AVMA Council on Education Self-Study Report

The Ohio State University College of Veterinary Medicine

2006

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The Ohio State University
College of Veterinary Medicine
2006

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Overview

Ohio State University College of Veterinary Medicine

OVERVIEW

State the major goals and objectives of the college, and comment on how they are being met

The College of Veterinary Medicine is one of 18 colleges that make up the state of Ohio's only land-grant university. Its major goals are education, discovery, and service for the people of Ohio. The College is dedicated to creating and fostering a diverse faculty and student body. It provides an excellent and comprehensive professional curriculum that prepares students for critical thinking and life-long learning. Our professional students are highly sought for private practice after graduation. Our clinical internship and residency programs and graduate research programs are extremely competitive and produce graduates of the highest quality for academia, industry, and private specialty practice. The College promotes excellence in research and discovery of new knowledge to improve the health of animals, protect the health of humans by insuring post-harvest food safety, and elucidate the basic mechanisms of disease. We are in the enviable position of belonging to the most comprehensive health science center in the United States with 7 health sciences colleges (Medicine, Public Health, Dentistry, Pharmacy, Nursing, Optometry, and Veterinary Medicine) along with the College of Food, Agriculture, and Environmental Sciences, which are located in close proximity on the same campus. The high degree of collegiality and large number of interdisciplinary programs provide an intellectual and physical environment that fosters creativity and enhances scholarly activity. The College's faculty are actively engaged and in demand for continuing education, extension, and consultation by veterinarians, industry, and governmental agencies worldwide.

The Ohio State University's academic plan (http://www.osu.edu/academicplan/preface.php) was adopted in 2002. Progress by the colleges is evaluated and the plan updated yearly, but its central tenets and strategies remain the same. They include building a world-class faculty, developing academic programs for a leading land-grant university, improving the quality of the learning environment, better serving the student body, creating a diverse academic community, and building Ohio's future. The College of Veterinary Medicine developed its strategic plan in 2002 to align its goals with the University Academic Plan and the College mission. The plan was reviewed in 2005 by faculty and administration. Its principal goals were deemed relevant to the College mission, but a need to focus on quality of life and work-life balance was identified. A new standing College Quality of Life Committee was formed to identify ways to improve the work environment for students, staff, and faculty. The specific goals and outcomes assessment tools of the College's strategic plan will be updated in the 2006-2007 academic year. The College's 2002 strategic plan outlined the following goals:

The student body will have exceptional academic credentials and diversity

We continue to have an excellent applicant pool with an applicant-to-admitted ratio of approximately 3:1 for in-state applicants and 10:1 for out-of-state applicants. The overall GPA of admitted students is 3.59 compared to a national average of 3.53. Our admissions committee conducts in-person interviews that allow us to evaluate personal qualities not always evident in written applications, and our pilot program allows us flexibility in providing opportunities to students whose academic success has been hampered by disadvantaged socioeconomic backgrounds. Our contracts with Ross and St. George's veterinary schools allow us to accept students from diverse backgrounds into our clinical programs.

The college will have superior educational programs

The College's curriculum is an organ-system-based program built on a core of basic scientific skills and supplemented by numerous elective courses, many of which are species or discipline-based. Clinical experience begins in the spring of the third year and continues throughout the fourth year of the program. A series of professional development courses prepares students in such areas as jurisprudence, basic life skills, career strategies, leadership success, communications, business management, and practice success. The Shelter Teaching Program provides fourth year students superb surgical experience (including physical examinations, sample collection, and routine sterilization procedures). Our human-animal bond program (*Honoring the Bond*) provides training for veterinary students in communication skills. In 2004, more flexibility was introduced into the curriculum by development of selective clinical experiences that allow students more decision-making power in preparing for their specific career paths. Professional students also have the opportunity to participate in summer research programs. The program is sponsored by the dean's office, the departments, and development and has grown each year as a result of increased faculty and student interest. In 2006, 15 professional students participated in the program.

The Veterinary Teaching Hospital will have renovated and expanded facilities; the large animal clinic at Marysville will have a new facility; clinical programs will be comprehensive and of high quality

In 2005, the new Marysville Large Animal Services Hospital opened its doors, replacing a facility that was 37 years old. Our next urgent need is replacement of the Veterinary Teaching Hospital, and we are in the third phase of a feasibility study with Flad & Associates to plan for renovation of the existing hospital and addition of a new small animal teaching hospital at an estimated cost of more than $40 million. The completed feasibility study also includes an ambitious 20-year plan for the College that includes replacement of other aging facilities such as Goss Laboratory as well as renovations of large animal facilities. Our clinical programs already are comprehensive and strong, and one challenge will be to devise innovative ways to recruit and retain high quality clinical faculty (see below). Recent enhancements to our clinical programs include adoption of digital radiography, installation of a linear accelerator for radiation therapy, and collaboration with the OSU College of Medicine in a new $14 million state-of-the-art magnetic resonance imaging center with 3 and 7 Tesla magnets that are available to image veterinary patients. PET scanning capability will be added in 2007. Our clinical residency training programs remain very strong. In 2001, we instituted an internship program in small animal medicine and surgery that rapidly became recognized nationally and is highly competitive. It provides a minority intern position to enhance diversity. Our high hospital caseload fosters well-prepared and confident new graduates. Clinical research will be enhanced by improvements in our hospital information system and medical records division, which currently are areas under evaluation for improvements. A new information technology director has been hired to facilitate this goal.

Annual contributions will exceed $12 million per year

Total private financial support was approximately $5.5 million in 2004-2005, and we have surpassed $11 million in 2005-2006. We currently have 2 development officers and are considering hiring an additional officer and staff member to further enhance our fund-raising efforts. We continue to establish and refine our donor database and identify potential donors to facilitate funding for a new veterinary teaching hospital. In addition, the college has received pledges for 5 endowed chairs and 2 endowed professorships, the first endowed faculty positions in the 115-year history of the College.

The public will recognize the College as a preeminent resource for animal health

We have established a public relations division and developed recognizable branding for the College. We have redesigned our website to reflect this branding and have added content that targets the public (e.g. hospital information) as well as referring veterinarians and prospective professional and graduate students. We plan to coordinate alumni relations, development, and public relations to improve efficiency and will design an electronic newsletter to keep alumni and other constituents appraised of developments in the College. We have hired a full-time marketing and communications director to facilitate these efforts.

Research funding will average $20 million per year

We have made a focused effort to improve research productivity. Extramural research expenditures have doubled from $5.8 million in 2000 to $11.6 million in 2004 putting us more than half of the way to our goal. Programs such as coronavirus models of SARS (Dr. Linda Saif), humoral hypercalcemia of malignancy (Dr. Tom Rosol), viral and cellular mechanisms of retrovirus infection (Dr. Mike Lairmore) and molecular mechanisms of rickettsial infection (Dr. Yasuko Rikihisa) are among the most successful programs in our College. In addition, Dr. Dick Slemons is leading a $5 million multi-center USDA animal biosecurity project on avian influenza. We have established 4 interdepartmental signature groups (retrovirology, infectious disease, oncology, imaging) to foster multidisciplinary collaboration and identify potential candidates for new research positions. Increased direct and indirect revenue from research will be used to hire research-intensive faculty for these programs. In 2005-2006, 2 faculty members were added in infectious disease and 1 in oncology. Contract research remains strong in cardiovascular medicine and physiology and bone and cartilage pathology.

Describe methods and/or tools used to measure outcomes of the total program of instruction, research, and service

Outcomes assessments of instruction, research and service are made formally and informally throughout the College. Reviews of faculty performance are conducted by each Department Chair on an annual basis.

Instruction

The success of enrolled students is evaluated by GPA and attrition rate. Academic difficulties are identified and addressed by the Academic Standards committee. The success of our graduating students is measured by consideration of surveys of student perception of preparedness distributed at the time of graduation and 3 years later, by graduation rate and performance on the North American Veterinary Licensing Examination (NAVLE), by numbers of job offers and starting salaries, and by employer surveys of satisfaction with new graduates. Also, numerous intramural and extramural student awards recognize exemplary performance in specific areas of endeavor. Later career success of professional students is evaluated by their ability to obtain internship and residency positions as tabulated by the Veterinary Internship and Residency Matching Program (VIRMP). The graduate studies committee monitors the progress of residents and graduate students in MSc and PhD programs and conducts exit interviews with finishing house officers.

Evaluation of the success of our faculty in instruction is made by formal student evaluations of teaching as well as faculty awards for teaching such as the Norden Distinguished Teacher Award and Merck AgVet Award for Creativity in Teaching. A system of peer evaluation of classroom teaching allows faculty to receive input from other faculty on their teaching performance. Faculty success in continuing education, although not specifically tracked, can be assessed by the numbers of national and international continuing education courses presented by faculty. The quality of the curriculum is monitored by the Council on Education. The Associate Dean of Academic and Student Affairs conducts informal chats with students to identify concerns about professional instruction and curriculum, and a suggestion box is available for students to provide anonymous feedback.

