8,894,938	5	441,583	59	5,701,550	I=0 F=10
V ADMIN 2013	1	37,009	0	0	0	0	0
BMS 2013	13	4,458,385	0	0	3	176,403	I=1 F=0
VCS 2013	0	0	2	79,906	6	542,730	0
VDPAM 2013	7	1,492,694	0	0	21	1,430,979	I=0 F=1
VMPM 2013	30	5,927,711	0	0	7	815,546	I=1 F=0
VPATH 2013	4	32,579	1	14,925	6	486,523	0
TOTAL 2013	55	11,948,378	3	94,831	43	3,452,181	I=2 F=1
V ADMIN 2012	3	61,391	0	0	0	0	0
BMS 2012	22	6,817,985	0	0	4	378,985	0
VCS 2012	1	286,848	0	0	7	229,922	0
VDPAM 2012	6	981,337	1	50,538	21	779,843	I=8 F=0
VMPM 2012	23	2,677,215	0	0	20	1,702,810	I=3 F=0
VPATH 2012	4	597,796	0	0	4	178,908	0
TOTAL 2012	59	11,422,572	1	50,538	56	3,270,468	I=11 F=0
COLLEGE TOTAL	274	51,880,167	13	1,245,158	245	19,051,998	I=22 F=41

*Information in the above table is collected on a fiscal year basis.

I=issued F=filed

Standard 10 – Research Programs, UNL

Similar to ISU CVM faculty, faculty at UNL have active and productive research programs, and provide veterinary students with regular opportunities to participate in research. Students at UNL (years 1-2) and their faculty mentors participate in the Summer Scholars poster session at ISU. Curricular content related to research at UNL mirrors that provided in years 1-2 at ISU.

STANDARD 11. OUTCOMES ASSESSMENT

Note: Because the assessment effort addresses the full veterinary program, of which UNL is a part, information for UNL is not reported separately. Assessment outcomes consistently demonstrate that students who begin their program at UNL and students who begin their program at the ISU CVM perform equivalently on the VEA, in subsequent courses, and on 3rd and 4th year indicators of clinical competence.

11.1. Student educational outcomes must include, but are not limited to:

11.1.a. Evidence of direct observations of students performing and/or having attained entry level competence in skills that demonstrate mastery of the nine clinical competencies. Processes must be in place to provide remediation for any of the nine competencies in which students do not demonstrate competence.

The ISU CVM uses a variety of direct and indirect measures of each clinical competency. Data are gathered beginning in spring of the 2nd year curriculum (Public Health) and continue until five years post-graduation, when alumni are asked to complete the second of two alumni surveys. Most direct measures are collected during the 4th year. Direct measures include: 1) global rating rubrics in core 4th year rotations, 2) a clinical skills checklist, and 3) multiple examination and/or capstone assignments. Each core VM4 rotation (Primary Care, Small Animal Medicine, Small Animal Surgery, Radiology, Anesthesiology, Intensive Care/ICU, Equine Medicine/Field Services/Surgery, Food Animal & Camelid Medicine and Surgery, Necropsy, and Clinical Pathology) uses a global rating scale rubric customized to that rotation, and each rubric item is mapped to an AVMA COE clinical competency area. All rubric scores are entered electronically by faculty and house officers using E-Value. A score of 3= minimally

competent in all rubric scales. Each competency is assessed in multiple rotations, except for Competency 7, which is only assessed in the required Food Animal & Camelid Medicine and Surgery Rotation and Competency 6, which is only assessed in the required Emergency Medicine and Intensive Care Rotation. Capstone assessments include the Case Correlation Assignment in the VPTH necropsy rotation which requires all students to thoroughly analyze a hospital case, and radiology case analysis assignments, which require students to analyze and interpret radiographs in the context of a clinical scenario. Additionally, all students are assessed in the area of client communication using a complete video recorded medical interview while on the Primary Care rotation.

When a 4th year student's average score across rotations in any competency area falls below 3, a memo is sent by the Office of Curricular and Student Assessment to the student, the department chair and the instructor of the rotation indicating a need for remediation. The instructor works with the student to develop and complete a remediation plan, and verifies the deficiency has been addressed. When the remediation is complete, the instructor notifies the Office of Curricular and Student Assessment. Students must meet any outstanding remediation requirements to graduate. Table 11.1.a. provides a summary of remediation activities and outcomes for the graduating class of 2016.

Table 11.1.a. Remediation Summary

	Competency	# Students Requiring Remediation	Rotation(s) Where Identified
1a.	Comprehensive patient diagnosis (problem solving skills)	1	Small Animal Medicine
1b.	Appropriate use of clinical laboratory testing	4	Primary Care
1c.	Record Management	4	Small Animal Medicine
2.	Comprehensive treatment planning including patient referral when indicated	5	Primary Care & Anesthesiology
3a.	Patient Welfare	0	N/A
3b.	Anesthesia and Pain Management	0	N/A
4.	Basic surgery skills, experience, and case management	1	Small Animal Surgery
5.	Basic medicine skills, experience, and case management	2	Primary Care
6.	Emergency and intensive care case management	0	N/A
7a.	Health promotion, disease prevention/biosecurity	0	N/A
7b.	Zoonosis and food safety	0	N/A
8a.	Client communications	7	Primary Care
8b.	Ethical conduct	2	Primary Care; Small Animal Medicine
9.	Critical analysis of new information and research findings relevant to veterinary medicine	2	Primary Care

Note. A total of 20 students required remediation. Some required remediation in more than one area.

In addition to the direct assessments described above, all students are required to verify completion of skills from a core clinical skills list containing 131 skills. Students demonstrate the skill to a faculty member, house officer or technician, and record completion using the Case Logs functionality of the E-Value software. The supervisor receives an e-mail which serves as confirmation of successful completion of the skill unless she or he rejects it. If the instructor rejects the logged skill, it must be repeated. Judgements regarding skill completion are binary (yes or no). Reminders are sent automatically to each student until he/she has completed the checklist. All students are expected to complete all skills in

order to graduate, though the college's Assessment Committee may authorize exceptions if students are not able to complete tasks for lack of opportunity.

11.1.b. NAVLE school score report data and passage rates over the past five years are presented in Table A. Each college must submit a copy of the annual NAVLE School Score Report with the AVMA-COE Interim Report each year for those graduating students who sat for the examination.

Table A. NAVLE

Year	Students taking exam(s)	Students passing exam(s)	Average scores
2016	143	134	499
2015	147	142	498
2014	146	136	508
2013	141	138	510
2012	144	139	512

Source: NAVLE School Score Report: All Criterion Group Candidates: Ultimate Performance.

Note. The modest decline in ISU CVM NAVLE scores since 2012 mirrors a similar decline nationally. Therefore, this change is likely due to changes in the NAVLE instrument, rather than in ISU CVM graduates' knowledge.

11.1.c. Assessments of graduating seniors; and assessments of alumni at some post-graduation point (for example, three and/or five years post-graduation) assessing educational preparedness and employment satisfaction.

All seniors have the opportunity to complete an exit survey approximately two months prior to graduation, (responding with completion rates ranging from 72% - 90% over the past five years). A 267-item survey assesses a variety of questions including educational preparedness in all core and many elective areas, course offerings, satisfaction with college environment, facilities, advising, student services, faculty, staff, and career interests/plans. All alumni receive a 233-item survey one year and five years post-graduation, and have responded with response rates ranging from 36% - 51% over the past five years. The alumni survey addresses educational preparedness in all core and many elective areas.

11.1.d. Assessment by employers of graduates to determine satisfaction with the graduates.

Employers of first-year graduates of our program complete a 171-item survey each year assessing satisfaction with their graduates, with response rates ranging from 34% - 52% over the past 5 years. Employers are very satisfied with their graduates with mean overall satisfaction scores ranging from 4.3 – 4.6 on a scale of 1 (very unsatisfied) to 5 (very satisfied). Employers also rate graduate preparation in a variety of individual skill and knowledge areas, with generally high satisfaction across areas. Areas of needed improvement are addressed as described in Section 11.4.

11.2. Program outcomes.

11.2.a. Student attrition rates with reasons (Table B), Each college must submit data on absolute attrition every year. The Council on Education expects that an increasing (positive) trend in proportionate absolute attrition from the college will be explained, including the factors that are contributing to the trend, and that the college will implement steps and a timeline for arresting the trend. If proportionate absolute attrition over a five year average is greater than 20%, the Council may request a focused site visit.

Table B. Attrition

Entering Class	Attrition*	Reason for Relative Attrition**			Absolute Attrition****	
		Academic	Personal	Transfer***	Number	Percentage
2016	9	1	0	0	8	5.4
2015	5	0	2	0	3	2.0
2014	8	1	1	1	5	3.4
2013	10	4	1	1	4	2.7
2012	5	0	1	0	4	2.7

* Absolute plus relative attrition

** Relative Attrition = encompasses students moving to another class or transferring to another professional veterinary program, plus number of students moving to a different (later) class.

*** Students who transfer to another veterinary medicine professional program

**** Students who leave and have not returned at the time of this report

Attrition per class has ranged from 5 to 10 students between 2012 and 2016. We consider this to be normal variation. While we would prefer that every student we admit graduate with a DVM within four years, each year circumstances such as changes in personal goals, health emergencies, or insufficient academic performance cause some students to leave the program. Note that some students counted in the “Absolute Attrition” column return in subsequent years, so that number for the Class of 2016 is likely to decrease in future years.

11.2.b. Employment rates of graduates (within one year of graduation) (Table C), Annually each college must submit data on employment during the first year following graduation. The Council on Education expects that a declining (negative) trend in proportionate employment from the college will be explained. Colleges with an average employment rate over five years of less than 80% must provide an assessment of the factors that are impacting the trend.

Table C. Employment Rates of graduates within one year of graduation

Graduating Class	Total # graduates (number of respondents)	# Employed in field related to veterinary training	# Graduates in advanced clinical training (internships/residencies)	# in advanced academic training (Masters/PhD)
2016	143(26)	23	3	0
2015	147 (50)	43	6	1
2014	147 (48)	39	5	4
2013	142 (61)	51	5	3
2012	149 (61)	57	3	0

Note. Data from our survey of graduates one year post graduation

Trend: Since 2013, all but three of the respondents (one graduate of 2012 and two 2013 graduates) to our one-year alumni survey were employed in a field related to their veterinary training, or in advanced training within one year of graduation.

Note that the limited response rates across years reflect the voluntary nature of surveying alumni one year after graduation. Furthermore, data collection for 2016 graduates was still underway at the time the report was prepared. Since 2013 we have also collected information regarding employment rates of graduates six months after graduation. Those placement rates are seen in Table C.1., below. Taken together, the six-month and one-year placement rates demonstrate a solid demand for ISU CVM graduates.

Table C.1. Supplementary employment rates within six months of graduation

Graduating Class	Placement rate	Response rate
2016	98%	85%
2015	87%	95%
2014	94%	80%
2013	98%	83%

Note. Placement rate = % employed in veterinary field or engaged in related advanced training

11.2.c. Assessments by faculty (and other instructors, for example interns and residents) related to such subjects as adequacy of clinical resources, facilities and equipment, information resources, etc.; and preparedness of students entering phases of education.

We collect a variety of assessment information from faculty and other instructors regarding facilities, resources, student preparedness and so forth. Some faculty and other instructors are included in the membership of a number of college committees and the Dean's Budget Advisory Committee which provide leadership, direction and feedback regarding a variety of issues, including resources and facilities. Additionally, new and upgraded equipment and facility requests are submitted by departments and reviewed by the CVM cabinet. Also, the college surveyed faculty in spring of 2017 regarding preparedness of students entering their courses throughout the educational program. Finally, the college and University have conducted several climate surveys which, while most closely related to a safe and collegial work environment, address a variety of issues of concern to faculty and other instructors. The outcome has been a number of meetings to better define staff, faculty and student health care team roles, and improve communication. A follow up survey is planned for 2018.

11.2.d. Additional assessment that might assist the college in benchmarking its educational program.

Benchmarking is done in a variety of ways. First, we employ AAVMC comparative data, and other educational comparative data, including the Veterinary Educational Assessment (VEA) and the NAVLE. Second, through ISU CVM annual employer surveys, employers of ISU CVM graduates are asked to compare our graduates with graduates of other programs whom they have hired. Employers of our graduates generally report that ISU CVM graduates compare favorably to graduates of other institutions. On the NAVLE, compared with other college graduates, ISU CVM graduates tend to outperform other graduates on food animal sections and to underperform slightly on the Small Animal and Equine sections. VEA scores are exchanged with other colleges who use the VEA, and ISU CVM students tend to compare favorably in basic science areas overall, scoring particularly well in the Pathology and Microbiology sections of the exam. Finally, a 2014 climate survey administered to students resulted in conversations with student leaders and clubs to build a more inclusive environment, and leading to information sessions for faculty regarding Title IX and ADA, as well as a variety of wellness presentations for students. (See Appendix 11.2.d.1.)

11.3. Institutional outcomes.

11.3.a. Describe the adequacy of resources and organizational structure to meet the educational purposes (dean should provide).

Since 2007, ISU has operated under a Resource Management Model (RMM) wherein the college retains and manages much of the revenue it generates, but also must pay the bills it incurs above a baseline of state support, including employee salary increases, new initiatives, and infrastructure improvements. By contrast, ISU CVM did not increase class size between 2007 and 2016 in keeping with the nature of clinical education but instead has focused on building its alternative budget streams, such as diagnostic and clinical service fees and donations. At present, all the college's businesses have a positive operating margin and are generating funds that help support our educational programs. The college has also had to increase its tuition annually, but has done so judiciously with the result that our college is in the lower quartile of total costs of education for residents and the lower half for non-residents. This overall strategy

has provided us with the funds to adequately support and advance our teaching program with such new initiatives as the Clinical Skills Laboratory and classroom IT upgrades. As described, the college has obtained the necessary physical, personnel and infrastructure resources to meet required instructional needs in the professional curriculum. Since the last site visit, the CVM has transformed its physical infrastructure, including: building a new small animal hospital, renovation of major classrooms and laboratories with IT capabilities, installation of numerous wireless points, and living quarters for students in the SMEC program and at the Blank Park Zoo. Directors manage the major business units, VMC and VDL (line item from the State of Iowa) and oversee the fiscal and operational aspect of those units. All of the above is possible because of increases in the college budget through innovative programs, State of Iowa ISU budget support, and major gifting.

11.3.b. Describe how the college evaluates progress in meeting its mission (for example, benchmarking with other institutions, scholarly activity of the faculty, faculty awards, faculty and staff perception of teaching resources, student satisfaction with the educational program, teaching improvement benchmarks, and others, etc.).

The college employs the AAVMC Comparative Data report for benchmarking, and the ISU CVM ranks in the top 5-10 institutions in a number of areas. Accreditation Reviews for the college (AVMA-COE), and the various units of the college (LVMC by AAHA in 2013, VDL by AAVLD in 2012, and LAR by AAALAC in 2013) play significant roles in evaluation of our programs. Departmental program reviews are also conducted every seven years by the ISU Office of the Provost as mandated by the State of Iowa Board of Regents, providing valuable information for improving education and research programs. The CVM Executive Cabinet regularly reviews reports from college business entities, and the broader CVM Cabinet also focuses on academic outcomes. The college also reviews faculty scholarly activity, faculty teaching awards, and student satisfaction with courses and faculty teaching on an annual basis during which each faculty member's performance is reviewed. Graduating students are surveyed each year to determine their satisfaction with the educational program; students also participate as members of the Curriculum Committee and Student-Faculty relations committee, and use those committees to provide feedback to the college.

The ISU CVM has a significant focus on the educational process, scholarly teaching, and the scholarship of teaching. Our regular senior exit survey measures student satisfaction with their educational experience, including their rating of the overall educational experience, overall social environment, and amount learned for time invested. Overall, our students have rated those items as good to excellent over the past five years. The ISU CVM was one of the early leaders in veterinary education assessment, being among the first to hire an educational group into a college. Scholarship of teaching and learning is a strength of the college, and university, for faculty promotion and tenure/advancement, including at the CVM. Scholarly activities of faculty are evaluated during annual, mid-career, P&T, advancement and post-tenure reviews by a well delineated university process. Faculty are nominated and receive a number of national, international, university and college awards. (See Appendix 11.3.b.) Faculty have received the ISU Award for Outstanding Achievement in Teaching, ISU Award for Outstanding Achievement in Research, ISU Award for Outstanding Achievement in Extension and Outreach, and the AAVMC Distinguished Veterinary Teacher Award (by Zoetis). ISU CVM faculty also hold numerous national leadership appointments, serving, for example, as presidents of AASV, ACVP, ACVS, AAVLD, and ACVIM.