Research

The success of our faculty in research is monitored and evaluated by consideration of the numbers and dollar amounts of funded intramural and extramural research grant proposals, by the numbers of abstract and presentations at scientific meetings, and by numbers of publications in peer-reviewed, scientific journals. Service on graduate student MSc and PhD committees and consideration of numbers of successfully mentored graduate students in MSc and PhD programs also are measures of faculty success in research. Editorship of scholarly journals, receipt of national and international research awards, and induction into scholarly academies and societies also reflect accomplishments in research and scholarly activity. Service on national grant review study sections and review boards (e.g. National Institutes of Health, Morris Animal Foundation) is another indicator of research success.

Clinical Service

Hospital revenue is tracked according to the following divisions: small animal care and wellness, small animal medicine, small animal surgery, equine medicine and surgery, equine ambulatory, food animal medicine and surgery, and miscellaneous. Revenue also is followed according to ancillary units. Hospital caseload by patient visits also is recorded. Trends in hospital revenue and caseload are discussed and assessed at monthly meetings of the Hospital Executive Committee. Professional students complete clinical evaluations of teaching for their core rotations. House officers (interns, residents) undergo regular evaluations by attending faculty to assess progress and identify problems. Finally, client satisfaction surveys are conducted to identify public perception about clinical care.

List the major strengths and weaknesses of the college

STRENGTHS OF THE COLLEGE

Nationally and internationally recognized high quality faculty

The quality of the College's faculty is extremely high, and they are strongly motivated and dedicated to fulfilling the missions of the College. Several have received national and international recognition for their excellence in teaching, research, and continuing education. The College has a strong tradition of clinical teaching, which is evidenced by the presence of senior faculty interacting with clients, students, interns, and residents in the teaching hospital. Our biomedical research programs also have enjoyed substantial success.

Comprehensive teaching hospital with large caseload of all major domestic species

Comprehensive patient services covering nearly all specialty areas at our Veterinary Teaching Hospital and Marysville Large Animal Services Clinic provided professional students with exposure to a small and large animal caseload of nearly 35,000 patient visits in fiscal 2005. The College's location in a large metropolitan area (approximately 1 million people) surrounded by rural communities allows exposure of our students to large numbers

of patients of all major domestic species. Our large in-hospital food animal caseload is unusual in academic veterinary medicine today. Our veterinary teaching hospital has a reputation for being the best place for clients in the Midwestern United States to bring their animals for superlative contemporary veterinary care.

Large applicant pool of highly qualified students

Our college continues to enjoy a strong applicant pool of well-prepared students. The ratio of applications per seat has ranged from 6.1 to 6.8 for currently enrolled classes (2006-2009). Average admission grade point averages ranged between 3.54 and 3.64 for in-state applicants and between 3.56 and 3.63 for out-of-state applicants for currently enrolled classes (2006-2009). A recent agreement with the veterinary schools at Ross University and Saint George allows their students to obtain clinical training at OSU and has allowed our college to increase ethnic diversity somewhat and teach students from different backgrounds. We have a strong alumni society that provides approximately $50,000 in annual support for student scholarships.

Strong clinical and graduate student training programs

The College of Veterinary Medicine has had a strong commitment to residency training programs for over 30 years and in 2001 established a small animal internship training program that currently attracts more than 200 applications for 8 positions. In 2005, our residency programs attracted 329 applications for 10 positions including 107 applications for 1 position in small animal surgery. We have developed a strong relationship with agriculture and OSU's School of Public Health with whom our Department of Preventive Medicine has recently developed a combined Master's of Public Health program.

Emerging leadership in research

The College has several well-respected and highly funded research programs with emphasis on infectious disease and oncology. Cellular infection by retroviruses is the subject of an approximately $10 million NIH program project grant involving 5 investigators in the Department of Veterinary Biosciences. Other areas of research expertise include the pathogenesis of rickettsial infection, feline immunodeficiency virus as a model of AIDS, mechanisms of humoral hypercalcemia of malignancy, coronavirus models of SARS, and a recent USDA grant to study the pathogenesis of avian influenza.

WEAKNESSES OF THE COLLEGE

Aging facilities

Our college has been fortunate to have witnessed the opening of 2 new buildings in recent years: the Veterinary Medicine Academic Building in 2003 and the Marysville Large Animal Services Clinic in 2005. We are proud of these successes, but our Veterinary Teaching Hospital needs renovation, and additional space for the diagnosis and treatment of small animals is needed. The teaching hospital is 32 years old and receives the heaviest use of all of our buildings because it houses our clinical program. We are in the third stage of planning for renovation of this facility and addition of a new small animal teaching hospital with Flad and Associates. The strong national and international reputation of our clinical programs is inconsistent with the condition of the Veterinary Teaching Hospital. The facility also has insufficient space to accommodate the academic and administrative staff needed to conduct our professional teaching programs in an excellent and efficient manner.

Low numbers of faculty and staff

The College has excellent didactic, clinical and research programs. We have high quality faculty and staff, but need more. Our student to faculty ratio of 5.3 based on 2005-2006 AAVMC data is much higher than the average value of 2.9 for 11 of our peer institutions. Low faculty numbers lead to faculty burn out and hamper faculty recruitment and retention. As a result of this concern, we have established a Quality of Life Committee. Over the years, the Department of Veterinary Clinical Sciences has sacrificed staff positions in order to maintain adequate faculty members to support its clinical programs, resulting in inadequate numbers of staff to administer its academic programs and hospital functions.

Insufficient funds to support our mission

Erosion of state support over past 5 years has resulted in the College making maximal use of student tuition as a source of operating revenue. In the present economic climate, it will not be possible to continue with large student tuition increases given the increasing debt load of veterinary students. We must identify innovative methods such as proactive targeted public relations campaigns to attract the attention of our state legislators as well as pursuing

mutually beneficial industry collaborative efforts and redoubling our efforts at private development. Finally, developing an increasingly robust extramural research enterprise will contribute to our revenue by capture of indirect costs.

Faculty recruitment and retention

Faculty recruitment and retention constantly are challenged by lucrative employment opportunities in the private sector. Specialty practice has emerged as a tempting option for highly trained clinicians who often feel the additional responsibilities of an academic appointment (e.g. teaching, research, administration) are not justified by the unfavorable salary differential. The academic market likely will not be able to compete with specialty practice and industry on a salary basis alone, so we must attract promising young faculty members using means other than salary (e.g. superior health benefits, facilitation of life-work balance).

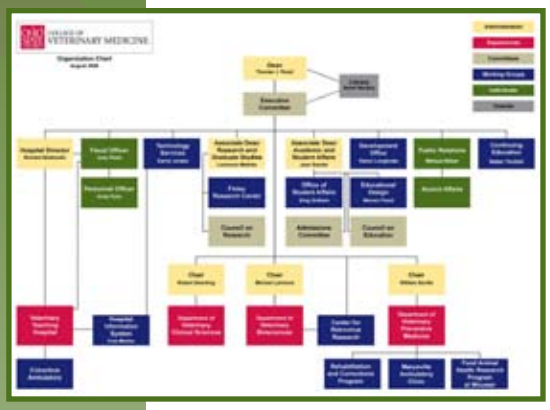
Limited flexibility in curriculum

Our curriculum provides a strong, balanced and diverse core experience for professional students. However, our fourth year curriculum lacks flexibility, despite the addition of selective clinical experiences that fourth year students can elect based on their individual interests and career goals. This program encompasses only four weeks of the fourth year clinical experience and should be expanded to offer additional flexibility to students so they may participate actively in tailoring their education to their varying career goals.

RECOMMENDATIONS

The following recommendations are made based on the College's goals and its present strengths and weaknesses:

- Invest in public relations, including website development, and target government, industry, and the public with an information campaign to garner goodwill and monetary support for our programs.
- Invest in development to facilitate reaching our goal of $12 million per year in gifts and acquired pledges to support the capital cost of a new small animal teaching hospital.
- Develop additional signature groups to promote multidisciplinary and interdepartmental collaboration and identify candidates to increase our number of research-intensive faculty.
- Renovate and update the Veterinary Teaching Hospital and build a new small animal teaching hospital. These changes are needed for effective and efficient patient care; clinical training of professional students; improved morale and safety of faculty, staff and students; improved client satisfaction; and facilitation of development and public relations efforts.
- Reevaluate and revise our curriculum so as to provide increased flexibility with more tracking. Partner with other institutions to provide training in areas we presently cannot provide (e.g. avian and exotic animal medicine, behavioral medicine).
- Obtain and deploy a robust hospital information and medical records system that will facilitate data storage and retrieval and promote clinical research.
- Improve work-life balance and quality-of-life issues in the workplace to improve morale and facilitate faculty recruitment and retention, especially in the clinical area.
- Reverse erosion of excellence in our clinical programs by replacing lost faculty and providing a sufficient number of new faculty positions to bring student/faculty ratio below 4.0.
- Increase the number of opportunities for professional students to participate in research.
- Persevere in our attempts to increase ethnic and racial diversity among faculty, staff, and students. Consider hiring a minority affairs advisor or establishing a diversity consultant group.



Organization

Ohio State University College of Veterinary Medicine

STANDARD 1: ORGANIZATION

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

The mission of the College of Veterinary Medicine is to benefit society through the education of veterinarians and the protection of animal health. This includes the diagnosis, treatment, prevention and understanding of animal diseases; the conservation of livestock resources; the promotion of public health; and the advancement of medical knowledge through professional and graduate education, research and service in the broad discipline of veterinary medicine.

The college is an important resource for the biomedical and agricultural communities, contributing to the development of new knowledge and the training of future scientists. In keeping with Ohio State's land-grant mission, the college is committed to disseminating new knowledge to the public, providing advanced and continuing training for veterinarians and providing access to specialized veterinary medical services. The college is a vital part of The Ohio State University and embraces the combined mission of advancing and disseminating knowledge as described in the university's mission and vision statement.

The goals of the College of Veterinary Medicine are to:

- Provide an excellent comprehensive professional curriculum that educates students in the broad field of veterinary medicine, encourages critical and analytical thinking and prepares students for life-long learning and professional growth.
- Promote growth and excellence in research in order to improve the health of animals, assure the wholesomeness of food animal products and contribute to the understanding of basic mechanisms of animal models of disease.
- Provide an intellectual and physical environment that fosters creativity and enhances scholarly activity.
- Sustain state of the art facilities including teaching and research laboratories and a veterinary teaching hospital to educate professional students, support research, train specialists and serve as referral centers.
- Educate future academicians and research scientists by involving graduate students and residents in high quality teaching and research programs.
- Provide continuing education, extension services and consultation for veterinarians and the citizens of Ohio.

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

The University is accredited by the North Central Accreditation Association. The University is reviewed every 10 years. The last accreditation review was completed successfully in 1997 and preparations for the 2007 accreditation review are in progress.

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.

See Appendix 1-1 for an organizational chart of the Ohio State University.

President	Karen A. Holbrook
Senior Vice President for Health Sciences	Fred Sanfilippo
Senior Vice President for External Relations	Curt Steiner
Senior Vice President for Research	Robert McGrath
Executive Vice President and Provost	Barbara R. Snyder
Vice President for Student Affairs	Richard Hollingsworth (interim)
Office of the President	
Chief of Staff	Pearl M. Bigfeather
General Counsel	Christopher M. Culley

Vice President for Agricultural Administration and University Outreach	Bobby D. Moser
Vice President for University Development	James C. Schroeder
Senior Vice President for Business and Finance	William J. Shkurti

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.

See Appendix 1-2 for an organizational chart of the College of Veterinary Medicine.

Dean	Thomas J. Rosol, DVM, PhD
Hospital Director	Richard M. Bednarski, DVM, MS
Associate Dean for Research and Graduate Studies	Lawrence E. Mathes, PhD
Associate Dean for Academic and Student Affairs	Jean E. Sander, DVM, MAM
Continuing Education	Walter R. Threlfall, DVM, PhD
Chair, Department of Veterinary Clinical Sciences	Robert G. Sherding, DVM
Chair, Department of Veterinary Biosciences	Michael D. Lairmore, DVM, PhD
Chair, Department of Veterinary Preventive Medicine	William J.A. Saville, DVM, PhD

Laboratory Animal Care in the College is the responsibility of University Laboratory Animal Resources (ULAR). University Laboratory Animal Resources is a central function of the Ohio State University and reports through the Senior Vice President for Research (Robert McGrath). Two of the laboratory veterinarians have joint appointments in the Department of Veterinary Preventive Medicine and Laboratory Animal Resources: Drs. Valerie Bergdall and Judy Hickman-Davis.

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.

Dean's Cabinet

The Dean's Cabinet consists of the Dean and Associate Deans as well as the hospital director, the College's chief fiscal officer, and the Dean's administrative assistant. The weekly cabinet meetings provide the dean with confidential advice and facilitate strategic planning for the College.

Deans and Chairs Advisory Group

The Deans and Chairs Advisory Group includes the Dean, Associate Deans, department chairs, hospital director, the College's chief fiscal officer, and the Dean's administrative assistant. The agenda for the semimonthly meetings of the Deans and Chairs committee is developed by the Dean. This committee provides the Dean with regular updates on activities within the departments and allows for confidential advice about strategic planning and proposed College initiatives.

Executive Committee

The Executive Committee includes the Dean, the academic department chairpersons or their alternates, and two members elected from each of the departments or their alternates. Ex-officio (non-voting) members include the assistant and associate deans, the hospital director, the College fiscal officer, the director of any academic center who is appointed by and reports to the Dean, the head of the food animal health research program at Wooster, one professional student (elected) and one graduate student (elected).

The Executive Committee meets monthly and represents the primary mechanism for faculty input into the decision-making processes of the College. It is advisory to the Dean. The Committee formulates College rules as necessary and submits them to the faculty for action. It hears reports on and discusses College finances, manpower issues, instructional services, research programs, and development of physical facilities. The Committee makes recommendations to the faculty on curriculum, class size, or alteration of existing academic programs. It acts upon petitions for readmission or reinstatement of students as submitted by the Council on Academic Standards. The

Committee receives and acts upon recommendations from Student Council concerning violations of the Student Honor Code and other matters pertaining to student affairs. The Committee assists the Dean in facilitating public relations between the College and extramural organizations and agencies. The permanent committees of the College regularly inform the Committee of their activities.

Established Councils

Council for Research

The Council is comprised of two regular faculty members for each academic department of the College and three at-large faculty members elected by the faculty of the College. Ex-officio members include the Associate Dean for Research, the Sponsored Programs Development Officer for the College, and the Laboratory Animal Veterinarian assigned to the College.

The mission of Council is to establish and implement policies and procedures to promote research within the College. Research Council serves as an advisory body to the Dean regarding acquisition and utilization of research resources and development of College research programs. It identifies available funds, establishes fund limitations for each funding source, and announces to faculty availability of funding opportunities. It reviews and recommends distribution of intramural research funds through a competitive grant-in-aid procedure. It determines the scientific merit of all grants submitted in each competition by an impartial and objective review and provides prioritized recommendations for funding to the Dean. It maintains a document describing available sources of funding, format and procedures for submission of grant applications, method of notification of review results, time limits of awards, methods of accounting of funds, and requirements for progress reports and extensions. Council also reviews applications for faculty members to be considered for research awards granted by the College.

Council on Education

The Council on Education (COE) coordinates and assesses the professional curriculum, provides leadership in curriculum revision and serves as an open forum for faculty initiatives to improve the educational program of the College. It comprises the team leaders of all courses in the core curriculum or their alternates, the Associate Dean for Academic and Student Affairs (Chair of COE), the Coordinator of Veterinary Education (Secretary of COE), and two representatives from Student Council. The Council reviews and evaluates the curriculum by means of teaching team reports, standing committees and subcommittees, and quarterly open meetings. Official actions and motions of the Council must be approved by the Executive Committee. The Council makes recommendations to the Executive Committee on proposed changes in class size and the interval of their entry into the educational program.

The standing committees of the Council are the Curriculum Committee and the Electives Committee. The Curriculum Committee consists of six appointed faculty members and one student member. It is reviews core courses in the curriculum, considers requests for changes in the curriculum, and makes recommendations to Council. The Electives Committee consists of six faculty members and one student member. It evaluates elective courses in the curriculum.

Council on Academic Standards

The Council serves to advise the Executive Committee on student academic problems. The Council receives petitions from students who have been dismissed from the College or who have withdrawn for other reasons and makes recommendations on these petitions to the Executive Committee.

Other College Committees

Admissions Committee

The Admissions Committee is chaired by the Associate Dean for Academic and Student Affairs and consists of faculty members, emeritus faculty, a representative from the Ohio Veterinary Medical Association and a representative of the College Veterinary Alumni Society. Affiliate members from the Ohio Veterinary Medical Association serve in an advisory role. The Committee accepts and reviews applications for admission to the College.

It sets criteria for admission, interviews candidates, and prioritizes their applications for admission. The Committee also counsels pre-veterinary students on the admissions process.

Faculty Promotion and Tenure Committee

The Committee is comprised of two professors from each of the three academic departments. It is advisory to the Dean and determines whether the tenure-initiating unit (department) of candidates for tenure and promotion has conducted its review and reached a recommendation consistent with University, College, and departmental standards, criteria, policies, and rules. The Committee reviews and discusses the dossier of each candidate, conducts a secret ballot, and submits a written report to the Dean.

Laboratory Animal Use and Care Committee

The Committee reviews research and teaching proposals involving animal use and recommends action to the Institutional Laboratory Animal Care and Use Committee.

Library Committee

The Committee advises the Librarian and Dean on the function and resources of the library. The Committee includes at least two faculty members from each department.

Honors and Awards Committee

The Committee is composed of the department chair and three faculty representatives from each department of the College. It is chaired by the Associate Dean for Academic and Student Affairs who serves as a non-voting member. The committee solicits nominations for college awards including those that recognize teaching at the faculty and resident/graduate student level and those that recognize students for achievement. The Committee recommends candidates for distinguished alumni awards to the faculty for approval.