11.3.c. If your program assesses other outcomes, briefly describe the results.

In addition to the factors mentioned above, our college also regularly surveys students regarding a variety of factors including facilities, administrative services and safety. We also survey alumni to determine the area of the veterinary profession in which they are working, their satisfaction with factors such as salary and work environment, and their indebtedness.

11.4. Describe how outcomes findings at the student, programmatic, and institutional level are used by the college to improve the educational program (give examples).

Outcomes findings specific to individual students that are not generalized to a larger group of students are addressed through remediation. Outcomes findings at the student level that involve larger numbers of students are considered programmatic outcomes, and provide information regarding where systematic changes are necessary. For example, concerns with student proficiency in anesthesiology have led us to approve an extra credit hour of core required anesthesiology instruction, and have led to several anesthesiology labs/OSCEs being added to the core educational program. Similarly, concerns with individual student capacity to communicate effectively during the fourth year, and as self-identified by alumni have led to increased communication instruction, as described earlier in this document.

Institution wide outcomes that are not inherently “programmatic” are most frequently tied to input from students and alumni. For example, students identified a need for more adequate study space, leading to current construction projects, including construction of the Commons Café.

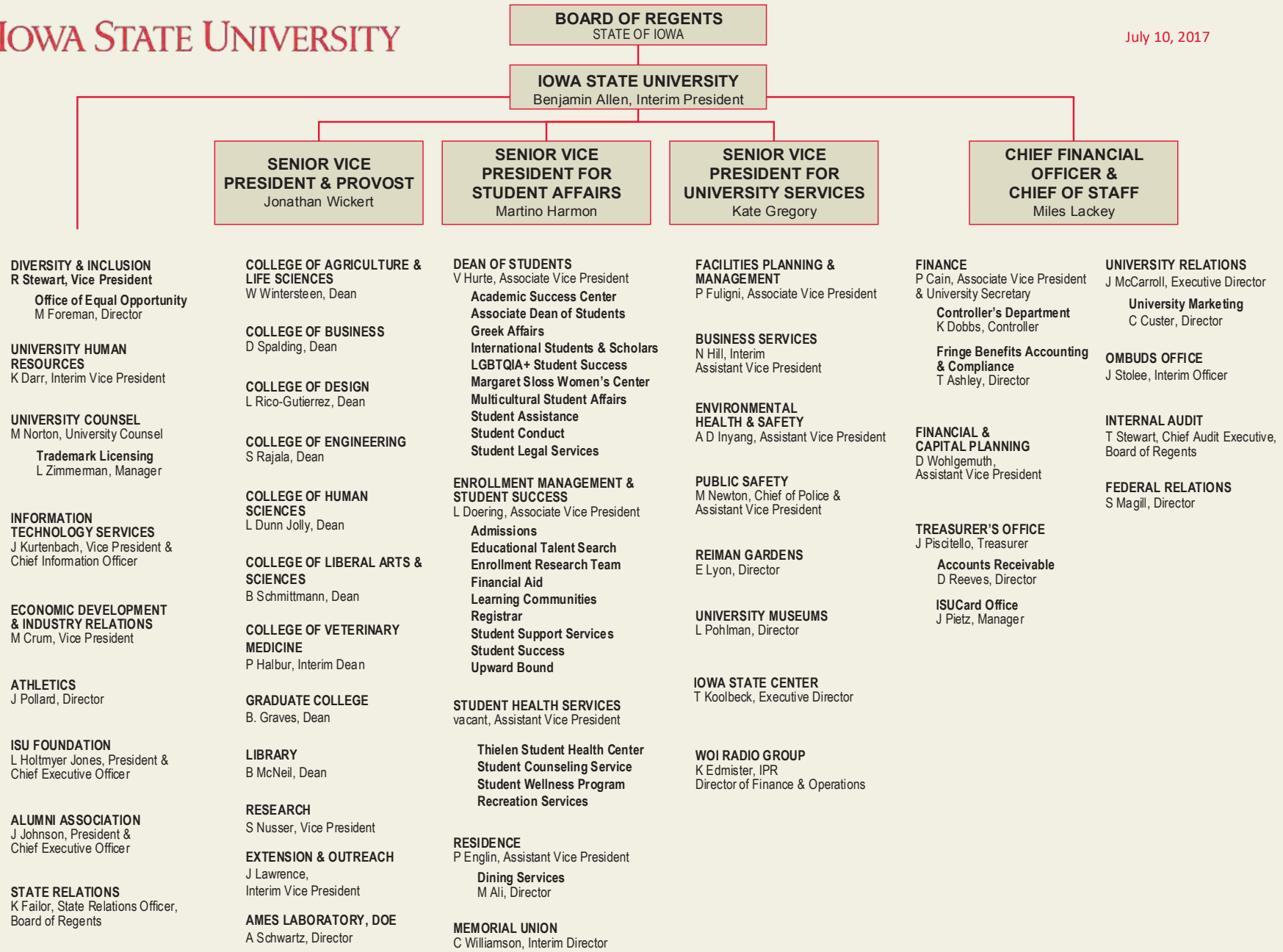
Generally, we receive more assessment information each year than we can feasibly act on. Therefore, the college employs a systematic process for reviewing and determining which assessment information to act on, and when, as follows: 1) Annually, all survey responses from exiting seniors, alumni, and employers are analyzed by the Office of Curricular and Student Assessment, and a report of longitudinal trends (focusing exclusively on potential areas requiring improvement) is sent to the Curriculum Committee. A curricular dashboard, which shows longitudinal data since 2007, is available to assist in visualizing trends. The Curriculum Committee determines whether deficiencies need to be addressed, and, when necessary, coordinates plans for improvement. 2) Student evaluations of teaching are reviewed annually by department chairs, and discussed with teaching faculty during their annual reviews. When warranted, department chairs work with teaching faculty to develop plans to improve in targeted areas. 3) Students are evaluated by faculty instructors, interns, and residents in courses and rotations, and evaluations are recorded via E-value. These evaluations are explored for systematic educational deficits.

The following provide several examples of large-scale curricular changes that were guided and verified using outcomes findings: 1) In 2009, following considerable feedback from exiting seniors and alumni, the required Biochemistry course in the VM1 year was discontinued and replaced with a nutrition course and a molecular and cellular biology course. Satisfaction with biochemistry education was then tracked, it abruptly improved, and no complaints were received after the graduating class of 2012. VEA (formerly QE) scores were monitored and verified student knowledge in basic science areas had remained level or improved. Satisfaction with instruction in the area of nutrition was validated; concerns about nutrition instruction declining in 2013; and concerns continue to be absent since 2014. 2) Lack of client communication ability in a significant percentage of our graduates had been a perennial concern to employers of our graduates since at least 2007. The CVM implemented a number of opportunities for students to practice client communication and receive feedback in Years 1, 3, and 4 of the curriculum. Communication is no longer appearing as an employer concern in two of the last three years of employer surveys. 3) In the Spring of 2016, the Curriculum Committee, with strong student support, approved a proposal from the BMS department to add one credit hour of Anatomy instruction to the first year of instruction, because the additional instruction would include applied, clinically relevant application of anatomy concepts (a priority from senior, alumni, and employer surveys), and because it would focus on feline anatomy which is a priority need assessed from NAVLE scores. 4) Results of alumni and employer surveys indicated that graduates would benefit from more basic hands-on skills. Partly as a result of this input, we recently established a Clinical Skills Laboratory which is used heavily by our students to supplement surgical and similar hands-on skills training. We also modified our surgery curriculum to permit students to perform more entry-level surgery (spays and neuters) in their 3rd year, and to have more 3rd year opportunities for patient handling, performing SOAPs and so forth.



IOWA STATE UNIVERSITY

July 10, 2017





**ORGANIZATIONAL CHART
INSTITUTE OF AGRICULTURE AND NATURAL RESOURCES
UNIVERSITY OF NEBRASKA**

NU VICE PRESIDENT
IANR VICE CHANCELLOR
Mike Boehm

VC OFFICE

ASSOCIATE
VICE CHANCELLOR
Ron Yoder

ASSISTANT
VICE CHANCELLOR
For Business & Finance
Jeff Bassford

ASSISTANT
VICE CHANCELLOR
For Global Engagement
Josh Davis

ASSISTANT
VICE CHANCELLOR
For External Relations
Jill Brown

DEANS

Agricultural Research
Division
Archie Clutter

College of
Agricultural Sciences
& Natural Resources
Tiffany-Heng Moss*

Nebraska
Extension
Chuck Hibberd

[IANR Res & Ext]
College of Education
& Human Sciences
Beth Doll*

Nebraska College of
Technical Agriculture
Ron Rosati

IANR ADMINISTRATIVE UNITS

**AGRICULTURE & NATURAL RESOURCES
ACADEMIC UNITS**

AGRICULTURAL ECONOMICS
Larry Van Tassell

AGRICULTURAL LEADERSHIP, EDUCATION & COMMUNICATION
Mark Balschweid

AGRONOMY AND HORTICULTURE
Richard Ferguson (Interim)

ANIMAL SCIENCE
Clinton Krehbiel

BIOCHEMISTRY
Paul Black

BIOLOGICAL SYSTEMS ENGINEERING
David Jones (Interim)

ENTOMOLOGY
Gary Brewer

FOOD SCIENCE AND TECHNOLOGY
Curt Weller

PLANT PATHOLOGY
James Steadman

SCHOOL OF NATURAL RESOURCES
John Carroll

STATISTICS
Bertrand Clarke

SCHOOL OF VETERINARY MEDICINE & BIOMEDICAL SCIENCES
Clayton Kelling

**EDUCATION AND HUMAN SCIENCES
ACADEMIC UNITS**

CHILD, YOUTH, AND FAMILY STUDIES
Richard Bischoff

NUTRITION AND HEALTH SCIENCES
Linda Boeckner (Interim)

TEXTILES, MERCHANDISING, AND FASHION DESIGN
Michael James

IANR PROGRAM UNITS

4-H YOUTH DEVELOPMENT
Kathleen Lodi

NEBRASKA FOREST SERVICE
Scott Josiah

ENGLER AGRIBUSINESS ENTREPRENEURSHIP PROGRAM
Tom Field

NEBRASKA LEAD PROGRAM
Terry Hejny



**ORGANIZATIONAL CHART
INSTITUTE OF AGRICULTURE AND NATURAL RESOURCES
UNIVERSITY OF NEBRASKA**

IANR ADMINISTRATIVE UNITS

DISTRICT CENTERS

EASTERN RESEARCH AND EXTENSION CENTER
Dave Varner

METRO DISTRICT
Dave Ulferts

NORTHEAST RESEARCH AND EXTENSION CENTER - Norfolk
William Kranz

PANHANDLE RESEARCH AND EXTENSION CENTER - Scottsbluff
Jack Whittier

SOUTHEAST RESEARCH AND EXTENSION CENTER - Ithaca
John Westra

WEST CENTRAL RESEARCH AND EXTENSION CENTER - North Platte
Kelly Bruns

RESEARCH SITES

SOUTH CENTRAL AGRICULTURAL LABORATORY - Clay Center
TBD, Research Farm Manager

KIMMEL EDUCATION AND RESEARCH CENTER - Nebraska City
Deb Weitzenkamp, Unit Leader

HIGH PLAINS AGRICULTURAL LABORATORY - Whitman
Jake Hansen, Farm Manager

GUDMUNDSEN SANDHILLS LABORATORY - Whitman
Andy Applegarth, Operations Manager

BARTA BROTHERS RANCH - Ainsworth
William Kranz (Interim), Manager

HASKELL AGRICULTURAL LABORATORY - Concord
Charles Shapiro, Professor in Charge

CENTERS

CENTER FOR PLANT SCIENCE INNOVATION
Edgar Cahoon

NEBRASKA REDOX BIOLOGY CENTER
Donald Becker

CENTER FOR ADVANCED LAND TECHNOLOGIES
Brian Wardlow

INDUSTRIAL AGRICULTURAL PRODUCTS CENTER
Mark Wilkins

CENTER FOR BIOLOGICAL CHEMISTRY
Paul Black

CENTER FOR BIOTECHNOLOGY
Daniel Schachtman

CENTER FOR GRASSLAND STUDIES
Steve Waller (Interim)

FOOD PROCESSING CENTER
Curt Weller (Interim)

NATIONAL DROUGHT MITIGATION CENTER
Mark Svoboda

HIGH PLAINS REGIONAL CLIMATE CENTER
Natalie Umphlett (Interim)

NEBRASKA WATER CENTER
Chittaranjan Ray

NEBRASKA CENTER FOR VIROLOGY
Charles Wood

GREAT PLAINS VETERINARY EDUCATIONAL CENTER
Dale Grotelueschen

NU WIDE INSTITUTES

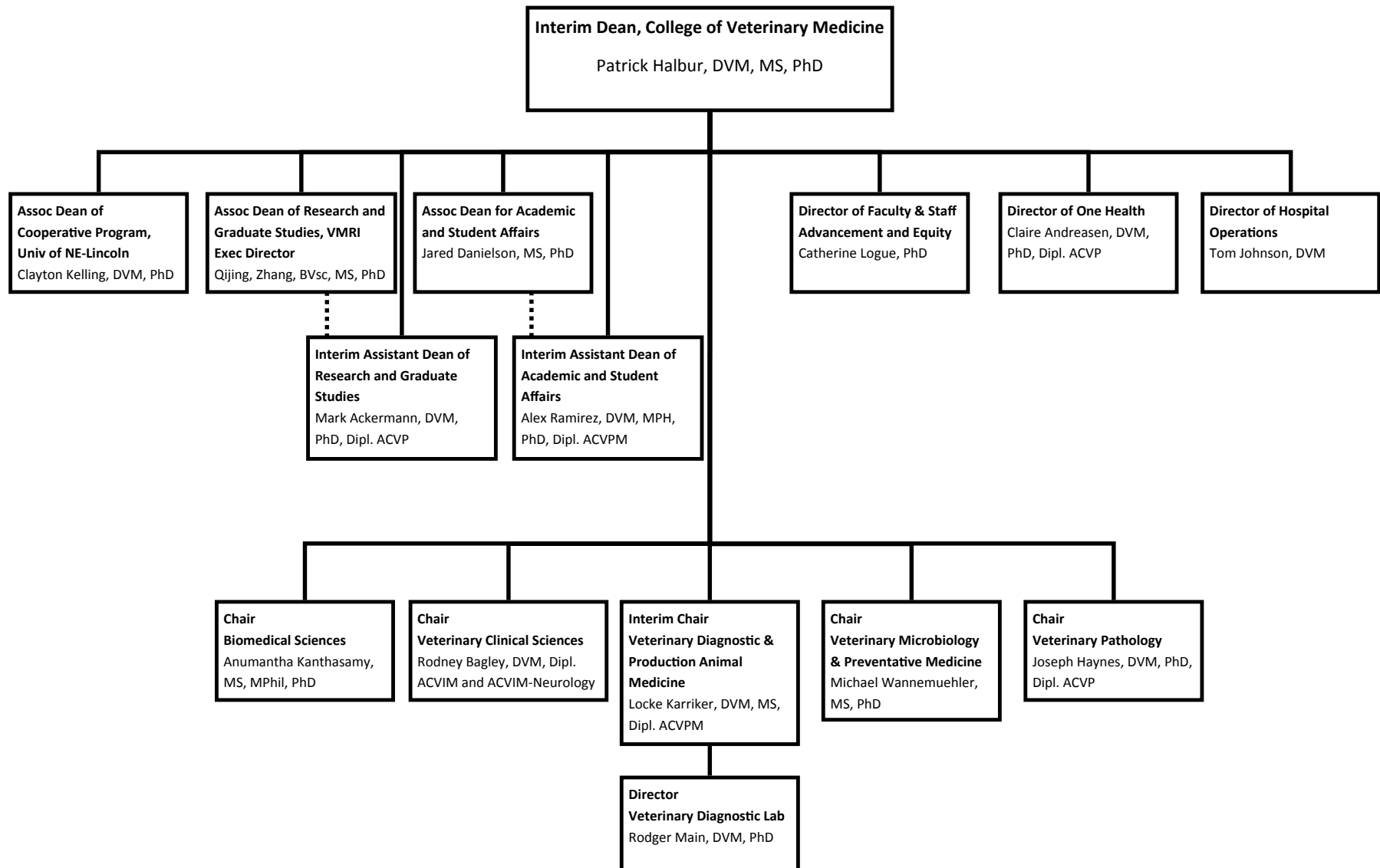
DAUGHERTY WATER FOR FOOD INSTITUTE
Peter McCornick

RURAL FUTURES INSTITUTE
Chuck Schroeder

IOWA STATE UNIVERSITY

College of Veterinary Medicine

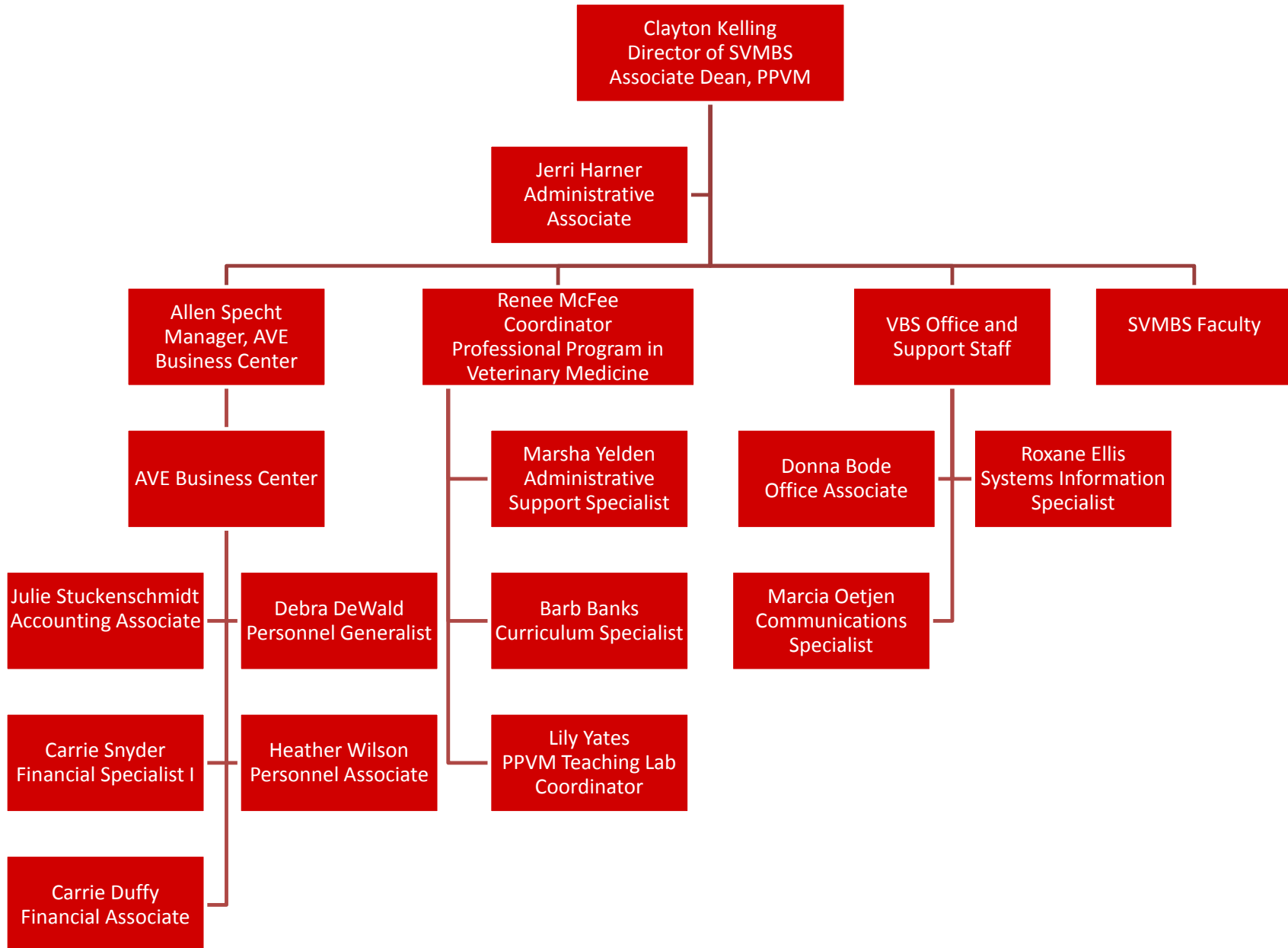
College-wide Direct Reports to the Dean 8/8/2017





SCHOOL OF VETERINARY MEDICINE AND BIOMEDICAL SCIENCES

Faculty and Staff Organizational Chart



CVM Committees

Academic Standards. *The committee functions to administer the academic standards of the college and evaluates and recommends students who apply for readmission or transfer.*

Terry Engelken, (Chair), VDPAM (2018); Claire Andreasen, VPATH (2019); Radford Davis, VMPM (2017); Karl Kraus, VCS (2020); Etsuro Uemura, BMS (2019); Jared Danielson, AD/Academics (Ex-officio); Monica Howard, OASA (Ex-officio); Mindy Schminke, OASA (Ex-officio)

Admissions. *The committee shall recommend to the dean, applicants for admission to CVM based on established admission criteria, suggest changes to the admission criteria when necessary by monitoring admission criteria of other CVMs and suggesting improvements to the assessment criteria for applicants, and evaluate the preveterinary medicine requirements of the college.*

Pat Gorden, (Chair), VDPAM (2020); Karin Allenspach, VCS (2020); Claire Andreasen, VPATH (2020); David Baum, VDPAM (2018); Larry Booth, VCS (2018); Steve Carlson, BMS (2018); Scott Curry, Practitioner (2018); Radford Davis, VMPM (2019); Grant Dewell, VDPAM (2018); Jennifer Feurbach, Practitioner (2018); Iddo Friedberg, VMPM (2020); Tom Hansen, Practitioner (2020); Derald Holtkamp, VDPAM (2020); Doug Jones, VPTH (2020); Kevin Kersh, VCS (2018); Kelly Lager, GOV/USDA-ARS (2020); Darin Madson, VDPAM (2018); Jonathan Mochel, BMS (2020); Andy Moeller, Practitioner (2018); Tim Smith, GOV/USDA-APHIS (2020); Kelly Still-Brooks, VDPAM (2018); Etsuro Uemura, BMS (2020); Courtney Vengrin, VCS/Assessment (2020); Jared Danielson, AD/Academics (Ex-officio); Monica Howard, OASA (Ex-officio); Kathy Kuehl, OASA (Ex-officio) Amanda Fales-Williams, Immediate Past Chair (Ex-officio)

Assessment. *The committee shall regularly review methods for assessing instruction, make recommendations regarding the instruments and processes to be used to assess instructors and courses, and help maintain and promote a high-quality comprehensive student outcomes assessment plan for the professional degree program.*

Karl Kraus, (Co-Chair), VCS (2020); Courtney Vengrin, VCS/Assessment (Co-Chair, Ex-officio), Gayle Brown, VMPM (2019); Stephanie Caston, VCS (2020); Michael Curtis, VCS (2018); Radford Davis, VMPM (2018); Amanda Fales-Williams, VPATH (2018); Pat Gorden, VDPAM (2019); Bonnie Hay-Kraus, VCS (2020); Joan Howard, VCS (2019); Suzanne Millman, VDPAM (2019); Eric Rowe, BMS (2019); Jen Schleining, VDPAM (2020); Dawn Sweet, VCS (2019); Thimmasettapp Thippeswamy, BMS (2020); Bianca Zaffarano, VCS (2018); Renee Dewell, VMPM/Assessment (Ex-officio)

Computer, Library & Information Management (CLIM). *The committee shall advise the dean and Cabinet on computer services, serve as a liaison between CVM and the university, and Computation Advisory Committee and CVM students regarding computer services and fees.*

Austin Viall, (Chair) VPATH (2020); Iddo Friedberg, VMPM (2018); Annette O'Connor, VDPAM (2019); Bill Robertson, BMS (2018); Jack Moeller, VMC (2019); Tamara Swor, VCS (2020); Jared Danielson, AD/Academics (Ex-officio); Randy Berghofer, VDPAM (Ex-officio); Deb Hoyt, ADMIN (Ex-officio); Steven Kovarik, ADMIN (Ex-officio); Jeff Alger, CVM Library (Ex-officio)

Curriculum. *The committee shall evaluate curriculum changes submitted by departments and maintain accuracy of course descriptions. The committee shall review the veterinary curriculum and propose needed changes to the faculty.*

Mike Yaeger, (Chair) VPATH (2020); Gayle Brown, VMPM (2020); Terry Engelken, VDPAM (2020); Brenda Mulherin, VCS (2019); Thimmasettapp Thippeswamy, BMS (2020); Jared Danielson, AD/Academics (Ex-officio); Mindy Schminke, OASA (Ex-officio); Larry Booth, Assessment (Ex-officio); Renee McFee, UNL (Ex-officio)

Diversity. *The committee will endeavor to ensure diversity in all aspects of veterinary medicine, including a better understanding by faculty, staff, and students of the diverse nature of the profession, and understanding diverse views held by those in the profession.*

Alex Ramirez, (Chair) OASA (Ex-officio); Cathy Logue, College Equity Advisor; Rachel Allbaugh, VCS (2020); Claire Andreasen, VPATH (2018); Etsuro Uemura, BMS (2019); Greg Phillips, VMPM (2020); Wilson Rumbelha, VDPAM (2019); Monica Howard, OASA (Ex-officio); Deanna Gerber, Admin/Comm (Ex-officio); Dave Gieske, Admin/Comm (Ex-officio); Brad Kerr, Admin/HR (Ex-officio); Mercedes Serracin, OASA (Ex-officio); Courtney Vengrin, Assessment (Ex-officio); Qijing Zhang, Admin/ADR&GS (Ex-officio)

Faculty, Staff & Alumni Awards. *The committee shall solicit, evaluate and rank nominations for outstanding veterinary alumni, faculty, staff, Switzer, distinguished professor and university professor awards.*

Al Jergens, (Chair) VCS (2019); Brad Blitvich, VMPM (2019); Steve Ensley, VDPAM (2019); Shannon Hostetter, VPATH (2020); Sandy Popelka, VCS/LVMC (2019); Eric Rowe, BMS (2019); Trent Wellman, Development Officer (Ex-officio); Brad Kerr, Human Resources Coordinator (Ex-officio); Tracy Raef, Communications Specialist (Ex-officio); Dave Gieseke, Communications Manager (Ex-officio); Lisa Sebring, Dean's Office (Ex-officio)

Graduate Curriculum. *The committee shall conduct periodic reviews of programs pertaining to graduate degrees.*

Cathy Miller, (Chair) VMPM (2018); Mark Ackermann, VPATH (2020); Karin Allenspach, VCS (2019); Heather Greenlee, BMS (2019); Daniel Linhares, VDPAM (2020); Qijing Zhang, AD/Research & Graduate Studies (Ex-officio), Misty Carder, (Ex-officio)

International Development. *The committee will serve to promote and facilitate development of international relationships in veterinary medicine with emphasis on veterinary medical research and veterinary medical education. The committee will review applications for foreign travel grants and make recommendations to the dean.*

Karl Kraus, (Chair), VCS (2019); Gil Ben-Shlomo, VCS (2019); Michael Cho, BMS (2019); Heather Flaherty, VPATH (2018); Suzanne Millman, VDPAM (2019); Wilson Rumbelha, VDPAM (2020); Brett Sponseller, VMPM (2020); Mercedes Serracin, OASA/ International (Ex-officio)

Promotion & Tenure. *The committee shall evaluate, review, and recommend eligible faculty for promotion and tenure who have been forwarded to the dean from their respective administrative unit.*

Jim Roth, (Chair), VMPM (2018); Karl Kraus, VCS (2019); Richard Martin, BMS (2018); Greg Stevenson, VDPAM (2018); Mike Yaeger, VPATH (2019)

Research Advisory. *The committee shall evaluate and rank research proposals submitted by faculty for USDA formula funds, Iowa Livestock Health Advisory Council and healthy livestock awards. The committee shall assist in development of programs to promote faculty preparation of research proposals for submission to university, federal, government, and industry sources. In addition, the RAC advises the associate dean for research regarding research policy and procedures.*

Arthi Kanthasamy, (Chair) BMS (2018); Paul Plummer, (Co-chair) VDPAM (2019); Matt Brewer, VPATH (2020); Nancy Cornick, VMPM (2019); Chad Johannes, VCS (2018); Michael Kimber, BMS (2018); Daniel Linhares, VDPAM (2019); Mark Lyte, VMPM (2018); Cathy Miller, VMPM (2020); Alan Robertson, BMS (2018); Jodi Smith, VPATH (2019); David Wong, VCS (2018); JQ Zhang, VDPAM (2020); Qijing Zhang, AD/Research & Graduate Studies (Ex-officio), Amy Brucker (Ex-officio)

Safety. *The committee shall identify and propose solutions to dangerous conditions within CVM units. The committee shall promote programs that provide training of personnel in work related safety topics and develop proactive programs to prevent or avoid dangerous conditions and to promote preventive safety procedures.*

Sara Jensen, (Chair) Security Officer (Ex-officio); Gil Ben-Shlomo, VCS (2019); George Budselich VDPAM (2019); Nancy Cornick, VMPM (2018); Tiffany Magstadt, VDPAM (2019); Mark Ratekin, VPATH (2018); Brian Adams, Facilities Manager (Ex-officio); Bryan Bellaire, VMPM (Ex-officio); Brian Carney, LAR (Ex-officio); Erin Kalkwarf, VDPAM (Ex-officio); Brad Kerr, Human Resources (Ex-officio); Renee Knosby, Director of Operations (Ex-officio); Tracy Raef, Communications (Ex-officio); William Robertson, BMS (Ex-officio)

Student Awards. *The committee shall consult with members of CVM to identify and select scholarship and award recipients that meet the criteria of each award.*

Darren Berger, (Chair), VCS (2020); Rachel Allbaugh, VCS (2018); Troy Brick, VDPAM (2019); Gayle Brown, VMPM (2019); Amanda Fales-Williams VPATH (2020); Jesse Goff, BMS (2018); Jen Schleining, VDPAM (2018); Etsuro Uemura, BMS (2020); Monica Howard, OASA (Ex-officio); Kathy Kuehl, OASA (Ex-officio)

Student Faculty Relations. *The committee will review and assess issues involving students and student-faculty concerns and will promote programs that will enhance interaction of faculty and students.*

Jesse Hostetter, (Chair), VPATH (2019); Troy Brick, VDPAM (2019); Swanand Sathe, VCS (2018); David Starling, BMS (2018); Ron Griffith, VMPM (2020); Monica Howard, OASA (Ex-officio); Alex Ramirez, OASA (Ex-officio),

Dean's Budget Advisory Committee. *This committee will assess ongoing issues of the College to advise the dean and cabinet in the development of policies regarding organization of the College, budget, space utilization, and strategic planning. The committee consists of one faculty member and one staff member from each department and three student representatives.*

Pat Halbur, Renee Knosby, Karol Krumm, Richard Martin, BMS; Bill Robertson, BMS; Karl Kraus, VCS; Kathi Cunningham, VCS; Eric Burrough, VDPAM; Amber Behm, VDPAM; Chris Minion, VMPM; Vern Hoyt, VMPM; Doug Jones, VPTH; Phyllis Fisher, VPTH; SCAVMA President, SCAVMA President-Elect, SCAVMA Past President

Ramsey Lecture Series. *The committee will facilitate the Ramsey college-wide seminar series to enhance the scientific community by engaging all members of the veterinary college in discussions of cutting-edge, high-level biology, medicine, and /or veterinary science. The seminar series will highlight speakers who are topic experts in areas related to the basic sciences, translational medicine, and/or One Medicine.*

Dana Levine, VCS (Chair); Bryan Bellaire, VMPM; Matt Brewer, VPTH; Paul Plummer, VDPAM; Thimmasettapp Thippeswamy, BMS; Mike Wannemuehler, VMPM; Amy Kruzich, Foundation (Ex-officio); Bev Huisman, Foundation (Ex-officio); Misty Carder, Research Office (Ex-officio); Tracy Raef, Administration/Communications (Ex-officio)

CVM Governance Council. *Understands college and department governance documents to assist in informing the departments and college of new legislation to be included in governance documents, and provides assistance to units on questions regarding governance policy.*

Ron Griffith, Chair (VMPPM); Amanda Fales-Williams (VPTH); Derald Holtkamp (VDPAM); Jim Noxon (VCS); Eric Rowe (BMS); Bill Robertson (BMS); Chris Lee (VDPAM)

CVM Faculty Senate Caucus. *The Faculty Senate represents and conducts the business of the General Faculty. The senate is charged with three functions: Legislative, Advisory and Communication.*

Departmental Representatives: Michael Kimber, CVM Caucus Chair (BMS); Claire Andreasen (VPTH); Nancy Cornick (VMPPM); Bianca Zaffarano (VCS); Jeff Zimmerman (VDPAM)

At-Large Representatives: Brett Sponseller (VCS/VMPPM); Annette O'Connor (VDPAM)

UNL Committees for PPVM

Admissions Committee *reviews the applications for Nebraska residents, following the evaluation rubric provided by ISU. Following academic and application evaluation, the entire Committee conducts applicant interviews and makes recommendations regarding admission and denial of applicants.* Jeff Ondrak (2010-Aug. 2018, reappointed Sep 2015), Christina Topliff (Sep. 2013-Aug. 2019, reappointed Sep 2016), Henri Evard (Sep. 2015-Aug. 2017), Elizabeth Farrington (Sep 2016-Aug 2018), Tom Burkey (Sep. 2010-Aug. 2017, reappointed Sep. 2014), Renee McFee (Chair), (ex-officio).