Scholarship Committee

The Scholarship Committee receives applications for scholarships and makes awards to veterinary students.

Environmental Health and Safety Committee

The Committee consists of faculty and staff members. It develops and recommends policies on health and safety to the Executive Committee and interacts with the University Health and Safety Committee to implement regulations on radiation, chemicals, and other safety issues.

Finley Memorial Center Committee

This Committee is chaired by the Associate Dean for Research and advises the Dean on the operations of the Alice Lloyd Finley Memorial Research Farm.

Development Committee

This committee consists of two faculty members from each department and the development officers of the College. It formulates policy on development activities and works to assure a coordinated development effort in the college.

Quality of Life Committee

This newly established committee consists of two faculty members from each department, a staff member, and a student representative. It addresses quality of life concerns about the workplace community and develops appropriate policies.

Hospital Committees

Veterinary Teaching Hospital Executive Committee

The Committee consists of the heads of all hospital clinical sections, one representative from each College department, Dean, College fiscal officer, primary hospital accountant, hospital director, hospital administrative assistant, hospital building coordinator, student representative (president of Student Council or alternate), hospital technician and staff representative, house officer (resident) representative, and laboratory animal veterinarian assigned to the College. The Committee meets monthly and is chaired by the hospital director. It reviews hospital finances, evaluates animal use protocols for clinical research projects involving use of client-owned animals, and advises the hospital director on development of policies and procedures for the Veterinary Teaching Hospital.

Medical Records Committee

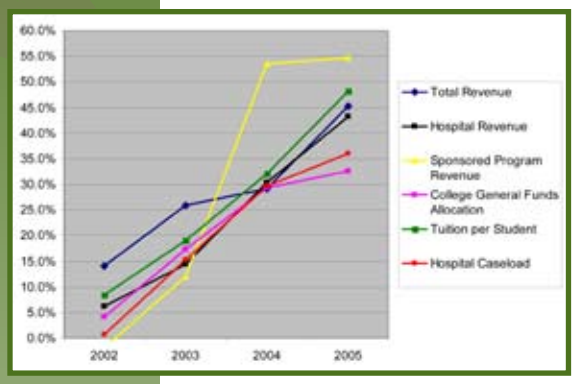
The Committee consists of representatives from each hospital clinical section, the medical records supervisor, the head of hospital information systems, and the hospital accountant. The committee has scheduled monthly meetings to develop and revise medical records procedures and advises the hospital director on medical records policy.

Small Animal Hospital Policies and Procedures Committee

The Committee consists of representatives of small animal medicine, small animal surgery, critical care and community practice as well as the hospital director, referral coordinator, small animal reception supervisor, account clerk supervisor, medical records supervisor, and director of the human-animal bond program. The committee has scheduled monthly meetings to discuss communications among clinicians, reception staff, referring veterinarians, and clients and to develop and revise hospital operating procedures as needed. The committee is advisory to the hospital director.

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

There are no immediate plans to change the organizational structure of the College. Under consideration is establishment of an associate dean position for operations and partnerships (clinical activities).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2002
2003
2004
2005
Total Revenue
Hospital Revenue
Sponsored Program Revenue
College General Funds Allocation
Tuition per Student
Hospital Caseload

Finances

STANDARD 2: FINANCES

1. Complete Tables A and B for the past 5 fiscal years and analyze the trends for each category.

Tables A and B are presented in Appendix 2-1. The financial resources of the College are adequate to meet its educational, research and service missions. The overall trend has been positive, with total expenditures having increased 45% over the most recent 5-year period (2001-2005). Increases in expenditures have been especially notable in the Veterinary Teaching Hospital, sponsored research, technology, and facilities improvements.

Expenditures (Table A)

Instruction Most of the expenditures in this category have been for faculty salary and benefits. Recruitment and retention of high quality faculty are high priority strategic goals of the college. Salary increases have averaged 4.1% over the 5-year period and have ranged between 3.6% (2005) and 5% (2003).

Academic Support The substantial growth in expenditures in this category is related to investments the College has made in facilities. Over the past 5 years, $10,000,000 of College funds have been spent to support construction of the Veterinary Medicine Academic Building, renovation of the auditorium in the Veterinary Teaching Hospital, renovation of the first floor of the hospital to include a new student lounge as well as shared office space for residents and graduate students, and planning for future space needs in consultation with Flad and Associates. The new Marysville Clinic was completely funded using College resources. Other areas of academic support include recent investments in technology including appointment of a college webmaster, development and deployment of a new college website, and creation of a position for director of information technology. Biomedical Media support funds have been reallocated into the information technology area.

Student Services Expenditures for Student Services are not reported separately but are included as a portion of Academic Support. Expenditures for these services have remained relatively constant over the 5-year period except for normal inflationary increases.

Teaching Hospital Both the on-campus Veterinary Teaching Hospital and the large animal Marysville Clinic are reported in this category. These teaching hospital expenditures have increased 37% over the 5-year period due to increased caseload and the increased level of medical care provided per case. Expenditures for digital radiography, radiation therapy, additional technicians, additional residents, and establishment of an internship program in small animal medicine and surgery account for the majority of the increase beyond normal inflationary increases. Expenditures for the Marysville Clinic have increased due to addition of a fifth veterinarian.

Diagnostic Laboratory The state diagnostic laboratory is not affiliated administratively with the College of Veterinary Medicine, but the College and diagnostic laboratory have several collaborative programs including a pathology residency program and the analytical toxicology laboratory. It is located in Reynoldsburg, a Columbus suburb, and is affiliated with the Ohio Department of Agriculture.

Student Aid Sponsored student aid has nearly doubled over the 5-year period. In addition to aid provided by the College, the University centrally provided un-sponsored student aid in the amount of an additional $740,000 for veterinary student scholarships in 2005. This amount has been increased to $793,000 for fiscal year 2006 and $840,000 for fiscal year 2007. Endowed scholarships remain a major priority for the College's development efforts.

Sponsored Research Sponsored research is a major growth area for the College. Annual research expenditures have increased 70% over the 5-year period. These include both externally-sponsored grants and internally-funded competitive awards such as equine and canine research funds. Of particular note is the National Institutes of Health program project grant, Retrovirus Models of Lymphocyte Transformation and Disease, which represents a $9.8 million 5-year award.

Other Sponsored Activity Expenditures fluctuate with annual contracts and revenues. Revenue from the feline leukemia vaccine has declined due to the expiration of the U.S. patent.

Extension & Public Service Expenditures have increased due to an expansion of the contract with the Ohio Department of Corrections. This agreement provides veterinary services and consultation at 10 correctional facilities in the state that maintain herds to provide a food supply for their facilities. Professional students may select this herd management option as an elective opportunity.

College Revenue (Sources of Funds) (Table B)

State Appropriations The College receives a designated state line item for clinical teaching. This line item has declined over the 5-year period, from $946,000 in FY 2001 to $592,000 in FY 2005. This decrease is due to ongoing state economic instability and legislative inconsistency in approaching the various line items. The instructional subsidy (i.e., state share of instruction) for professional and graduate students is a much larger state appropriation to the College. The state share of instruction for veterinary students (a subsidy category that is shared among veterinary, dentistry and optometry students) is apportioned net of taxes to the College by the University based on 3-year average enrollment and a current expenditures model. The state share of instruction for graduate students currently is distributed to the College based on credit hours, but the university is moving to a quality-based distribution program. In total, state support received by the College has remained relatively unchanged over the 5-year period.

Tuition and Fees Tuition and fees are estimated because the College receives a single general funds allocation from the university that includes tuition, state share of instruction and indirect cost recovery. Veterinary student tuition increases accounted for the majority of the university-funded increase in resources over the 5-year period. Tuition increases have ranged from 8.7 % to 12%. The College has flexibility in determining the annual increase in veterinary tuition above a university-mandated 6% increase. This additional increase is not subject to normal university taxes.

Endowment Income Endowment income has decreased over the past 4 years due to market fluctuations and a change in distribution policy adopted by the University. Annual earnings now are distributed at 4.5% of market value on established endowments and at 4% of market value on new endowments, rather than the previous 5% of market value. New endowments also have a 6-month holding period during which earnings are retained by the University development office. The total principal value of our endowment holdings has increased during the 5-year period from $9,549,015 to $13,878,201.

Current Gifts Current gift receipts fluctuate depending on building and other development projects as well as with the economic environment. The College anticipates a major increase in current gifts as the University embarks on its next major development campaign in 2007. Current gifts to the College reflect a 6-month delay because funds are held by the University for 6 months before they are released and made available to the College for tracking and expenditure.

Sponsored Program Income/Cost Recovery The College has experienced substantial growth in this area, with a 55% increase over the 5-year period. Faculty success in obtaining research funding is expected to experience continued growth, although at a slower rate, because the current federal funding environment is extremely challenging. Recent hiring of research-intensive faculty members will support continued growth in this area. Current OSU budget procedures allow the College to retain a high percentage of the indirect cost recovery for use in the College.