Curriculum Committee *has the Coordinator of the PPVM serving as the UNL representative on the ISU CVM Curriculum Committee to facilitate communication with ISU regarding curricular matters. Three times per year, the PPVM Coordinator organizes a meeting of all PPVM instructors to address and review concerns.* Renee McFee (Chair), Jay Reddy, Alan Doster, Tom Burkey, Rod Moxley and Roberto Cortiñas.

PPVM Academic Standards Committee *will review the Academic Standards Policies; review cases of failing academic performance as outlined in the PPVM Student Handbook; review cases of academic misconduct; review temporary medical hardship cases; and review application materials from potential transfer students to determine if previous professional coursework fulfills the requirements for admission to the PPVM.* Renee McFee (chair) (2014-indefinite); John Kammermann (2013-Sep. 2019, reappointed Sep 2016); Alan Doster (2012-Feb. 2019, reappointed Feb. 2016); Bruce Brodersen (2011-Sep. 2017, reappointed Sep. 2014).

PPVM Scholarships and Awards Committee *shall meet as required to select scholarship recipients and to select students for awards to be given at the PPVM Awards Banquet, which will be held annually during the spring semester, and consults with the Nebraska Veterinary Student Admissions Committee regarding scholarships awarded to incoming veterinary students.* Renee McFee (chair) (2014-indefinite); Bruce Brodersen (2013-Sep. 2019, reappointed Sep. 2016); Alan Doster (2012-Feb. 2019, reappointed Feb. 2016); John Kammermann (2011-Sep. 2017, reappointed Sep. 2014).

2.1 Complete Tables A and B for the past five years and analyze the trends for each category.

Table A:

TOTAL EXPENDITURES FOR IMMEDIATE PAST 5 FISCAL YEARS
Direct and Indirect Expenses

Fiscal Year	Instruction	Academic Support	Student Services	Services of Educational Activity				Un-Sponsored Student Aid	Sponsored Student Aid	Sponsored Research	Other Sponsored Activity	Ext & Public Service	TOTAL DIRECT EXPENSES
				Teaching Hospital	Diagnostic Lab	Other							
						Amount	Type						
FY16	25,772,624	4,521,751	161,099	9,951,721	21,635,967	N/A	N/A	689,900	9,000	17,059,144	N/A	4,303,005	84,104,210
FY15	23,224,677	2,389,363	159,505	8,944,600	21,728,390	N/A	N/A	591,981	9,000	16,956,371	N/A	4,140,737	78,150,624
FY14	23,875,476	3,212,870	147,201	8,171,418	19,174,967	N/A	N/A	518,591	9,000	18,379,556	N/A	4,061,512	77,550,591
FY13	25,645,062	2,657,836	139,373	7,966,392	16,932,973	776,779	Racing	382,153	6,000	19,621,008	N/A	5,070,333	79,197,909
FY12	23,010,333	2,863,176	123,553	7,284,699	15,591,313	1,140,324	Racing	382,922	3,000	18,571,908	N/A	5,057,965	74,029,193
% change	12.00%	57.93%	30.39%	36.61%	38.77%	-100.00%		80.17%	200.00%	-8.15%	N/A	-14.93%	13.61%

Table A.1 Indirect and Total Expenses

Fiscal Year	TOTAL DIRECT EXPENSES	INDIRECT EXPENSES		TOTAL INDIRECT & DIRECT EXPENSES
		Allocated Expenses ¹	Utilities	
FY16	84,104,210	9,388,415	4,228,190	97,953,791
FY15	78,150,624	9,452,360	4,438,269	91,825,174
FY14	77,550,591	9,001,994	4,039,769	90,990,854
FY13	79,197,909	8,008,544	3,777,218	91,246,222
FY12	74,029,193	7,362,563	3,627,219	85,168,974
% change	13.61%	27.5%	18.1%	15.0%

Notes. 1. Allocated Expenses are funds paid to central administration for Facilities, Business Services, IT Services, Library, Student Services and Admin Support Programs

Table B.

COLLEGE REVENUE (SOURCES OF FUNDS) FROM ALL SOURCES FOR IMMEDIATE PAST 5 FISCAL YEARS

Fiscal Year	State Appropriations	Benefits	Tuition & Fees	Endowment Income (current yr.)	Funds (Gifts) for Current Use	Sponsored Program Income/Cost Recovery	Other	SALES and SERVICES			Reserves and Transfers	TOTAL REVENUE
								Teaching Hospital	Diagnostic Lab	Other Sources from Sales & Services		
FY16	27,739,200	N/A	19,828,095	1,304,612	1,688,438	13,099,055	630,252	10,520,552	22,847,562	4,887,943	N/A	102,545,709
FY15	27,165,937	N/A	19,599,013	1,210,635	1,499,027	10,980,859	680,852	9,425,977	19,243,776	4,072,668	N/A	93,878,744
FY14	27,438,940	N/A	18,082,128	1,072,045	1,339,030	15,519,786	638,861	8,444,221	16,057,062	4,817,674	N/A	93,409,747
FY13	26,157,227	N/A	17,088,834	953,148	1,161,270	16,248,314	564,283	7,570,055	14,382,144	3,728,769	N/A	87,854,044
FY12	26,320,004	N/A	16,524,557	866,539	1,989,378	19,122,900	575,521	7,150,077	12,578,141	5,779,479	N/A	90,906,596
% change	5.4%	N/A	20.0%	50.6%	-15.1%	-31.5%	9.5%	47.1%	81.6%	-15.4%	N/A	12.8%

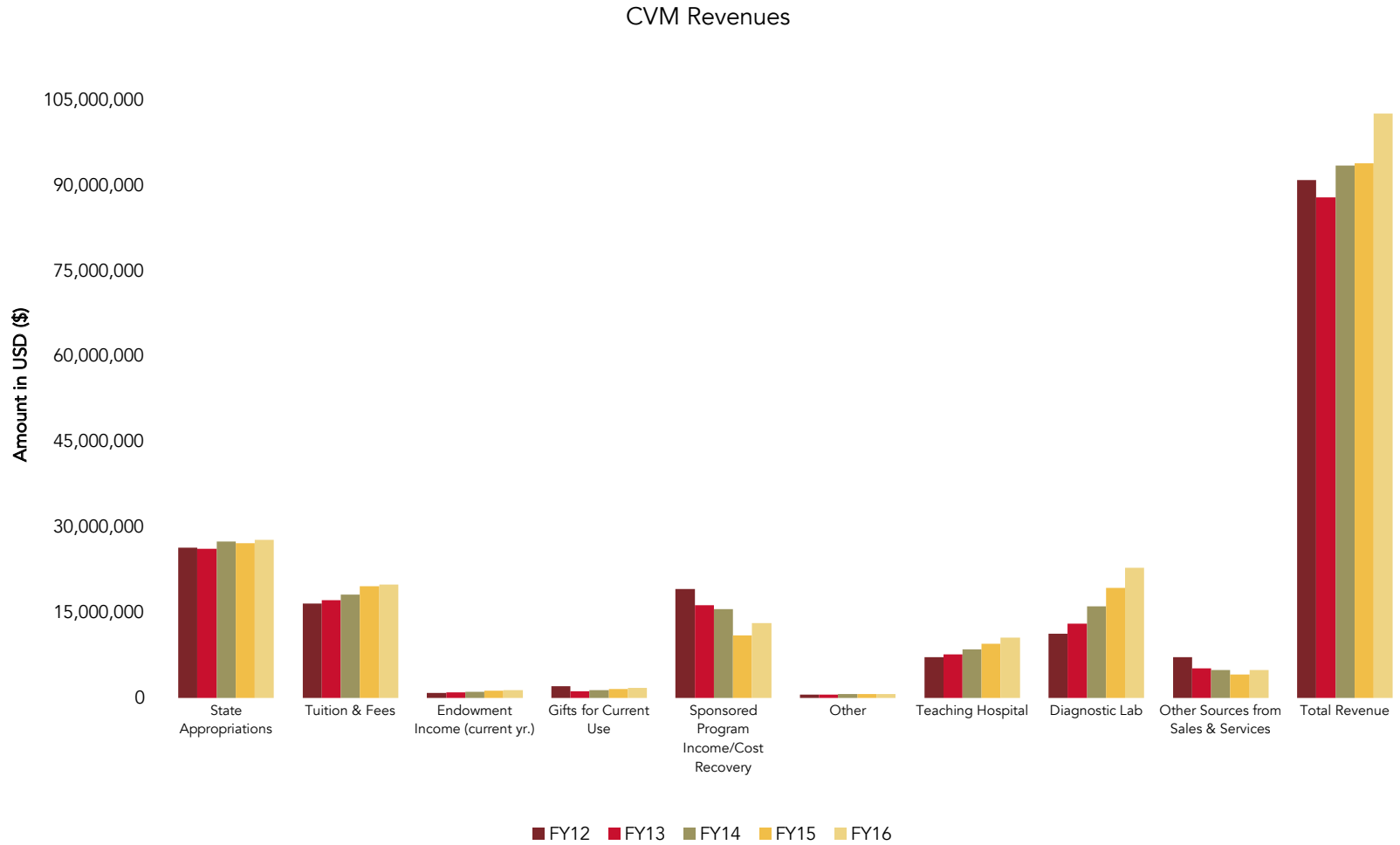
Notes. 1. State appropriations include: funding from ISU via the Iowa legislature as well as the CVM administrative fee assessed on Sales and Services and Indirect Costs. (See Table B.1 for additional detail). 2. Tuition includes all tuition (undergraduate, professional, and graduate), but not fees (e.g. technology, health, activity, and recreation fees). 3. Sponsored Program income = external sources only.

Table B.1. State Appropriations Detail

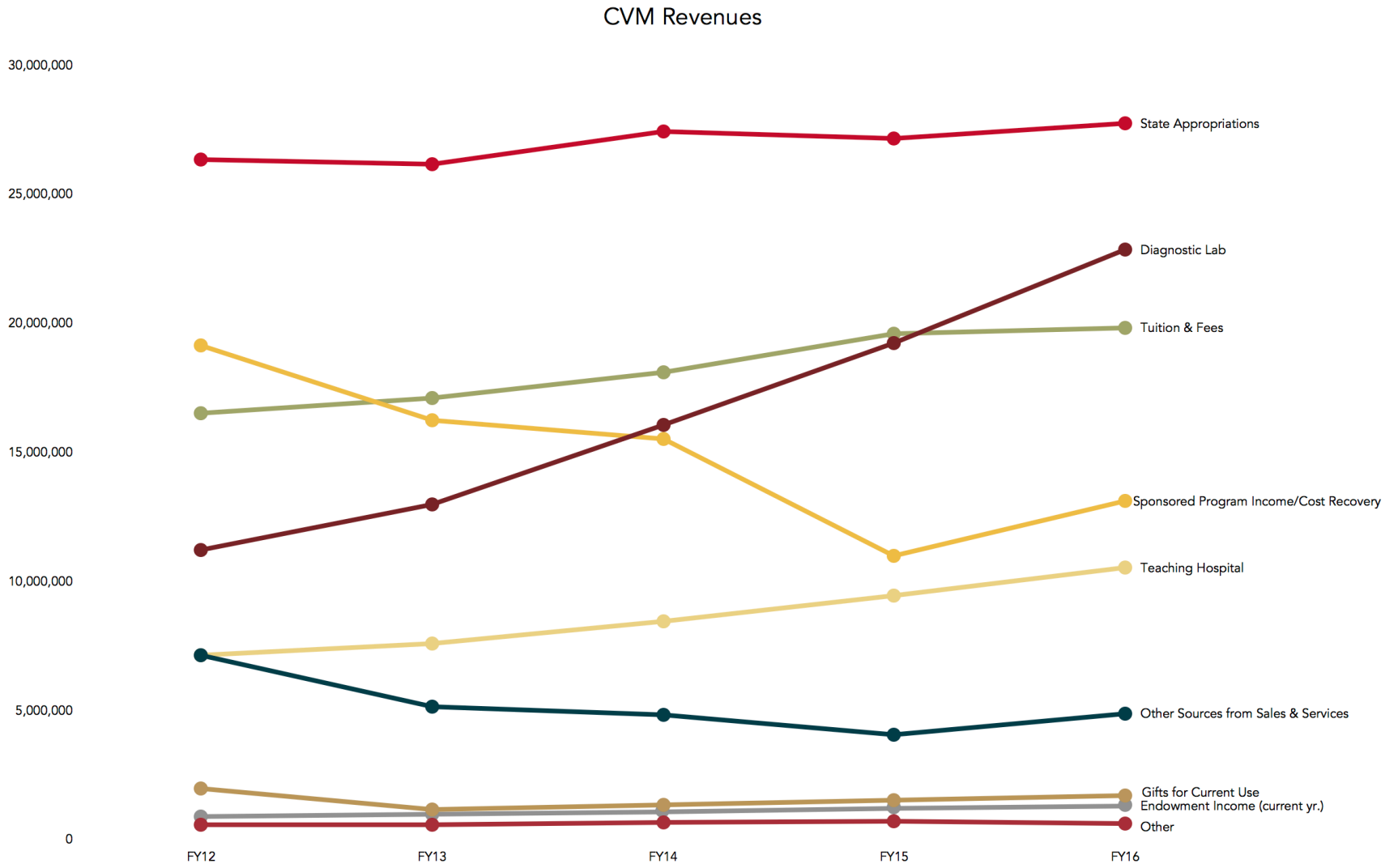
Fiscal Year	Resource Management Fund	Indirect Cost from Sponsored Grants	Administrative Fee from Sales/Services	Total State Appropriations
FY16	25,295,444	1,388,719	1,055,037	27,739,200
FY15	25,000,057	1,269,160	896,720	27,165,937
FY14	25,217,722	1,421,546	799,672	27,438,940
FY13	23,735,234	1,711,194	710,799	26,157,227
FY12	24,078,239	1,576,585	665,180	26,320,004
% change	5.1%	-11.9%	58.6%	5.4%

CVM Revenue Graphs

The following graph indicates revenue for fiscal years 2012-2016 as grouped by category.

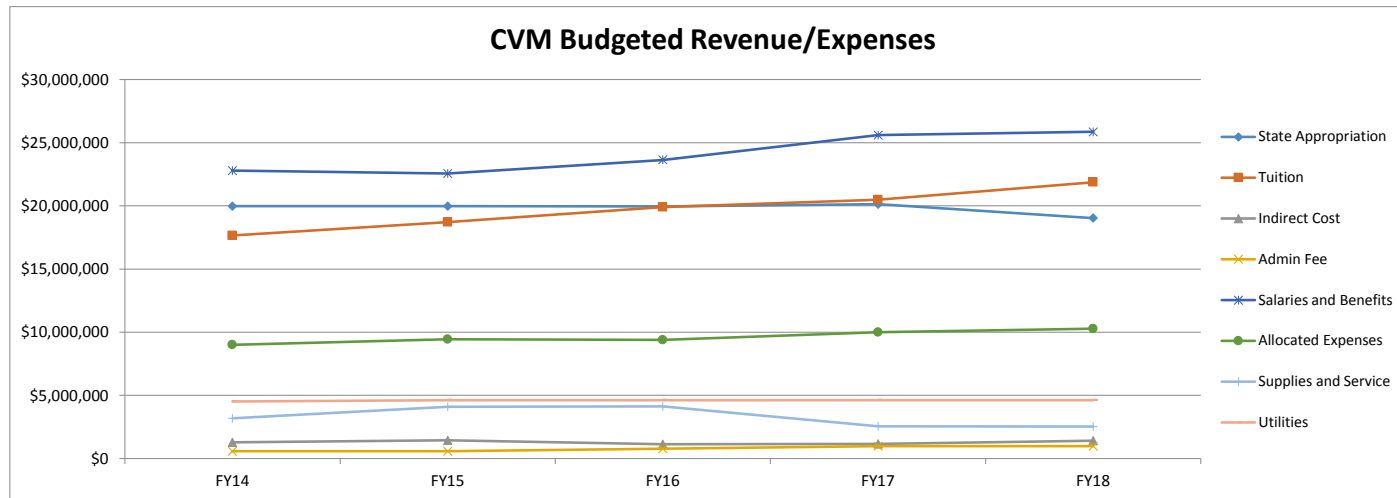
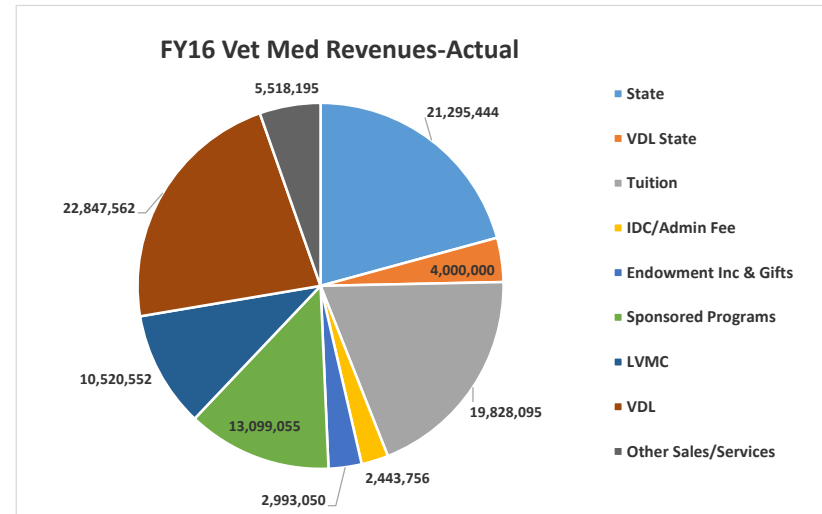


The following graph represents revenues grouped by year.



2.6 - Revenue and Projections

FY16 Vet Med Actual Revenues	
State Appropriations	\$21,295,444
VDL State Appropriations	\$4,000,000
Tuition	\$19,828,095
IDC/ Admin Fee	\$2,443,756
Endowment Inc & Gifts	\$2,993,050
Sponsored Programs	\$13,099,055
LVMC	\$10,520,552
VDL	\$22,847,562
Other Sales/ Services	\$5,518,195
Total Revenues	\$102,545,709



CVM Budgeted Rev/ Exp	FY14	FY15	FY16	FY17	FY18	Diff FY14 to FY18
State Appropriation	\$19,984,789	\$19,992,376	\$19,954,202	\$20,137,707	\$19,030,717	-\$954,072
Tuition	\$17,659,000	\$18,709,000	\$19,905,000	\$20,478,000	\$21,870,000	\$4,211,000
Indirect Cost	\$1,275,300	\$1,446,700	\$1,136,000	\$1,170,000	\$1,418,000	\$142,700
Admin Fee	\$583,000	\$583,000	\$783,000	\$983,000	\$983,000	\$400,000
Salaries and Benefits	\$22,795,541	\$22,563,820	\$23,640,990	\$25,604,117	\$25,868,767	\$3,073,226
Allocated Expenses	\$9,001,994	\$9,452,360	\$9,388,415	\$10,003,955	\$10,281,173	\$1,279,179
Supplies and Service	\$3,185,668	\$4,096,010	\$4,129,911	\$2,541,749	\$2,532,891	-\$652,777
Utilities	\$4,518,886	\$4,618,886	\$4,618,886	\$4,618,886	\$4,618,886	\$100,000

Major Facility and Equipment Updates since the last AVMA COE Site Visit ISU and UNL

2012 ISU CVM

Renovated Classrooms 2226 and adjoining locker room, 2,774 nsf. The renovated classroom provides 150 tier-seated capacity; outlets for computers and updated wireless; ADA accessibility; and new AV equipment for webcasts and studio-like recording capability.

Turning Lanes added at college's entryways to improve traffic flow and provide easier access.

Phase II Lloyd Veterinary Medical Center Small Animal Hospital, \$45.1M. Small animal clinical exam and treatment areas, clin path lab, and surgery support areas operational summer 2011 (~40,000 nsf) and additional remodeling of surgery, anesthesia, and dental suites (~35,000 nsf) completed and operational in 2012.

Bovine-Camelid Addition 2,700 nsf. This facility provides additional stalls for ruminant (8) and camelid (4) inpatients and outpatients.

Equine Performance Evaluation Facility (PEF) and Farrier Station. Metal building 85'x 225' was constructed in which horses are safely observed for lameness/gait. The farrier area provides support for lameness examinations and re-shoeing required after hospital procedures.

Access Control Initiative was implemented designating sign-in access to the front entry, teaching hospital and diagnostic laboratory with proximity card access for remaining doors. Photo-name badges are worn by all faculty, staff, students and hourly employees.

Access Control and Doorway Replacement of VMRI Building #1. Provided increased access control and enhanced security for several research and diagnostic units.

VDL Needs Assessment. Study assessed immediate, new and future space, workflows, adjacencies and technology needs of the Veterinary Diagnostic Laboratory (VDL).

Gentle Doctor Café renovation, feasibility study completed for proposed renovation.

ISU CVM Equipment: Pathology necropsy floor hoists and rails were upgraded. LVMC phase 2 renovation and expansion project directed \$2.4 M for hospital equipment. Major equipment purchases included new digital X-ray unit for fluoroscopy, rehabilitation equipment, sterilization machine, c-arm x-ray machine, thin-client computers throughout hospital, upgrades to the imaging PACS and cardiology software. LVMC purchased four additional Omnicell machines and upgraded Vetstar software.

2012 UNL

Animal Holding Facility renovation into a Clinical Teaching Laboratory was completed, and used to teach clinical skills to first- and second-year students. Facilities at GPVEC, ENREC, and Gudmundsen Sandhills Laboratory are used to enhance student learning during the first two years of the curriculum.

The GPVEC inventory control system requires the GPVEC technician to regularly monitor pharmaceuticals for handling, storage, removal, and disposal as per protocols. In FY13, the VDL Quality Assurance Manager will be conducting an audit to insure compliances. The GPVEC Director and VDL Quality Assurance Manager have oversight with unannounced inspections.

Formaldehyde. EHS routinely monitors level of formaldehyde concentration in the lab. During spring semester while dissecting ruminants, formaldehyde levels exceeded recommended standards. Down-draft tables were purchased spring semester 2013.

Veterinary Diagnostic Center. In FY12, the Nebraska Legislature authorized sale of \$50 million in bonds for construction of a new Veterinary Diagnostic Center. The University is required to raise \$5 million in private funds. The building/project plan went to the Board of Regents for consideration in January 2013. The proposed facility will address the deficiencies noted by the COE regarding samples shipped to the Diagnostic Laboratory that were received in a public reception area.

2013 ISU CVM

IT upgrades in Wilcke classrooms, completed for communication assessment and learning

VDL Needs Assessment, completed, quantified existing quality and quantity of space at VDL.

VDL-Molecular Diagnostics, 3,329 gsf. Previous surgery suite repurposed for VDL high-throughput Molecular Diagnostic Suite and records room.

VDL-Salmonella Diagnostic Testing-Histopathology Renovation, 1,450 gsf. Short-term accommodations through renovation and repurposing of space for the Bacteriology and Histopathology to address critical biosecurity and biosafety concerns.

Equine receiving, radiology, bovine surgery textured floors recoated.

Animal Biosafety Level-3 (ABSL-3) modular facility, 760 gsf. Research facility attached to existing BSL-3 laboratory to protect and secure the nation's animal agriculture industry and address new strategies to prevent and control foreign animal and zoonotic diseases.

Veterinary Pathology Histology Laboratory renovation. Project modernized the histology laboratory with new cabinetry, ventilation, counters, and gross specimen station.

Teaching Lab Renovation, Vet Med 1316. Repurposed previous small animal rehab area to provide modern teaching lab for BMS non-thesis MS program.

College Emergency Power. Provides additional power panels and circuits throughout the CVM complex that are tied to an emergency power generator.

Freezer Facility. Stand-alone facility provides secure storage of irreplaceable biological, diagnostic and clinical samples. Capacity for 40 -80 freezers and 10 vapor-phase LN2 freezers with monitoring and security systems. Includes the purchase of two LN2 freezers.

VMRI Building #5 Research Laboratory, 1,700 gsf. Renovation of current facilities to provide modern first floor laboratory and second floor office spaces.

Exterior/interior door signage placed to assist emergency responders. College supports a full-time police lieutenant, weekdays 8am-5pm. Student officers provide coverage when the lieutenant is not present.

Main entry/Dean's conference area provided increased security and check-in.

2013 UNL: There were no additions or facility renovations during FY13.

GPVEC inventory control system continues to operate and requires the GPVEC technicians to regularly (monthly) monitor all pharmaceuticals for handling, storage, removal, and disposal as per protocols. In FY13, the Veterinary Diagnostic Lab Quality Assurance Manager will be conducting an audit to insure compliance. The GPVEC Director and Veterinary Diagnostic Lab Quality Assurance Manager have oversight with unannounced inspections.

EHS has continued to routinely monitor levels of formaldehyde in the anatomy laboratory. Monitoring has determined that we are compliant with OSHA standards. EHS will continue their ongoing monitoring program.

Veterinary Diagnostic Center plans and approvals for new construction are in place and the architectural/engineering selection process is underway. Building design expected February, 2014.

2014 ISU CVM

Video technology completed in client examination rooms in the Lloyd Veterinary Medical Center (LVMC) for student-client communication evaluation.

Video technology and cameras completed in surgical suites for student learning and close-up monitoring of procedures.

New Picture Archiving and Communication Systems (PACS) installed in LVMC; fully functional in fall 2014. Implementation with the LVMC-satellite clinic in Des Moines, Iowa Veterinary Specialties (IVS) is pending review of cybersecurity to allow IVS to send radiology images directly to ISU versus rDVM.

A major lecture classroom (1226); completed update with information technology computer integration and audiovisual equipment.

Display screens donated in major areas of the college for event announcements and student information.

VM3 Surgery Teaching Laboratory renovation completed with cabinets, painting, and flooring.

Large Animal Hospital Parking Lot reconfigured to improve parking and address drainage issues.

Animal Biosafety Level-3 (ABSL-3) modular facility; certified, and functional.

Security Camera installation in progress, monitored security cameras at entrances and loading dock.

Student Space; feasibility study completed for proposed Commons-Café renovation project.

ISU CVM Equipment: cameras in surgery suites to record and view surgical procedures, large animal tilt table, ambulatory vet box, digital radiographs for equine ambulatory.

2014 UNL

EHS continued to routinely monitor levels of anatomy laboratory formaldehyde compliant with OSHA. Plans and approvals for the construction of a new Veterinary Diagnostic Center are in place, architectural/engineering was initiated, and building design began in early 2014. 60% of the design process was completed by August 2014 with construction to start in 2015.

2015 ISU CVM

Clinical skills assessment laboratory is operational and available, 1452 gsf. Acquisition of 13 simulators and information technology updates, including: 4 computer stations for demonstration videos, anesthesia equipment simulations, recorded self-viewing of procedures via webcams and GoPros®; large screen demonstrations or e-learning, mobile camera boom, and lecture capture. A coordinator was hired in 2015. CVM was appropriated legislative funds to update surgical facilities and provide housing for students at the Blank Park Zoo; construction 2015-2016.

PACS system implementation in the LVMC; LVMC-affiliate clinic in Des Moines, Iowa Veterinary Specialties (IVS) can share and view images.

Veterinary Pathology Teaching Laboratory 2780 Room orientation changed for optimal viewing of media screens; increased capacity from 64 to 72 students; added hanging wall cabinets, wall racks for backpacks; improved lighting; new microscope camera with high-definition projectors. Students can capture images on their laptops and write notes on the image.

Alumni Room New flooring and furniture placed to enhance student functions including: student interviews, departmental seminar presentations, club meetings, alumni functions, and special events.

Student Study/Lobby had new fish tank placed, funded through college, donors and SCAVMA.

College IT/Website update/rebuild for navigation, design, functionality to implement in early 2016.

Initiative due to extensive cybersecurity implementation at the University and College.

Research Laboratories continue to be updated and remodeled to meet the needs of new faculty.

New entryway road/drive signs installed for increased visualization and wayfinding into the complex.

Sidewalk installed to connect student parking lot to the main building; prevents walking in the road.

2015 UNL

Anatomy laboratory - EHS has continued to annually monitor levels of formaldehyde.

Veterinary Diagnostic Center - The groundbreaking for the new Veterinary Diagnostic Center occurred in April 2015 and the scheduled completion date is December 2016.

2016 ISU CVM

Media/AV upgrades-Significant media upgrades installed in rooms throughout Vet Med including classrooms 2025, 2226, 2532, Wilcke Suites, Lloyd 1521, and the Alumni Room.

Blank Park Zoo - \$1M state appropriation allocated through CVM for renovation of facilities to include student living quarters (kitchenette, bunk rooms, restrooms including shower facilities); student rounds room; an operating room; a post-operative and hospitalization care unit; and an observation area.

Veterinary Anatomy Teaching Lab 1010 - Existing base cabinets and counter tops were upgraded and audio/visual and video capture equipment was installed.

Jr. Surgery Prep Area 1365 – Improvements included new flooring, ceiling and LED lights, stainless steel cabinet, and media upgrades. The waste gas system for anesthesia was balanced. New anesthesia equipment and sterilizer were purchased. Additional sinks added during winter break.

Additional access control – Access control was added for loading dock interior doors and an improved check-in system, Envoy, was implemented during summer 2016.

New entryway signs installed to provide increased visualization and improved wayfinding.

Shelving installed to accommodate student backpacks, lockers removed and replaced with shelves in VMPM hallway and Jr. Surgery area.

Veterinary Pathology Necropsy Lab 1677 - Renovation project addressed hot water issues. Also floor resurfaced, walls painted, stainless steel cabinets installed, motion activated sinks added and four new hydraulic necropsy tables purchased.

Temporary modular office and conference/student teaching facility 3,600 gsf, located adjacent to the ISU VDL Submissions Entrance. Facility adds 12 offices to house diagnostic pathologists and one dual-use diagnostic pathology conference room and VDL student teaching room. Vacated space in Vet Med facilities will be re-purposed for grad students, staff, and lab support for diagnostic testing.

Vet Med 1485 – Renovation of an existing room to create a high-tech, collaborative learning space.

Audio, video conferencing and capture, and video connectivity will all be upgraded or added. Improved furniture configuration will increase capacity from 18 to 30, and provide the versatility needed to accommodate additional student activities.

Commons-Café Renovation Project initiated in 2015 to provide functional and comfortable student study areas, space for group meetings, student activities and special events. This project will expand seating and preparatory areas for food service. Anticipated completion fall 2018.

Veterinary Diagnostic Laboratory Capital Project, main priority for Iowa State Capital Projects and legislative request for FY18. Vacated space will provide additional teaching and research laboratories.

2016 UNL

Anatomy laboratory - EHS has continued to annually monitor levels of formaldehyde compliant with OSHA standards.

Veterinary Diagnostic Center - The groundbreaking for the new Veterinary Diagnostic Center occurred in April 2015 and the scheduled completion date is December 2016.

UNL: Construction for the new Veterinary Diagnostic Center continued in FY15. The current completion date is scheduled for May 1, 2017 with a planned move-in date of June 1, 2017. EHS has continued to annually monitor levels of formaldehyde in the anatomy laboratory compliant with OSHA standards.