Other Activity Activity in this category includes not only the Analytical Toxicology Laboratory, but also funds for equine and canine research grants, the College's contract with the Ohio Department of Corrections, state funding for the Extension and Food Animal Health Research programs, and our student agreements with Ross and St. George's Veterinary Schools. Activity varies from year to year. The equine research funding source has been discontinued as of 2004 and the Analytical Toxicology Laboratory has been administratively transferred to the Ohio Department of Agriculture effective October 2005.

Teaching Hospital Both the on-campus Veterinary Teaching Hospital and the large animal Marysville Clinic are reported in this category. Clinical income has grown substantially over the 5-year period. Both operations require a modest subsidy from the College to support the educational component of their clinical activity. This subsidy fluctuates annually, but currently is less than 15%. Both facilities have maintained net positive financial flow over

the 5-year period. State support for clinical teaching has decreased during this time period and has been replaced by patient revenue and additional College support.

Diagnostic Laboratory The state diagnostic laboratory is not affiliated with the College of Veterinary Medicine. It is located in Reynoldsburg, a Columbus suburb, and is affiliated with the Ohio Department of Agriculture.

Other Sources from Sales and Services Small revenue operations such as the Finley Farm, continuing education, and interest on reserve facilities funds fluctuate annually.

Reserves and Transfer This category fluctuates annually, especially with respect to building projects. The College has just completed funding for the Veterinary Medicine Academic Building. The College will have completely paid for the new large animal Marysville Clinic as soon as the former facility is sold.

2. Comment on the strengths and weaknesses in revenues over the past 5 years.

Strengths

A major financial focus over the past 5 years has been to increase faculty salaries in an effort to be more competitive with peer institutions and with specialty practice. Yearly salary increases have averaged 4% during the 5-year period. The College has initiated a bonus program for faculty at the Marysville Clinic and an incentive plan has been established for research-intensive faculty. An incentive practice plan has been discussed for the Veterinary Teaching Hospital, but no decisions have been made yet regarding its implementation.

Facilities upgrades have represented a major financial investment for the College in recent years. The Veterinary Medicine Academic Building and Sisson Hall renovation were completed in part by a $7.6 million investment of College funds, and the Marysville Clinic was completely funded using $1.5 million of College resources. The student lounge, resident and graduate student shared office space and Veterinary Teaching Hospital auditorium were completely renovated.

The College's endowment is growing and current gifts should continue to grow. The College is emphasizing development as a strategic goal for future growth. The College has a strong and loyal donor base.

Ohio State University's budgetary policy presents some challenges in terms of ability to easily predict future revenue, but it also provides the flexibility to manage all funds without line item designations and to carry forward all funds not spent at the end of the fiscal year. It also returns the majority of indirect cost recovery funds directly to the College. These funds have been instrumental in recent faculty hires.

Weaknesses

Undoubtedly, stagnant state support for higher education and the declining line item for clinical teaching are the primary sources of weakness in the College's financial portfolio. The College works diligently with its institutional representatives to explain its value and uniqueness as a state-wide asset to the Ohio Board of Regents and the state legislature.

3. Provide a comprehensive trend analysis of revenue sources that have supported the professional teaching program over the past 5 years.

Figure 1 in Appendix 2-2 shows the 5-year change over 2001 as a base year for each of the 6 trends represented. College General Funds Allocation (funding from the University that includes tuition, state share of instruction or subsidy, and indirect cost recovery from sponsored grants and contracts) has grown the least and Sponsored Program Revenue has grown the most.

4. Describe how revenues over the past 5 years have impacted the college's ability to provide a contemporary professional teaching program and ancillary support services.

The major impact on our professional program has been the marked improvement in teaching and learning facilities. The 3 main auditoria for the professional program are either brand new (Wexner Auditorium and Dunlop Auditorium) or recently remodeled (Veterinary Hospital Auditorium). The College has a new student computer laboratory in the Veterinary Medicine Academic Building and several wireless access points around the College including wireless access in the newly renovated student lounge in the Veterinary Teaching Hospital. The new Marysville Clinic is a dramatic improvement over the dilapidated trailer that previously housed this portion of the large animal program. A Shelter Medicine program was initiated with grant funds and has grown as a result of an agreement with the county commissioners. This program allows the professional students to acquire surgical experience with large numbers of animals while simultaneously providing community service. The multi-year professional development program evolved from a generous endowment by an alumni donor.

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

Both the on-campus Veterinary Teaching Hospital and the large animal Marysville Clinic generate the majority of their funds for operations from clinical revenue (see Table 1 in Appendix 2-2 for trends over the past 5 years). With average hospital support of approximately 15% over the 5-year period, the College has continued to invest in state-of-the-art equipment such as a linear accelerator, digital radiography as well as in continued facilities improvements. A small animal medicine and surgery internship program has been implemented in the Veterinary Teaching Hospital and a successful incentive practice plan was instituted at the Marysville Clinic. Accounts receivable for hospital operations appear high because collections activity must be processed through the State Attorney General. However, the reserve against this amount is monitored regularly. Payments as a percent of revenue have been approximately 99% for the last 5 years. Revenue days in net accounts receivable are under 40 days. The College is in the process of implementing the Care Credit veterinary credit card as an option for our clients. This approach will provide an alternate financing option for clients as well as decrease our in-house accounts receivable.

6. Describe anticipated trends in future revenues and expenditures.

The College does not expect to recover funding lost from the State of Ohio. At the present time, no change or only a modest increase in funding from the State of Ohio is expected. Growth in funding is anticipated from new sources, including expansion of development activity, new partnerships such as the Shelter Medicine program and a new Magnetic Resonance Imaging facility operated in collaboration with the College of Medicine, growth of caseload in selected specialties such as oncology, and development of public health and preparedness programs. This growth reflects strategic investment in signature programs designed to foster interdisciplinary collaboration and identify candidates for research-intensive faculty positions. Expenditures are expected to increase at a relatively predictable rate except for costs associated with faculty recruitment and retention. Increasingly, the College finds itself competing with specialty practices and industry for talented clinicians, educators, and researchers. Phase one of a project to outfit and equip the basement of the Veterinary Medicine Academic Building for research and graduate student space already is fully funded. A new Small Animal Teaching Hospital is the College's highest priority for development, and planning with Flad and Associates is already in progress.

Physical facilities and equipment

Ohio State University College of Veterinary Medicine

STANDARD 3: PHYSICAL FACILITIES AND EQUIPMENT

21.5.1. 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

Veterinary Medicine Academic Building (VMAB)

Completed in 2003, the VMAB has 97,483 sq ft of space and includes classrooms and teaching laboratories, administrative space, research laboratories, and a contemporary research library. The Dunlap and Wexner Auditoriums are 140-seat tiered lecture halls equipped with advanced instructional technology, including comprehensive audio-visual digital projection and computer and internet capabilities at each seat accessible to veterinary students 24 hours a day, 7 days a week via access cards. The Wenger Computer Laboratory can seat half of a veterinary class at once and is open to students at all hours. It also is used for epidemiology, cardiology, histology, and other courses that utilize self-instruction. The VMAB also contains 11 small group learning rooms that are used by students engaged in problem-solving exercises and for research planning and seminars. The Tharp and Alumni teaching laboratories provide space for specialized studies in histology, radiology, microbiology, and parasitology. The Cole Dean's Suite accommodates the college's executive staff, including the dean, associate deans, admissions office, and administrative directors, and includes the dean's conference room. College investigators enjoy the use of 36 modern research laboratories equipped for studying the molecular basis of disease. The Hodesson Library includes a main reading room, breakout rooms, 12 computer workstations and wireless internet connectivity in all study spaces. Finally, the 2-story Hummel Grand Lounge is the building's focal point and serves as a gathering and reception space.

Sisson Hall

The current Sisson Hall was built in 1985 and a new section was added in 2002. The building has 44,272 sq ft of space and houses the Department of Veterinary Preventive Medicine (VPM), providing office space for faculty as well as graduate students in the VPM and MPH programs. Additionally, 3 administrative offices and the office of the Chairperson are located in the building. Laboratories include 4 research laboratories, the College's anatomy laboratories and a large laboratory animal facility. A dispensary in the basement serves College veterinarians who carry out contract work for the Department of Rehabilitation and Corrections. Student lockers as well as offices for the staff of University Laboratory Animal Resources (ULAR) are located in the basement. Two conference rooms with digital projection provide ample space for holding faculty meetings and teaching professional students. The Funderburg Conference Room is equipped with a videoconferencing system allowing connection with satellite campuses including the Ohio Agricultural Research and Development Center (OARDC) in Wooster, Ohio.

Goss Laboratory

Built in 1961, Goss Lab is a 3-story building with 38,145 sq ft of assignable space and houses the Department of Veterinary Biosciences. Approximately one-third of the building is dedicated to 20 biomedical research laboratories. The remaining space is occupied by administrative, faculty and graduate student offices; shared resources; and, lecture and meeting rooms. Goss Lab also contains a 142-seat teaching auditorium and 2 smaller conference rooms for teaching and group meetings. Other central facilities include standard and isolation necropsy facilities, oversize autoclave, and centralized distilled water, vacuum, gas, and CO_2 for tissue culture incubators.