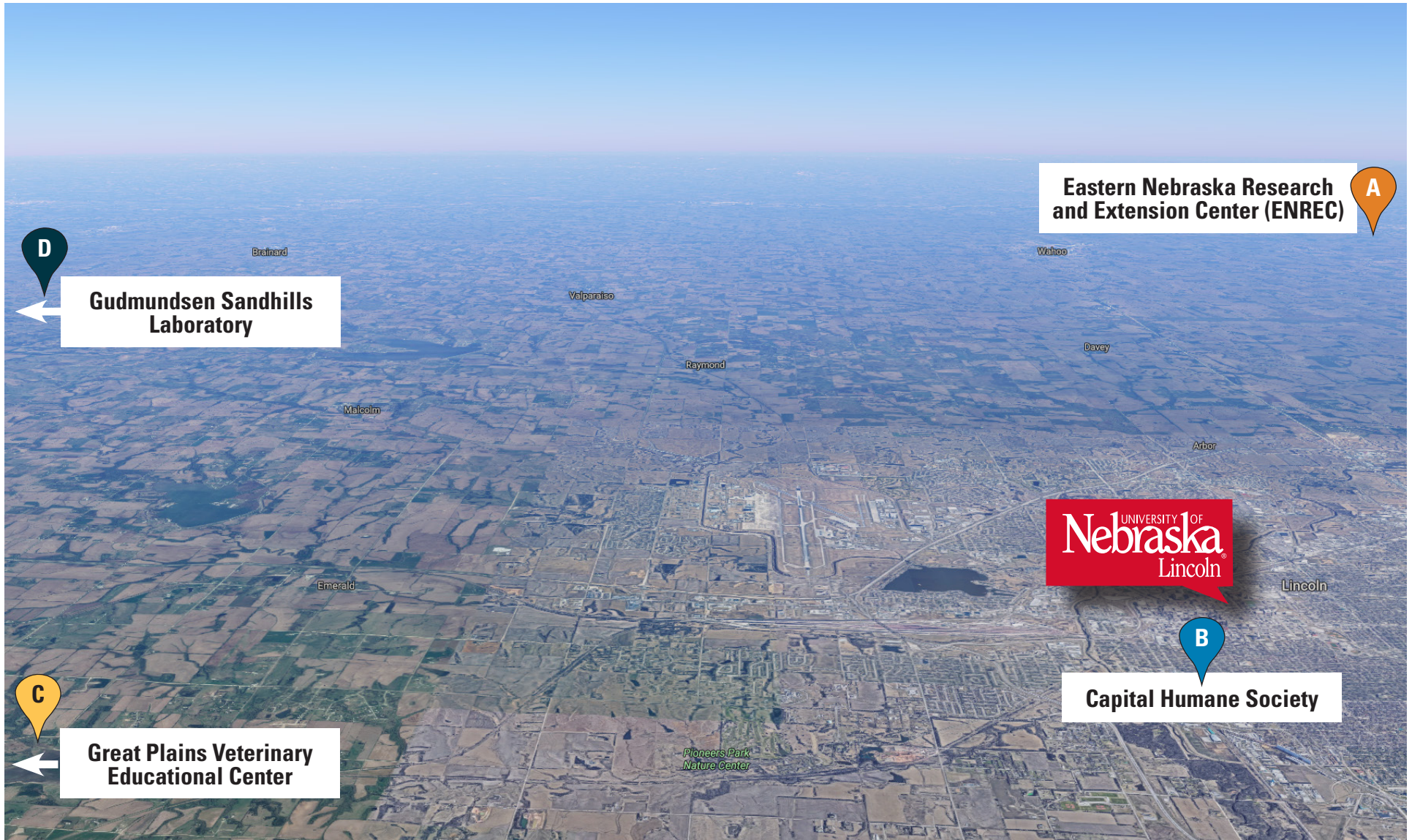
Veterinary Medicine Teaching Facilities

- | | | | |
|--|--|---|---|
| <p>A Dairy Science Farm
52470 260th St., Ames, IA
8 minutes, 3.3 miles</p> | <p>C Beef Nutrition Farm
3405 N. Dakota Ave., Ames, IA
13 minutes, 6.9 miles</p> | <p>E Swine Nutrition and Management Farm
1127 XL Ave., Ames, IA
14 minutes, 9.1 miles</p> | <p>G Sheep Teaching Farm
3640 S. State Ave, Ames, IA
6 minutes, 3 miles</p> |
| <p>B Beef Teaching Farm
3725 S. State Ave., Ames, IA
6 minutes, 3 miles</p> | <p>D Lauren Christian Swine Research Center (Swine Breeding Farm)
1851 310th St., Madrid, IA
23 minutes, 18.5 miles</p> | <p>F Allen E. Christian Swine Teaching Farm
3726 S. State Ave., Ames, IA
14 minutes, 5.3 miles</p> | <p>H ARS Farm & Bovine Embryo Transfer
27738 U.S. HWY 69, Ames, IA
10 minutes, 5.1 miles</p> |

IOWA STATE UNIVERSITY
College of Veterinary Medicine

Area map that indicates the principal facilities of the college and the distance and travel time to off-campus facilities.





Institute of Agriculture and Natural Resources Facilities



Eastern Nebraska Research and Extension Center (ENREC)
1071 County Road G, Ithaca, NE
(near Mead, NE)
41 minutes
30.6 miles from UNL



Capital Humane Society
2320 Park Blvd., Lincoln, NE
16 minutes
5.5 miles from UNL



Great Plains Veterinary Educational Center
NE-18D Spur, Clay Center, NE
1 hour 35 minutes, 97.9 miles from UNL



Gudmundsen Sandhills Laboratory
45089 Gudmundsen Rd, Whitman, NE
5 hours, 19 minutes
303 miles from UNL

Off-Campus Facilities - ISU and UNL

Courses Available (Not Required)	Distance from CVM	Student Information				Percentage of Student Participation
Facility		Required for Core	Required for Track	Student Numbers		
ISU Facilities				ISU VM4	ISU VM1-3	VM4 = 150 students
Dairy Science Farm	3.3 miles (8 minutes)	No	Yes	77	105	Track Required ~51% of VM4s
Beef Teaching Farm	3 miles (6 minutes)	No	No	33	22	~22% of VM4s
Beef Nutrition Farm	6.9 miles (13 minutes)	No	No	67	0	~46% of VM4s
Lauren Christian Swine Research Center (Swine Breeding Farm)	18.5 miles (23 minutes)	No	No	13	0	~9% of VM4s
Swine Nutrition and Management Farm	9.1 miles (14 minutes)	No	No	13	0	~9% of VM4s
Allen E. Christian Swine Teaching Farm	5.3 miles (14 minutes)	No	No	13	0	~9% of VM4s
Sheep Teaching Farm	3 miles (6 minutes)	No	No	33	22	~22% of VM4s
ARS Farm & Bovine Embryo Transfer	5.1 miles (10 minutes)	No	No	32	0	~21% of VM4s
Off-Campus						
Iowa Veterinary Specialties (IVS), Des Moines, IA	41.1 miles (42 minutes)	No	No	~40	TBD	~28% of VM4s
Blank Park Zoo, Des Moines, IA	39.5 miles (47 minutes)	No	No	20	0	~13% of VM4s
UNL: Great Plains Veterinary Educational Center (GPVEC), Clay Center, NE	97.9 miles from UNL (1 hour 35 minutes)	No	No	31	0	~21% of VM4s
Eastern Nebraska Research and Extension Center (ENREC), near Mead, NE	30.6 miles from UNL (41 minutes)	Yes*	N/A	54*	0	100% of UNL students in each of 2 years.
Gudmundsen Sandhills Laboratory (GSL), Whitman, NE	303 miles from UNL (5 hours, 19 minutes)	No	N/A	5*	0	~3% of VM4s ~20% of UNL students
Shelter Medicine Facilities						
Wayside Waif's Inc., Kansas City, MO	242.0 miles (3 hours, 39 minutes)	No	No	21	0	~14% of VM4s
Animal Rescue League, Des Moines, IA	40.7 miles (51 minutes)	No	No	21	0	~14% of VM4s

Off-Campus Facilities - ISU and UNL

Nebraska Humane Society, Omaha, NE	177.9 miles (2 hours, 43 minutes)	No	No	12	0	~8% of VM4s
Capital Humane Society, Lincoln, NE	5.5 miles from UNL (16 minutes)	Yes*	N/A	28*	0	100% of UNL students in one of 2 years.

*UNL VM1 & 2

Table D
Off-Campus Facilities – ISU and UNL

HOSPITAL	Learning rotation (duration)	Surgical and medical facilities	Necropsy	Imaging	Diag. support services	Isolation	Intensive or critical care	Reference materials	Medical records
Great Plains Veterinary Educational Center (GPVEC) at the USMARC, Clay Center, NE	Menu of 12, 1-week rotations	Surgeries conducted in the field and in surgical suite	Fully equipped necropsy lab on site	NA	On site bacteriology and parasitology lab. Also utilize UNL VDL and ISU VDL.	Yes, for incoming cattle, and for sick cattle	NA	Yes, on site and electronic access to ISU CVM	Yes, extensive production and medical records through the USMARC and GPVEC
Iowa Veterinary Specialties (IVS), Des Moines, IA	2 weeks	yes	yes submit samples diagnostics	yes	Table top & send out	yes	yes	yes	yes
Blank Park Zoo, Des Moines, IA	4 weeks	yes	yes; submit samples diagnostics	yes	Table top; submit to ISU	Yes-quarantine & hospital facility)	limited	yes	yes
Wayside Waifs, Kansas City, MO	2 weeks each	yes	shared area	yes	yes & send out	yes	limited	yes	yes
Animal Rescue League, Des Moines, IA	2 weeks each	yes	shared area	yes	yes & send out	yes	limited	yes	yes
Nebraska Humane Society, Omaha, NE	2 weeks each	yes	shared area	yes	yes & send out	yes	limited	yes	yes
*Eastern Nebraska Research and Extension Center (ENREC), near Mead, NE	5 days per year	Field surgery	no	no	UNL VDC	no	no	no	no
Gudmundsen Sandhills Laboratory, Whitman, NE	1 week	Field surgery	no	no	UNL VDC	no	no	no	no
*Capital Humane Society, Lincoln, NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

* These locations are not used for clinical rotations. UNL students visit these locations during field trips for a core class.

Table E
Off-Campus Facilities – ISU and UNL

Off-campus site: Number & educational experience	Duration of rotation	Number of students per year	Faculty mentor approved (check)		Off-site evaluator	Written educational objectives(s) (check)		Educational outcomes assessed & student evaluation reviewed (check)	
			Yes	No		Yes	No	Yes	No
Great Plains Veterinary Educational Center (GPVEC) at the USMARC, Clay Center, NE	1 week	31	X		N/A. Evaluator is CVM Faculty	X		X	
Iowa Veterinary Specialties (IVS), Des Moines, IA	2 weeks	40	X		N/A. Evaluator is CVM Faculty	X		X	
Blank Park Zoo, Des Moines, IA	4 weeks	20	X		N/A. Evaluator is CVM Faculty	X		X	
Wayside Waifs, Kansas City, MO	2 weeks	21	X		Staff Veterinarian	X		X	
Animal Rescue League, Des Moines, IA	2 weeks	21	X		Staff Veterinarian	X		X	
Nebraska Humane Society, Omaha, NE	2 weeks	12	X		Staff Veterinarian	X		X	
*Eastern Nebraska Research and Extension Center (ENREC), near Mead, NE	N/A	49-54	N/A		N/A. Evaluator is CVM Faculty (UNL)	X		X	
* Gudmundsen Sandhills Laboratory, Whitman, NE	1 week	2-8	N/A		N/A. Evaluator is CVM Faculty (UNL)	X		X	
*Capital Humane Society, Lincoln, NE	N/A	23-28	N/A		N/A. Evaluator is CVM Faculty (UNL)	X		X	

* These sites are not used for clinical rotations. UNL students visit these locations during field trips for a core class (ENREC and CHS) or a 1-week elective (Gudmundsen Sandhills). All activities are overseen by CVM faculty (UNL).

6.1. Complete Tables A, B, C, and D, and analyze trends.**A. Veterinary Medical Program (# at ISU (# at UNL))**

Class	2016-2017 Year	2015-2016 Year	2014-2015 Year	2013-2014 Year	2012-2013 Year
First-year	120 (26)	123 (26)	123 (27)	124 (26)	123 (26)
Second-year	123 (27)	120 (28)	124 (25)	116 (26)	123 (25)
Third-year	147	144	143	146	147
Fourth-year	142	143	147	147	142
# Graduated	142	143	147	147	141

Analysis: Our enrollment remains steady with student class numbers changing due to life events that may result in joining another class or attrition. Beginning in Fall of 2017, we will admit 130 students at ISU, an increase of seven to the overall incoming class.

B. Interns, Residents, and Graduate Students (enter each person in only one category) per year for last five years

Department	Interns	# Residents	# Resident-MS	# Resident-PhD	MS	PhD
Total 2016	8	22.5	7	13	113	83
BMS 2016	0	0	0	0	83	29
VCS 2016	8*	18*	2	0	1	0
VDPAM 2016	0	3.5	3	0	16	3
VPATH 2016	0	1	1	11	3	11
VMPPM 2016	0	0	1	2	10	40
Total 2015	8	19	4	8	61	79
BMS 2015	0	0	0	0	33	38
VCS 2015	8	16.5	1	0	3	0
VDPAM 2015	0	2.5	2	0	12	2
VPATH 2015	0	0	1	7	1	4
VMPPM 2015	0	0	0	1	12	35
Total 2014	8	17.5	6	9	63	82
BMS 2014	0	0	0	0	35	40
VCS 2014	8	14	3	0	2	0
VDPAM 2014	0	3.5	1	0	10	2
VPATH 2014	0	0	1	8	0	4
VMPPM 2014	0	0	1	1	16	36
Total 2013	8	22	3	7	56	68
BMS 2013	0	0	0	0	24	31
VCS 2013	8	16	0	0	2	0
VDPAM 2013	0	5	1	0	8	1
VPATH 2013	0	0	1	7	2	3
VMPPM 2013	0	1	1	0	20	33

Total 2012	6	19	3	6	41	70
BMS 2012	0	0	0	0	1	25
VCS 2012	6	16	1	0	0	0
VDPAM 2012	0	2	0	0	8	1
VPATH 2012	0	1	2	5	2	2
VMPM 2012	0	0	0	1	30	42

Note. In addition, certificates sought - VDPAM: 2012=4; 2013=6; 2014=2; 2015=1; 2016=2.

*In 2016, interns and residents changed classifications from faculty under the department to d-base employees under the hospital. Numbers above reflect a combined total of all interns, residents, and graduate students within VCS/LVMC regardless of classification.

Analysis: Graduate student numbers have increased in the college, and included are interdepartmental graduate students with home departments in the CVM. BMS numbers have grown due to the growth in the BMS non-thesis Master's program.

C. DVM Students per year for last five years

Academic Year	DVM		
	Total	*Min	% Min
2016	585**	43(5)	7.35 (8.2)
2015	530	31 (4)	5.85 (6.6)
2014	537	29 (4)	5.4 (6.15)
2013	534	28 (2)	5.24 (5.62)
2012	535	22 (3)	4.11 (4.67)

Note. In () includes foreign nationals.

* Min = students from historically underrepresented racial and ethnic groups to include: African-American/Black, Asian, Alaskan Native, American Indian, Hispanic, Native Hawaiian, and Pacific Islander, Multi-ethnic/racial. Foreign nationals should *not* be included in the minority category.

** Beginning in 2016, DVM students located at Nebraska are included in this table in order to be consistent with the comparative data report.

Analysis: Since 2012, the number of underrepresented students has nearly doubled. Since we are ranked #2 in underrepresented faculty in the comparative data report, we are hopeful that these faculty can assist us in further increasing the diversity of our incoming classes. ISU has recently hired a VP for Diversity and Inclusion and he will be assisting us with a strategic plan to address diversity in the classroom and recruitment. A committee has also been established to address diversity recruitment, retention, and inclusion in CVM.

D. Other educational programs

Complete the following table describing enrollment for each of the last five years:

Year	ACTIVITIES			
	Additional Clinical Year Students* <i>Number enrolled</i>	Veterinary Technician Program <i>Number enrolled</i>	Undergraduate Programs <i>Number enrolled</i>	Other <i>Number enrolled**</i>
2016	13	N/A	N/A	46
2015	13	N/A	N/A	43
2014	13	N/A	N/A	43
2013	11	N/A	N/A	45
2012	7	N/A	N/A	28

* represents students or students admitted for only the clinical year from other accredited and non-accredited schools

Analysis: We have a small number of offshore students from Ross, St. George's, and St. Matthew's. Faculty teach in undergraduate courses, but the college offers no undergraduate degree. The "Other" category includes students that come from other veterinary colleges for our rotations, including participants in Swine Medical Education Center (SMEC) courses, either for or not for credit.

Iowa State University College of Veterinary Medicine
DVM Professional Student Syllabus Content
 ISUCVM Curriculum Committee
 Nov 2012 (updated January 2015)

1. Basic Information

- a. Course name and number
- b. Number of credit hours
- c. Time and location

2. Instructors

- a. Name of the instructor- in-charge other instructors, course coordinators, teaching assistants, and other facilitators
- b. Contact information for instructors and other teaching personnel
- c. Office hours, locations, email address, phone number of those instructors

3. Prerequisites

Help students to realistically assess their readiness for the course by listing knowledge, skills, and experience expected of the incoming student.

4. Goals and Objectives

- a. Overview of the course's purpose
- b. Subject matter and how the course fits into the curriculum
- c. General Learning Goals/Competencies. (These statements should describe, in a broad sense, what the students will be able to do as a result of participating in the course.)
- d. Conceptual structure used to organize the course. Why topics are arranged in a given order and the logic of the themes and concepts as they relate to the course structure.
- e. Specific Objectives (2 to 10 statements per goal describing in detail what students will be able to do when the course concludes.)

5. Course teaching philosophy/ learning activities

Describe the format or activities of the course including general course teaching philosophy and how the course will be taught specifically (e.g. lecture, case discussion, blended, clinic experience, field work, research projects, etc.)

6. Textbooks

- a. Required and/or Recommended Texts/Readings
- b. Additional equipment or materials needed and sources (e.g., glossary of terms and jargon, etc.)

7. Available Resources

- a. Instructor recommendations on how to study or take notes
- b. Instructor lead review sessions (frequency, format, times)
- c. Information about resources such as tutoring, study skills help, or relevant laboratories
- d. More in-depth readings, advanced topics, or remedial refreshers
- e. Use or non-use of prior examinations or sample questions

8. Tests and Grading

- a. Grading and nature of tests and/or other assignments
- b. Examination Dates (This is particularly important to students.)
- c. Quizzes
- d. Makeup policy
- e. Policy on late work
- f. Policy on Attendance
- g. Grading system:
 - i. Components of the final grade
 - ii. Weights assigned to each component
 - iii. Grading scale and criteria
 - iv. Individual(s) responsible for grading

- v. Special policies such as extra credit, optional activities, dropping grades, etc.
- h. Any other requirements such as group assignments, individual consultation with instructor, etc.

9. Course Calendar

Date:	Topic:	Learning Activity/ Reading/Test or Quiz Due:

10. Classroom Behavior, Including Computer and IT Classroom use

The professional behavior conduct in the CVM Honor Code and ISU Policy on student classroom disruption apply <http://www.dso.iastate.edu/sa/issuesconcerns/disruption>

Students are not permitted to have on their person or bring unauthorized written materials or electronic devices of any type into the examination room during written or practical examinations without permission of the instructor. Laptop computers are allowed only in examinations that are given electronically using the appropriate assigned student electronic device. If a student is observed to have an unauthorized electronic device during an examination or any unauthorized materials, the student will be quietly asked or given a written statement to stop their examination and be escorted from the room. At that point, the examination will be retained by the instructor or proctor. The event will trigger a thorough investigation of a possible academic dishonesty violation.

11. Academic Dishonesty and the Honor Code

Student conduct follows Iowa State University's policy on academic dishonesty. The instructor/instructor-in-charge observing academic dishonesty reports the student suspected of academic dishonesty to the CVM Office of Academic and Student Affairs Director of Student Programs and/or Associate Dean for Academic and Student Affairs who reports the alleged violation to the Dean of Students Office. The violation also is submitted to the ISU CVM Honor Board. Additional campus- wide policies regarding academic misconduct are found at: <http://www.dso.iastate.edu/ja/academic/misconduct.html>.

12. Disability Accommodation

Iowa State University is committed to assuring that all educational activities are free from discrimination and harassment based on disability status. All students requesting accommodations are required to meet with staff in Student Disability Resources (SDR) to establish eligibility. A Student Academic Accommodation Request (SAAR) form will be provided to eligible students. The provision of reasonable accommodations in this course will be arranged after timely delivery of the SAAR form to the instructor. Students are encouraged to deliver completed SAAR forms as early in the semester as possible. SDR, a unit in the Dean of Students Office, is located in room 1076, Student Services Building or online at www.dso.iastate.edu/dr/. Contact SDR by e-mail at disabilityresources@iastate.edu or by phone at 515-294-7220 for additional information.

13. Harassment and Discrimination

Iowa State University strives to maintain our campus as a place of work and study for faculty, staff, and students that is free of all forms of prohibited discrimination and harassment. For more information, or if you believe you are a victim of discrimination or harassment, please visit the following URL for additional guidance: <http://policy.iastate.edu/policy/discrimination/>.

14. Religious, Civic, and Military Accommodations

There may be times when an academic requirement conflicts with religious observances and practices, or required civic or military duty. If that happens, students may request reasonable accommodation of their religious practices <http://www.eoc.iastate.edu/discrimination/religious>
Civic <http://www.dso.iastate.edu/sa/juryduty>
Military <http://www.veterans.iastate.edu/active-duty#leave>

15. Unforeseen Circumstances and Adaptation of the Syllabus

Note: Information in the syllabus is subject to change. Changes will be announced in class and posted on the course site on Blackboard Learn or the appropriate Learning Management System.

IOWA STATE UNIVERSITY
COLLEGE OF VETERINARY MEDICINE
Class of 2021 Orientation Schedule
Wednesday, August 16, 2017

TIME	ACTIVITY	PRESENTER	LOCATION
8:00-8:30 am	Registration (light breakfast) Pick up Locker Assignments and Parking Passes		Fish Tank Lobby
8:30-8:40 am	Housekeeping matters		Room 2226
8:40-8:55 am	College Welcome to the ISU CVM Class of 2021	Dr. Jared Danielson – Associate Dean Academic and Student Affairs	Room 2226
9:00-9:30 am	Student Support Services and Freshman Seminar Series	Dr. Monica Howard	Room 2226
9:30-10:10 am	Curriculum Registration and Class Scheduling	Dr. Alex Ramirez Interim Assistant Dean Assoc. Professor VDPAM Mindy Schminke Record Analyst	Room 2226
10:10-10:25 am	Building Security & Incident Reporting	Lt. Sara Jensen ISU Police Department	Room 2226
10:25-10:40 am	BMS Department Lab. Assignments (see folder for section) Lab Section I		Room 1010
	Lab Section II – Lab Safety		Room 2025
10:40-10:55 am	Lab Section I - Lab Safety		Room 2025
	Lab Section II		Room 1010
10:55-11:20 am	Summary of AVMA VLE Conference Introduction to the Iowa State Chapter of SAVMA - Team Building Activities	Holly Salzbrenner SAVMA President Sarah Marnin SAVMA Representative	Room 2226
11:20-12:40 pm	Lunch with Team Facilitators		Pick up lunch in Fish Tank Lobby
11:45-12:45 pm	Photos as Assigned		Wilcke Suites hallway
12:50-2:50 pm	Rotational Activities (see reverse page for details)	Team Facilitators	
2:50-4:30 pm	Lap top Distribution and Training	IT	Room 2226
5:00 pm	Optional Evening Social Dinner on the Town	SAVMA- TBD	

COLLEGE OF VETERINARY MEDICINE
Class of 2021 Orientation Schedule
Wednesday, August 16, 2017

Library – CVM Library

Iowa State Chapter of SAVMA Bookstore Textbook Distribution – SAVMA bookstore, Room 2246 & 2249

Student Organization Information Tables – Room 2780

Army Vet Corps- Room 2780

	Team 1	Team 2	Team 3	Team 4	Team 5	Team 6	Team 7	Team 8	Team 9	Team 10	Team 11	Team 12	Team 13	Team 14	Team 15
12:50-1:00	Library Rm 2280	Books	Student Orgs Rm 2780	Books	Student Orgs Rm 2780	Student Orgs Rm 2780	Library Rm 2280	Small Group Activities with Team Facilitators Location TBA							
1:00-1:10	Student Orgs Rm 2780						Books								
1:10-1:20			Library Rm 2280		Library Rm 2280										
1:20-1:30	Books	Student Orgs Rm 2780	Books	Library Rm 2280	Books										
1:30-1:40				Student Orgs Rm 2780		Student Orgs Rm 2780									
1:40-1:50		Library Rm 2280				Library Rm 2280									
1:50-2:00	Small Group Activities with Team Facilitators							Library Rm 2280	Books	Student Orgs Rm 2780	Books	Student Orgs Rm 2780	Student Orgs Rm 2780	Library Rm 2280	Books
2:00-2:10														Books	
2:10-2:20								Student Orgs Rm 2780		Library Rm 2280			Library Rm 2280		
2:20-2:30								Books		Books	Library Rm 2280	Books	Books	Library Rm 2280	Library Rm 2280
2:30-2:40									Student Orgs Rm 2780						
2:40-2:50									Library Rm 2280		Library Rm 2280	Student Orgs Rm 2780		Student Orgs Rm 2780	

COLLEGE OF VETERINARY MEDICINE
Class of 2021 Orientation Schedule
Thursday, August 17, 2017

TIME	ACTIVITY	PRESENTER	LOCATION
8:15-9:30 am	Photos as Assigned		Wilcke Suites hallway
9:30-10:00 am	Check-in (Light breakfast)		Fish Tank Lobby
10:00-10:45 am	Overview of Campus Services	Dr. Mary Nii-Munteh Counseling Services Kipp Van Dyke Dean of Students Office Steve Moats Disability Resources Brad Freihoefer LGBT Student Services Dr. Monica Howard Dir. of Student Programs	Room 2226
10:45-11:45 am	Introduction to SAVMA Communication Session	Team Facilitators	TBA
11:30-11:45 am	UNL PPVM Students Arrive		
11:45-12:45 pm	Lunch with Faculty Contacts		Fish Tank Lobby Wilcke Suites hallway
12:30-12:45 pm	Photos as Assigned		Room 2226
12:45-1:00 pm	Honor Code – Meaning and Value ISU CVM Academic Standards	Meghann Rosburg Delegate, Class of 2019 Dr. Terry Engelken Assoc. Professor VDPAM	Room 2226
1:00-1:15 pm	Social Media and Medical Records Information	Dr. Jared Danielson Associate Dean Academic and Student Affairs	Room 2226
1:15-2:45pm	Laptop Training	IT	Room 2226
2:45-3:45pm	SAVMA Communication Session (team Logos)	Team Facilitators	TBA
3:45-4:15 pm	Presentation of Team Logos		Room 2226
4:20-5:05 pm	Photos as Assigned		Wilcke Suites hallway
5:30-7:30 pm	Evening Activity- Class of 2021 Picnic (Catering by Hickory Park Restaurant)	Hosted by SAVMA and Omega Tau Sigma	Brookside Park Hickory Shelter 1325 6 th St. Ames

COLLEGE OF VETERINARY MEDICINE
Class of 2021 Orientation Schedule
Friday, August 18, 2017

TIME	ACTIVITY	PRESENTER	LOCATION
8:00-8:30 am	Breakfast - Provided by Purina Photos as Assigned (UNL)		Fish Tank Lobby Wilcke Stes hallway
8:30-8:45 am	ISU CVM Class of 2021	Dr. Pat Halbur Interim Dean	Room 2226
8:45-8:55 am	Purina Presentation	Jessica Usner Student Rep	Room 2226
8:55-9:10 am	ISU Financial Aid and Services	Julia Gaebu/Tara Joyce	Room 2226
	UNL Accounts Receivable	Crystal Johnson/Duane Reeves	Room 2532
9:10-9:25 am	ISU Accounts Receivable	Crystal Johnson/Duane Reeves	Room 2226
	UNL Financial Aid and Services	Julia Gaebu/Tara Joyce	Room 2532
9:25-9:40 am	AVMA Insurance	Angie Payne Agent	Room 2226
9:45-10:10 am	Computer Fee	Steven Kovarick IT	Room 2226
10:10-10:20 am		Dr. Pat Gorden Clinical Professor	Room 2226
10:20-10:30 am	Hill's Pet Nutrition	Dr. Debbie Wright Consultant VMD	Room 2226
10:30-10:45 am	Thank you Notes and Letters of Reflection	Mercedes Serracin Coordinator Int'l Programs	Room 2226
10:45-11:15 am	An introduction to the Veterinary Profession	Dr. Jennifer Schleining IVMA	Room 2226
11:15-11:50 am	White Coat Ceremony Information	Dr. Monica Howard Dir. of Student Programs	Room 2226
11:50-12:10 pm	UNL - Curriculum, Registration and Class Scheduling	Mindy Schminke Record Analyst	Room 2226
11:50-12:10 am	ISU - Meet with Sophomore Contacts		Fish Tank Lobby
12:10-1:10 pm	Lunch for All Students		Fish Tank Lobby
1:00-1:30 pm	Photos as Assigned (UNL)		Wilcke Stes hallway
1:00-2:00 pm	Technology and Study Spaces Tours	IT (Optional)	
1:00-4:00 pm	Tours with Sophomore Contacts Or Free Afternoon with Families	(Optional)	
5:00 pm	White Coat Ceremony Check-in (backstage C.Y. Stephens)		C.Y. Stephens Auditorium
6:00 pm	White Coat Ceremony		C.Y. Stephens Auditorium

University of Nebraska–Lincoln
Professional Program in Veterinary Medicine

CLASS OF 2021 ORIENTATION SCHEDULE

Wednesday
August 16, 2017

TIME	ACTIVITY	PRESENTER	LOCATION
8:00 am	Begin Check in		145 VBS
8:00-8:40 am 40 min.	Tours of Veterinary Medicine and Biomedical Sciences Hall (VBS), Nebraska Veterinary Diagnostic Center (NVDC) and Veterinary Clinical Skills Laboratory (VCSL)	Class of 2020 representatives	
8:20 am	Last tour leaves (student must arrive by 8:20 to participate in tour)		
	End in 145 VBS		
8:40-8:50 am 10 min.	Walk to D104 Animal Science Complex (ANSC)		
8:50-9:00 am 10 min.	Breakfast & Pick up Packet		D104 ANSC
9:00-9:10 am 10 min.	School of Veterinary Medicine and Biomedical Sciences (SVMBS) Welcome	Dr. Clayton Kelling, Director, SVMBS	D104 ANSC
	College of Agricultural Sciences and Natural Resources (CASNR) Welcome	Dr. Tiffany Heng-Moss, Interim Dean, CASNR	
9:10-9:30 am 20 min.	Break and walk to Arbor		Arbor southeast of C.Y. Thompson Library
9:20	Class Picture		
	Return to ANSC		
9:30-10:00 am 30 min.	Forms & Student Handbook	Dr. Renee McFee, Coordinator, PPVM	D104 ANSC
10:00-10:30 am 30 min.	University Libraries	Dr. Dana Boden, Associate Professor & SVMBS Subject Librarian, University Libraries	D104 ANSC

Continued on next page

CLASS OF 2021 ORIENTATION SCHEDULE

Wednesday
August 16, 2017
Continued

TIME	ACTIVITY	PRESENTER	LOCATION
10:30-11:00 am 30 min.	Counseling Services	Vanessa Neuhaus, Clinic Coordinator/Clinical Supervisor, Family Resource Center, Child, Youth & Family Studies	D104 ANSC
11:00-11:30 am 30 min.	Forms & Student Handbook	Dr. Renee McFee	D104 ANSC
11:30-11:40 am 10 min.	Break		
11:40-12:00 noon 20 min.	Nebraska Veterinary Medical Association (NVMA) Presentation	Dr. Roy Gehrt, NVMA President	D104 ANSC
12:00 noon	Introduction of Faculty, Staff, Guests and Class of 2020		ANSC Commons Area
12:00-12:30 noon 30 min.	Lunch		ANSC Commons Area
12:30-12:55 pm 25 min.	Student Activity	Class of 2020 representatives	D104 ANSC
12:55-1:15 pm 20 min.	Tours of ANSC & Break	Class of 2020 representatives	
1:15-1:30 pm 15 min.	Student American Veterinary Medical Association (SAVMA) Presentation	Aaron Colwell, SAVMA Delegate, Class of 2020	D104 ANSC
1:30-2:30 pm 1 hr.	Student Handbook & Review details of Thursday & Friday Orientation	Dr. Renee McFee & Marsha Yelden	D104 ANSC
2:30 -2:45 pm 15 min.	Break		
2:45-3:00 pm 15 min.	University Health Center (UHC) Overview	Aimee Grindstaff, Communications/Marketing Senior Analyst, UHC	D104 ANSC
3:00-3:15 pm 15 min.	Services for Students with Disabilities (SSD) Overview	Dr. Sam Goodin, Director, and Barbara Woodhead, Asst. Dir., SSD	D104 ANSC
3:15-3:45 pm 30 min.	Computer Distribution & Training	Roxane Ellis, Computer Specialist, SVMBS	D104 ANSC
3:45 pm	Questions		