Veterinary Teaching Hospital (VTH)

Originally built in 1973, The VTH is a 3-story building with mechanical and physical plant functions housed on the third story. The hospital provides 138,763 sq ft of space. The ground floor contains a vending machine area and lunch room, student locker rooms, the Office of Educational Resources and Design, a recently renovated academic technology center and student lounge, 3 small group conference rooms for clinical rounds, a Biomedical Media productions facility, offices for residents, staff, and faculty, research laboratories, hospital clinical pathology and microbiology laboratories, receiving and storage, and animal research facilities (managed by ULAR). The second floor of the hospital is devoted primarily to administrative and hospital functions. The north corridor of the second floor contains faculty and administrative offices for the Department of Veterinary Clinical Sciences and the hospital director and staff. Most of the second floor is devoted to reception, accounting, medical records, treatment and

procedure rooms, examination rooms, specialty suites (e.g. ophthalmology, dermatology, cardiology), small and large animal patient wards, surgical suites, radiology, central supply, pharmacy, and large animal treatment rooms. In addition, there is a recently renovated 250-seat auditorium for student teaching with 2 alcove areas for small group learning, a dental operative suite, and 2 large laboratories for teaching medical and surgical techniques.

Galbreath Equine Center

Built as an addition to the VTH in 1996, The Daniel M. Galbreath Equine Trauma, Intensive Care and Research Center is a 41,800 sq ft 2-story facility. On the first floor, there are 2 surgery suites, 14 intensive care stalls with capabilities for continuous monitoring, an equine medicine diagnostic and treatment area, and 19 additional patient stalls. The equine center has its own radiology facilities, a high-speed treadmill room, and a farrier room. Equine faculty offices are located on the second floor, which also contains a conference room and observation area that overlooks the surgery suites.

Marysville Clinic

Completed in 2005, the Marysville Clinic functions as an ambulatory service for horses and farm animals. The clinic serves approximately 840 clients in 13 Ohio counties and provides complete medical and surgical services as well as herd-oriented production medicine services. The clinic is located at 16410 County Home Road just north of Marysville, Ohio and is 32.8 miles from the Columbus campus. The 10,000 sq ft facility houses a surgery suite, pharmacy, reception area, classroom, conference room and housing for veterinary students. There are 3 inpatient stalls. A video monitoring system provides views of 9 locations throughout the building, including patient stalls. The building includes a radiology area as well as autoclave and laundry facilities. The Marysville location houses the Ohio State University Milk Quality Laboratory. This updated laboratory provides bacteriology support and consultation on milk quality problems to veterinarians throughout Ohio and processes samples for diagnosis of individual mastitis cases and for herd-based testing.

Finley Farm

The Alice Lloyd Finley Memorial Veterinary Research Farm (Finley Farm) is a 133-acre farm located at 2108 State Route 142 NE, West Jefferson, Ohio. Donated in 1976, it serves the College as a teaching and research farm for large animals, primarily horses but also cattle and camelids.

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

See Appendix 3-1 for the location of the College of Veterinary Medicine (red) on Ohio State University Campus and Appendix 3-2 for location of on-campus facilities of the College of Veterinary Medicine and off-campus facilities including Marysville Clinic (33 miles; approximately 35 minutes), Finley Farm (18 miles, approximately 21 minutes), and the Food Animal Health Research Program (Ohio Agricultural Research and Development Center; 96 mi, approximately 95 minutes).

21.5.3. Describe the adequacy (pertains to all facilities used by the college whether on-campus or off-campus) of safety measures in all areas of the college including:

21.5.3.a. Posted protocols in high-risk areas

The University is required by the State of Ohio to comply with workplace health and safety standards enacted by the Federal Occupational Health and Safety Administration. The University has an Office of Environmental Health and Safety (EHS), and all College buildings have appropriate safety signage, standards, and training of personnel as specified by EHS. The University provides clinical occupational health service for all employees, and all employees with animal contact receive initial baseline medical screening and periodic examinations. For research personnel, the College Institutional Laboratory Animal Care and Use Committee oversees compliance with training for laboratory animal care and occupational health and safety. Staff and faculty involved in animal research are required to complete the Occupational Health and Safety on-line short course. The Office of EHS evaluates workplace exposures, provides medical surveillance, and oversees compliance. In addition, the University has a Radiation

Safety Office that inspects the College's facilities and oversees compliance. Materials Safety Data Sheets (MSDS) are available electronically via icons on designated computers throughout the College. This information is provided by the program ChemWatch at the EHS website. The College employs a security guard on nights and weekends to help insure the safety of staff and professional students. The guard has a beeper, routinely inspects the building while on duty and is available to escort students or staff to and from their vehicles. There is exterior lighting in the College area to improve safety and emergency telephones are located outside the client and student entrances to the small animal hospital.

21.5.3.b. Classroom, laboratories and other instructional environments and related equipment

The second floor of the VMAB accommodates the Veterinary Medical Library, a computer laboratory, and 7 small group learning rooms. The building also has 2 lecture auditoriums that can seat 150 students and 2 teaching laboratories, a wet laboratory and microscope laboratory. The veterinary anatomy facility in Sisson Hall consists of a 4,569 sq ft teaching laboratory and 2,341 sq ft of support space including 2 preparation rooms, 2 cold rooms and 2 freezer rooms. Two conference rooms also are located in Sisson Hall. Goss Lab contains 2 seminar rooms, a 142-seat auditorium, and a necropsy teaching theatre. The VTH features 4 conference rooms of various sizes and a recently renovated 250-seat auditorium with 2 small alcove areas in the rear for small group learning. The recently renovated academic technology area on the ground floor has 3 small conference rooms, 1 classroom, and a computer lab for on-line instruction. The Galbreath Equine Center has 1 conference room on the second floor.

21.5.3.c. Teaching hospital(s), pharmacy, diagnostic imaging, diagnostic support services, isolation facilities, intensive/critical care, necropsy, and related equipment

Pharmacy

Prescription information is maintained in the computerized hospital information system. Two scales are available for weighing chemicals, and a plasma freezer and refrigerator are available to store biological products and pharmaceuticals. A Class II Type A/B3 biological safety cabinet is used for preparation of sterile and hazardous medications. Controlled substances are locked in the pharmacy's safe and only full time pharmacy personnel have access. All orders for controlled substances are signed by the hospital's veterinarians and the orders are filed separately from non-controlled substance prescriptions. Once orders are filled, they are kept in the pharmacy until needed. Three Pyxis automated dispensing machines (2 for small animal, 1 for large animal) supply pharmaceuticals (including controlled substances) needed outside of regular pharmacy hours.

Diagnostic Imaging

The VTH now acquires and stores all diagnostic images digitally. Digital radiography is performed using an Eklin Digital Radiography system and all other modalities generate DICOM images that are sent directly to the PACS server.

Radiography: Three small animal radiography suites contain 4 radiography units. In-house large animal radiography is performed in 2 imaging suites using 6 different radiography units. A mobile C-arm system is available for intra-operative fluoroscopy. Three portable units are used by the ambulatory service for off-site radiography. The dentistry service has 3 dental x-ray units. All radiographic procedures are carried out in strict accordance with ALARA principles. Lead aprons, gloves and thyroid shields are required for all examinations and TLD dosimetry badges are worn. ***Computed Tomography:*** A helical CT scanner is available for large and small animal examinations. Large animal scans are performed using a custom engineered table. ***Nuclear Medicine:*** All radiopharmaceuticals are prepared by the Department of Nuclear Medicine at OSU Hospitals. Large and small field gamma cameras are housed in the nuclear medicine suite. All nuclear medicine examinations are conducted by trained personnel observing ALARA principles and wearing appropriate barrier clothing and dosimetry badges. After exams, patients are returned to a run or stall that is clearly marked with signage indicating that the patient is radioactive. The nuclear medicine technologist monitors the patient's level of radioactivity until it is deemed safe to release the patient. Radioactive waste (e.g., syringes, needles) from nuclear medicine studies is separated by radionuclide (I^{131} or Tc^{99m}) and kept in secure, isolated containers until 10 half-lives have elapsed. The waste then is cleared for routine disposal by OSU Radiation Safety. Any radioactive biological waste generated by patients is similarly stored until cleared for routine waste disposal. ***Ultrasound:*** Two Acuson units are available for ultrasound

examinations in radiology. One unit with multiple transducers is used for the majority of small animal ultrasound examinations and the other for large animal and mobile examinations. Additional ultrasound units are available in the cardiology, equine, food animal and ambulatory services. ***Magnetic Resonance****:* All MR examinations are performed at the Wright Center for Innovation in Biomedical Imaging in collaboration with the OSU Department of Radiology on a 3 Tesla magnet. This facility is located at 2050 Kenny Road, less than 1 mile from the VTH, and features a dedicated area for anesthesia, preparation and recovery of veterinary patients. Currently, a hospital-owned van is used to transport hospitalized patients to the Wright Center. In the future it is anticipated that clients will transport non-hospitalized ambulatory animal patients to the center. All personnel who enter the magnet room are required to fill out a safety questionnaire and are screened by the MR technologist.

All x-ray generating equipment in the VTH is inspected and certified by the Ohio Department of Health every 3 years as required by state law. All day-to-day issues of radiation safety are overseen by OSU's Department of Radiation Safety.

Diagnostic Support Services

Clinical Laboratories include the following areas in the VTH: Hematology/Cytology (0044) has an automated hematology analyzer, a coagulation analyzer, a densitometer, an automated stainer, a cytocentrifuge, 3 single-headed microscopes (1 with phase microscopy), and 1 dual-headed microscope with SPOT real-time digital camera. Clinical Chemistry (0035) has an automated chemistry analyzer, a point-of-care analyzer, a chemiluminescent immunoassay system, an osmometer, an electrolyte analyzer, a blood gas analyzer and pH ion meter, and a colloid osmometer. The supervisor's office (0036) has a Nikon multi-headed teaching microscope that is web-connected and displays on a high-resolution flat screen wall monitor, and a computer that is connected to the hospital and laboratory information systems. There is a resident's office (0033), 1 faculty office (0026), a small storage room (0038), and 2 laboratories (0027, 0029) used for the glass slide library, glass slide processing, storage of reagents and kits, and centrifugation of blood for transfusion. Room 0029 has a fume hood for volatile chemicals. The seminar room (0021) is set up for small group teaching and is equipped with a microscope, digital camera, ceiling-mounted digital projector, and computer.

All technologists have taken the safety course mandated by the university's EHS office, all have completed the Occupational Health Registry questionnaire, and all are vaccinated for rabies. Only the technologists and trained hospital externs are permitted to process samples in the laboratories. Additional safety measures in the hematology and chemistry laboratories are prohibition of food and drink, availability of disposable eyewashes, and computer access to MSDS. Biohazardous waste is placed in designated containers provided and discarded by the university EHS office. Biohazardous chemicals are clearly labeled with the expiration date indicated, and biohazardous specimens are clearly labeled and handled appropriately.

Diagnostic microbiology service

The microbiology laboratory consists of 2 rooms that have been recently remodeled and to provide expanded and enhanced work space. The laboratory has a Class II Type A biological safety cabinet for handling infectious agents. All employees have completed the Environmental Health and Safety laboratory safety course. Disinfectant solutions and an eye wash station are available. All microbiological waste is placed in labeled biohazard containers.

Isolation Facilities

The small animal isolation facility is a positive pressure room with independent air handling and contains 8 cages. An anteroom and hand washing facility are located outside of the isolation facility. A monitoring camera equipped to record sound remotely monitors patients and patient care activities from the critical care service room. A policy regarding infectious disease transmission in the small animal hospital governs activities within the isolation unit. Students receive written information about this policy in their orientation materials and are trained during orientation. This information also is provided in the College's Procedures Manual for Senior Students available at: http://vet.osu.edu/assets/pdf/restricted/accreditation/hospProcManStudent.pdf Within the unit are fluid pumps, oxygen delivery devices, warm water circulating pumps and blankets, scale, basic CPR crash kit, microhematocrit centrifuge and all supplies relevant to patient care activities. The isolation facilities of the large animal hospital consist of 9 individual stalls with independent air handling and providing for personnel and patient entry from an

independent outside area separated from the surrounding facilities by a concrete barrier wall and trench drain for removal of biological waste. Three of these stalls also have available head gates suitable for restraint of cattle. A tenth stall has been converted into a storage area to maintain all supplies needed in the isolation area, such as shoe covers, barrier clothing, gloves and cleaning equipment. The large animal isolation facilities currently are being modified to allow video monitoring of activity in the stalls.

Intensive/Critical Care (ICU)

The small animal ICU contains cages for both dogs and cats. Three oxygen cages and nasal oxygen support are available. Patients are housed in the room and cared for by registered veterinary technicians and veterinary students 24 hours a day, 7 days a week. In addition, the isolation suite, the nuclear medicine isolation suite, and 2 adjacent runs (outside of the room) are all located in close proximity to the ICU and are monitored remotely using security cameras. The critical care service has policies regarding dangerous drug handling and biohazardous patients that are enforced by the critical care faculty and staff. Patient care equipment used in the service includes point-of-care chemistry and blood gas analyzers, video monitoring station with telemetry and 72 hour patient recall, MDE Prism monitor, Datascope monitors, Cardell indirect oscillometric blood pressure monitors, Doppler indirect blood pressure monitors, blood glucose monitors, CPR station/cart with electric defibrillator with synchronization capability, pulse oximeters, and 2 positive pressure ventilators. Advanced life-support including mechanical ventilation and peritoneal dialysis are performed in the service. The Equine ICU is located in a wing of the Galbreath Equine Center and contains 10 box stalls and 4 large mare/foal stalls. The facility is staffed 24 hours a day, 7 days a week by registered veterinary technicians and students. Emergency patients are accepted 24 hours a day and are received in the triage area adjacent to the ICU. Two rooms of the ICU serve for storage of supplies, refrigeration of patient medications, and basic laboratory work.

Necropsy

The necropsy facilities in Goss Lab include 2 small animal necropsy tables, 2 large animal necropsy tables (with hydraulic lifts) and cabinetry and racks holding appropriate instruments, supplies and protective wear. Adjoining rooms include an incoming cooler large enough to hold several large animals and many small animals, an outgoing cooler for disposal of large animal carcasses, student and faculty wash and change rooms, a large storeroom to house saved formalin fixed tissues, a small supply storeroom and a cutting room outfitted with an exhaust hood under which formalin-fixed tissues are trimmed into cassettes for processing by faculty and graduate students. A monorail system with hoist serves the coolers and necropsy room.

21.5.3.d. Facilities for maintenance of teaching and research animals

OSU has a centralized laboratory animal research program administered by the Senior Vice President for Research with responsibility for oversight delegated to the director of ULAR. The College has 3 laboratory animal facilities located in Sisson Hall, the VTH and Goss Lab. These facilities consist of over 30,000 sq ft of ULAR-managed space including 51 animal rooms and associated ULAR support areas (e.g., survival surgical suite, animal diagnostic laboratory, shared research laboratories, storage) as well as 15,000 sq ft of College-managed space including 2 gnotobiotic animal rooms and support areas in Goss Lab and several farm animal stalls as well as teaching and research support areas in the VTH.

The laboratory animal areas have appropriate engineering controls, support equipment and management practices to assure personnel and animal safety. These include HVAC controls with no re-circulated air and appropriate filtration and balance to meet biohazard risk categories and animal microbiologic status, eye wash stations, biological safety cabinets, fume hoods, HEPA-filtered waste disposal systems, autoclaves, cage washing equipment, timer-controlled and emergency lighting, first aid kits, fire extinguishers, and personal protective equipment. The farm animal facilities have HVAC controls, and farm animal housing areas comply with agricultural facility standards. Representatives for the institutional animal care and use committee inspect the research and teaching animal facilities at least every 6 months and oversight focuses both on animal welfare and occupational health programs. Standards used for the inspections meet the NRC Guide for the Care and Use of Laboratory Animals, the FASS Guide for the Care and Use of Agricultural Animals in Agricultural Research and Teaching and USDA Animal Welfare Regulations and Policy as well as the guidelines of the Office of Laboratory Animal Welfare and Occupational Safety Regulations & Policies. In addition, all faculty and staff involved in the use of laboratory

animals for teaching or research are enrolled in the institutional employee health care and training programs. The veterinary students are enrolled in student health risk assessment programs.

21.5.3.e. Research facilities and equipment

The upper 2 floors of the VMAB contain research laboratories and faculty offices. The research corridor requires keycard access and contains 2 large (1069 sq ft), 7 moderately-sized (448 sq ft) and 4 small (204 sq ft) research suites. Additionally, 1416 sq ft of shared space is divided into 6 rooms located between the 2 corridors and accessible from the research side. This space is used for storage, shared instruments, autoclave, freezer storage, cold room, chemical storage and dark room. Each research laboratory is contains a fume hood and is outfitted for BSL-2. Shared instrumentation on the research floors includes flow cytometry, real-time PCR, microarray system, immunospot reader, scintillation counter and gel documentation system. In addition, each laboratory has standard instrumentation to accommodate individual research needs.

Research areas of the VTH are located in the first floor of the building. There are 11 large (950 sq ft) laboratories, 5 with keycard access. All are equipped with vented fume hoods and conventional laboratory sinks and counter space. The laboratories share glassware preparation and freezer storage areas. Also located on the first floor is a 19,000 sq ft ULAR animal holding area with electronic keycard access and security. The second floor of the VTH also contains a large animal anesthesiology and physiology laboratory (1337 VTH) and orthopedics laboratory (1339 VTH).