End of day

CLASS OF 2021 ORIENTATION SCHEDULE

**Thursday
August 17, 2017**

TIME	ACTIVITY	LOCATION
6:45-7:00 am 15 min.	Load Bus Breakfast provided on the bus	"C" Parking lot between ANSC and Dental College. If you plan to leave your vehicle in this lot, you MUST have a valid UNL parking permit displayed. See attached map.
7:00 am	Bus leaves Lincoln and travels to Ames, Iowa The bus will leave promptly at 7:00 a.m. Please contact Marsha Yelden (402-641-7143 cell) immediately if you are unable to be here at 7:00 am	
11:15 am Approximate	Bus arrives at Iowa State University (ISU), College of Veterinary Medicine (CVM) Unload all personal items from bus and place in assigned room in CVM. These rooms will be locked at all times. An access code will be issued when we arrive.	Wilcke Suites, 2401 & 2402
11:30 am	Begin ISU Orientation Follow ISU Orientation schedule	
4:20 pm Approximate	Bus leaves ISU CVM, goes to hotel All personal items must be removed from the room.	Best Western Plus University Park Inn & Suites 2500 University Boulevard, Ames 515-296-2500
4:30-5:20 pm 50 min.	Check into room, free time	
5:20 pm Approximate	Bus leaves hotel, goes to Class of 2021 Picnic	
5:30-7:30 pm 2 hr. Approximate	Class of 2021 Picnic	Brookside Park, Hickory Shelter, 1325 6 th St., Ames
7:30 pm Approximate	Bus leaves picnic, returns to hotel	

End of day

CLASS OF 2021 ORIENTATION SCHEDULE

Friday
August 18, 2017

TIME	ACTIVITY	LOCATION
7:40 am	Bus leaves hotel, goes to ISU CVM	
7:50 am	Bus arrives at ISU CVM Unload all personal items from bus and move to assigned room in CVM and begin Orientation	Wilcke Suites, 2401 & 2402
8:00 am	ISU Orientation begins Follow ISU Orientation Schedule	
4:00 pm Approximate	Optional Supper	TBD
4:45 pm	Bus to CY Stephens Auditorium for check in	
5:00 pm	White Coat Ceremony Check In	Backstage of CY Stephens Auditorium
6:00 pm	White Coat Ceremony, followed by Reception	CY Stephens Auditorium Scheman Building
8:15 pm Approximate	Bus Leaves for Lincoln after White Coat Ceremony Reception If your plans change and you will or will not be riding the bus, please let Marsha Yelden know as soon as possible.	
12:15 am Saturday Approximate	Arrive in Lincoln	ANSC C Parking Lot

End of day

Important contact information during Orientation:

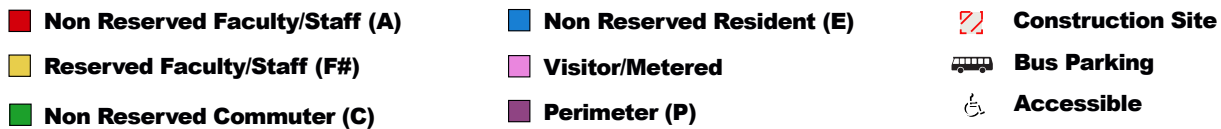
Marsha Yelden Cell: 402-641-7143 call/text
myelden1@unl.edu

Barb Banks Cell: 402-432-0614 call/text
bbanks9@unl.edu

Dr. Renee McFee rmcfee3@unl.edu

UNL School of Veterinary Medicine and Biomedical Sciences 402-472-2952, Room 120 VBS

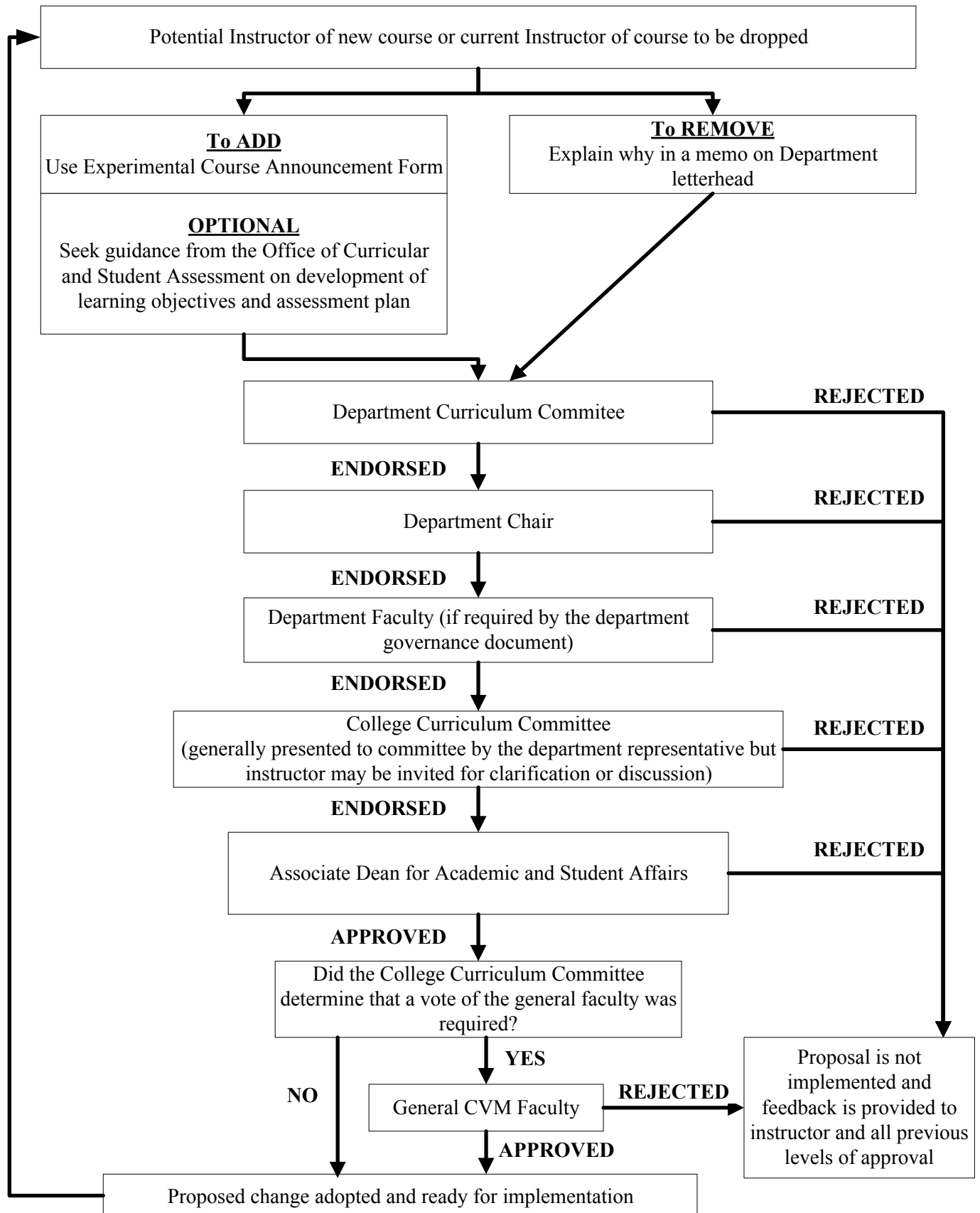
Iowa State University College of Veterinary Medicine 515-294-1242



Current as of May 26, 2017

Confidential
Document -
may be viewed in
the Office of
Academic and
Student Affairs

Figure 1: College of Veterinary Medicine Operational Procedure for the Addition or Removal of Courses from the Professional Curriculum



Faculty & Staff Award Recipients 2012-2016

Annual CVM Convocation Awards

P&S Employee of the Year

2016: Bill Robertson, program coordinator, Department of Biomedical Sciences

2015: Liz Mills, Lloyd Veterinary Medical Center customer service representative

2014: Deb Hoyt, Instructional Technology

2013: Wolfgang Weber, teaching lab assistant, Department of Biomedical Sciences

2012: (three-way tie)

- Joe Brodie, manager, ISU Veterinary Diagnostic Laboratory Histopathology Laboratory

- Phyllis Fisher, laboratory supervisor, Histopathology and Clinical Pathology Laboratory supervisor

- Liz Mills, Lloyd Veterinary Medical Center customer service representative

Faculty Member of the Year

2016: Suzanne Millman, associate professor, Department of Veterinary Diagnostic and Production Animal Medicine and Department of Biomedical Sciences

2015: Rachel Allbaugh, assistant professor, Department of Veterinary Clinical Sciences

2014: Michael Yaeger, professor, Department of Veterinary Pathology

2013: Darrell Trampel, professor and poultry extension veterinarian, Department of Veterinary Diagnostic and Production Animal Medicine

2012: Locke Karriker, associate professor, Department of Veterinary Diagnostic and Production Animal Medicine

Merit Employee of the Year

2016: Tracy Rullestad, animal caretaker, Lloyd Veterinary Medical Center

2015: Deanna Collins, health information technician, Department of Veterinary Clinical Sciences

Resident/Intern/Graduate Student/Post Doc of the Year

2016: Jacob Ewing, Department of Veterinary Clinical Sciences

2016: Joshua Ydstie, Department of Veterinary Diagnostic and Production Animal Medicine

2015: Dilshan Harischandra, Department of Biomedical Sciences

2014: Kyle Tofflemire, Department of Veterinary Clinical Sciences

2013: Lindsey Gilmour, Department of Veterinary Clinical Sciences

Kate Hepworth, Department of Veterinary Clinical Sciences

2012: Amanda Kreuder, Department of Veterinary Diagnostic and Production Animal Medicine

Service Team of the Year

2016: Center for Food Security and Public Health

2015: Ophthalmology Section and Diagnostic Imaging Service (TIE)

2014: Veterinary Diagnostic Laboratory Molecular and Viral Diagnostics Section

2013: Veterinary Diagnostic Laboratory's diagnosticians, graduate students and staff responsible for PEDV diagnosis

2012: Office of Curricular and Student Assessment

Department of Veterinary Diagnostic Laboratory Molecular and Virology Diagnostics Section

Dean's Innovation Award - recognizing a creative and innovative idea that generates new revenue, reduces costs and/or increases efficiency.

2016: Department of Biomedical Sciences 1-Year, Non-Thesis Masters' Program

2015: Lloyd Veterinary Medical Center overtime reduction plan, submitted by Kathi Cunningham, LVMC business manager

2014: Hixson-Lied Small Animal Hospital online anesthesia scheduler, submitted by Bonnie Hay-Kraus, assistant professor, Department of Veterinary Clinical Sciences

Zoetis Award for Veterinary Research Excellence

2016: Jianqiang Zhang, assistant professor, Department of Veterinary Diagnostic and Production Animal Medicine

2015: Paul Plummer, assistant professor, Department of Veterinary Diagnostic and Production Animal Medicine & Department of Veterinary Microbiology and Preventive Medicine

2014: Johann "Hans" Coetzee, professor, Department of Veterinary Diagnostic and Production Animal Medicine

2013: Jeffrey Zimmerman, professor, Department of Veterinary Diagnostic and Production Animal Medicine

2012: Suzanne Millman, associate professor, Department of Veterinary Diagnostic and Production Animal Medicine & Department of Biomedical Sciences

Zoetis Distinguished Veterinary Teacher Award

2016: Dr. Steve Carlson, associate professor, Department of Biomedical Sciences

2015: Shannon Hostetter, assistant professor, Department of Veterinary Pathology

William O. Reece Award

2016: Dr. Alex Ramirez, associate professor, Department of Veterinary Diagnostic and Production Animal Medicine

2015: Gayle Brown, assistant director and veterinary specialist, Center for Food Security and Public Health

College of Veterinary Medicine Research Awards

Early Career Research Award

2016: Paul Plummer, associate professor, Department of Veterinary Diagnostic and Production Animal Medicine & Department of Veterinary Microbiology and Preventive Medicine

2015: Jianqiang Zhang, assistant professor, Department of Veterinary Diagnostic and Production Animal Medicine

2014: Gil Ben-Shlomo, associate professor, Department of Veterinary Clinical Sciences

2013: Eric Burrough, associate professor, Department of Veterinary Diagnostic and Production Animal Medicine

Mid-Career Research Award

2016: Suzanne Millman, associate professor, Department of Veterinary Diagnostic and Production Animal Medicine and Department of Biomedical Sciences

2015: Cathy Miller, associate professor, Department of Microbiology and Preventive Medicine

2014: Michael Kimber, associate professor, Department of Biomedical Sciences

2013: Arthi Kanthasamy, professor, Department of Biomedical Sciences

Annual University Awards

2016

Clarence Hartley Covault Distinguished Professorship in Veterinary Medicine

Richard Martin, Professor, Biomedical Sciences

ISU Foundation Outstanding Early Achievement in Teaching

Alex Ramirez, Associate Professor, Veterinary Diagnostic and Production Animal Medicine

ISU Award for Early Achievement in Research

Jianqiang Zhang, Associate Professor, Veterinary Diagnostic and Production Animal Medicine

Regents Staff Excellence Award

Sarah Bade, Assistant Scientist, Veterinary Diagnostic Laboratory

2015

Morrill Professor

James Noxon, Professor, Veterinary Clinical Sciences

Award for Outstanding Achievement in Teaching

Locke Karriker, Associate Professor, Veterinary Diagnostic and Production Animal Medicine

Award for Achievement in Intellectual Property

Patrick Halbur, Professor and Chair, Veterinary Diagnostic and Production Animal Medicine

Regents Faculty Excellence Award

Michael Yaeger, Professor, Veterinary Pathology

2014

Award for Outstanding Achievement in Teaching

Gayle Brown, Senior Lecturer, Veterinary Microbiology and Preventive Medicine

Award for Early Achievement in Extension or Professional Practice

Darin Madson, Assistant Professor, Veterinary Diagnostic and Production Animal Medicine

2013

Morrill Professor

Leo Timms, Professor of Animal Science and Veterinary Diagnostics and Production Animal Medicine

Award for Distinguished Service in Extension

Leo Timms, Morrill Professor; Professor of Animal Science and of Veterinary Diagnostics and Production Animal Medicine; and Dairy Specialist and Dairy Team Leader, ISU Extension and Outreach

P&S Outstanding New Professional Award

Christine Mowrer, Veterinary Diagnostic and Production Animal Medicine

Regents Staff Excellence Award

Marcia Krause, Lloyd Veterinary Medical Center

2012

ISU Award for Achievement in Economic Development in Iowa

Delbert L. (Hank) Harris, Professor of Animal Science and Professor of Veterinary Diagnostic and Production Animal Medicine

ISU Award for Departmental Leadership

Patrick G. Halbur, Professor and Chair, Department of Veterinary Diagnostic and Production Animal Medicine and Professor of Veterinary Pathology

11.2.D.1. VEA (and Qualifying Exam) Results 2012 - 2016

		2012	2013	2014 ¹	2015 ²	2016
Overall	ISU	260 b	259 b	283	---	---
	UNL	231	254	297	---	---
Total	ISU	62 bcdef	66 ag	59	64 cefg	63 bcdefg
	UNL	58 abc	65 abcd	60	64 abcd	65
Anatomy	ISU	57 a	63 d	51	61 abd	58 abd
	UNL	53 a	64 b	50	61 b	57
Physiology	ISU	62 bc	64 b	58	61	62
	UNL	61	59	62	66	67
Pharmacology	ISU	58 bd	64 e	57	65 e	64 f
	UNL	54 b	68 a	58	66 a	67 c
Microbiology	ISU	66 bdf	66 bdf	65	66 f	65
	UNL	60 ad	68 bcd	62	63 d	69
Pathology	ISU	67 aef	71 bf	64	68 f	66
	UNL	61	65	66	64	64

Note. Values within rows having different letters are significantly different from each other ($p < .05$).

1. Comparison of 2014 scores to other years not conducted.

2. "Overall" scores no longer available.