In Goss Lab, 5 of the 20 research laboratories are BSL-3. Core service facilities in Goss Lab include Applied Pathology, Biomedical Molecular Core, Imaging Core, Histology and Immunohistochemistry, Mouse Phenotyping, and Gnotobiotic Laboratory. The Applied Pathology Core includes facilities for post-mortem examinations on clinical and research animals, biopsy service, and the Veterinary Pathology Library where records and glass slides of necropsy and biopsy cases are archived as future pathology teaching materials for faculty and professional students. The Biomedical Molecular Core features real-time and standard PCR, surface plasmon resonance biosensor instrumentation and phosphoimager instrumentation as well as a variety of standard laboratory equipment. The Imaging Core provides autoMACS, confocal microscopy, flow cytometry, immunospot analysis, in vivo bioluminescent imaging, and high-frequency ultrasound instrumentation. The Mouse Phenotyping facility serves the entire University and offers necropsy, histology, immunohistochemistry, radiography, hematology, clinical pathology, and digital imaging of gross and microscopic lesions. The Gnotobiotic Laboratory supports cesarean derivation and germ-free maintenance of mice, dogs, pigs and other small laboratory animals.

The research area in Sisson Hall contains four 800 sq ft laboratories with two shared cold and freezer rooms, and a laboratory preparation area supporting a glassware wash facility and autoclaves. The lower floor of Sisson contains three anatomy support laboratories, ambulatory dispensary, field prep/locker room, ULAR space and an 8113 sq ft vivarium. Major shared research instrumentation located in Sisson Hall includes the high-frequency ultrasound system and the In Vivo Imaging System (IVIS).

21.5.3.f. Administrative and faculty offices

Administrative and faculty office space in the CVM is adequate. Faculty offices (37) are located on the first and second floor of the VTH and 12 faculty offices are located on the second floor of the Equine Center. Administrative suites on the second floor of the VTH include the Hospital Director's office with 2 support staff offices and the Clinical Sciences Chairperson's office with 3 support staff offices. Radiology has one staff office. The Dean's administrative office suite is located on the first floor of the VMAB and provides individual offices for each support staff member. The Student Affairs office also is located in this area. The layout of the third and fourth floors of VMAB is identical with a dual corridor configuration separating office space from research labs on each floor. The office corridors are accessible to the public and each contains 11 individual faculty offices, 2 graduate student offices each with 7 carrels, 1 small meeting room, and a lounge area. Sisson Hall contains 20 faculty offices, the VPM department office, 3 shared graduate student offices, and 2 meeting rooms. Goss Lab contains 3 administrative office suites for Veterinary Biosciences staff, including the Chair's office on the second floor. Office space for 18 faculty members as well as 43 graduate, veterinary and post-doctoral students also is located in this building.

21.5.3.g. Service areas for students (for example, lounges, cafeteria, etc.)

Service areas for students have been improved with construction of the VMAB. The Campus Grind Coffee kiosk in the VMAB serves beverages, pastries, sandwiches and soup. Hummel Grand lounge is adjacent to the café and offers space and seating for social functions. Floors 3 and 4 of VMAB have small kitchenette and lounge areas, used primarily by graduate students. A vending machine area with several tables is located in the basement of Sisson Hall. The VTH has a lunch room on the first floor with seating and self-service vending machines. The recently renovated student lounge area in the VTH provides a place for eating, relaxation, and studying. A small lounge on the second floor of the Equine Center overlooks the surgical suites.

21.5.3.h. Building infrastructure (for example, air handling, vented hoods, etc.)

Heating, ventilation, and air conditioning in the buildings of the veterinary complex are accomplished by forced-air filtration systems consisting of multiple zoned air handlers. Air is heated or cooled using water coils and centrally located steam converters and chilled-water cooling towers. Water is monitored for bacterial content and treated on a daily basis. The air is a filtered mixture of fresh outside air and return air from the zone being served. The mixture of inside and outside air is adjusted based on seasonal needs. HEPA filtration is used in all surgical and animal treatment areas to minimize outside and cross-air contamination. Positive air pressure is maintained in surgical suites and negative pressure in isolation wards by balancing pressurized incoming air and vented exhaust fans. Chemical fume hoods that are either charcoal filtered or vented to the outside using motorized fans are used in all labs as appropriate. Hoods are gauge-monitored and alarmed. They are tested and certified by the University's Office of Environmental Health and Safety.

21.5.4. 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)

All isolation facilities in the College have appropriate safety signage, standards, and training of personnel according to University requirements. The isolation unit for small animal patients is adjacent to the small animal intensive care unit and can accommodate 8 animals. The level of biocontainment is considered to be level 2. The isolation unit for large animal consists of 9 climate-controlled stalls with anterooms and treatment areas for each. An adjacent room provides storage for supplies. Animals enter the stalls from outside of the facility and a concrete barrier wall and chain link fence limit contact with other patients and contains biological waste. The level of biocontainment is considered to be level 1. Biomedical research animals are housed in animal facilities under the supervision of the ULAR. ULAR facilities are BSL-2.

21.5.5. Describe current plans for improvement

Renovations of Goss Lab, conversion of an existing laboratory in the VTH (0017) to a clinical trials office and tissue bank, and outfitting of the basement of the VMAB are targeted for completion in the next 1 to 2 years. Existing College and gift funds already have been escrowed for completion of these projects. The Goss Lab and VTH clinical trials office and tissue bank projects have been designed and approved. Plans for completion of the VMAB basement currently are being redesigned, and the project then will be sent out to bid. This project will include approximately 8,000 assignable square feet for state-of-the-art research laboratory space and offices for faculty and graduate students. The project will provide space comparable to that found on the other research floors of the VMAB. A $40 million project to build a new small animal teaching hospital and renovate the existing VTH is the highest long-term priority for the College. Funding for this project will depend upon gifts to the College and will require concentrated development efforts. We expect state funding to support approximately 20% of the cost for this project. The College has been working with Flad and Associates over the past year to develop plans for the VTH renovation and expansion, and a Phase III report providing details of the project and a 10-year facilities plan for the College is expected soon. The College's goal is to complete this major renovation and expansion of the VTH in the next 5 years. In the short term, there are plans to renovate the VTH vending machine area and lunch room to include hot food service and new furniture and to renovate several small animal ward areas.

Clinical resources

Ohio State University College of Veterinary Medicine

STANDARD 4: CLINICAL RESOURCES

21.4.1 Complete Tables A, B, and C for the past five years and analyze trends for each species (category).

See Appendix 4-1 for Tables A, B, C, and D and Appendix 4-2 for year-to-year changes in caseload and 5-year change in caseload.

The 5-year trend for patient visits has been positive for pigs (up 29%), dogs (up 25%), cattle (up 16%), goats (up 13%), and cats (up 7%). Patient visits for horses (down 1%) and sheep (up 2%) have been relatively stable over the past 5 years. The large number of patient visits and growth (up 28%) in the other category reflects a strong camelid program during this time. The departure of clinical faculty in the area of avian and exotic animal medicine led to a nearly 100% decline in patient visits for caged pet birds, caged pet mammals and avian wildlife during this time period. Professional students currently obtain experience with these species during their core clinical rotation in Veterinary Preventive Medicine and during selective clinical rotations.

The numbers of animals examined by ambulatory and field services has grown substantially for cattle (up 52%), horses (up 36%), and goats (up 32%) over the past 5 years. The number of pigs examined during this time has increased 12%. The number of sheep examined has fluctuated over the last 5 years, but on the average has remained stable over the 5-year period (< 1% increase).

21.4.2 Describe and analyze the adequacy of normal and clinically diseased animals (hospitalized, out-patient, field service/ambulatory and herd health) used for the DVM teaching program.

Information in Tables A, B, and C verifies that the College's caseload is substantial and adequate for teaching professional students about all major domestic species. We are fortunate that our teaching hospital is located in a large metropolitan area surrounded by more rural regions and that we have a full-service large animal ambulatory practice in Marysville (33 miles from Columbus). With regard to normal animals, approximately 10-20% of the hospital caseload consists of patients presented to our community practice clinic which handles routine vaccinations, well pet care, and diagnosis and treatment of common medical problems. The Shelter program provides additional experience with normal dogs and cats. In addition, professional students gain experience with normal and diseased dairy cattle, swine, poultry, wildlife, and zoo animals during their core clinical rotation in Veterinary Preventive Medicine. Finally, some outside selective rotations provide exposure to normal and diseased avian and exotic species as well as beef and dairy cattle.

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

The ***Shelter Rotation*** is a 2-week core course for fourth-year veterinary students held in cooperation with the Franklin County Dog Shelter. Students spend 2 weeks performing anesthesia and surgery, including spays, castrations, and other elective and non-elective procedures. This program gives students considerable practical experience with normal and diseased dogs and cats and allows them to gain an understanding of the role that shelters play in animal welfare. Students receive community service credit by recording their hours in a Community Connections database.

The ***Honoring the Bond*** program provides students with an opportunity to learn valuable history taking, client communication, practice management, and grief counseling skills. Students learn about coping with pet loss, building effective workplace teams, discussing euthanasia, effective communications, and discussing financial matters. With client consent, students are videotaped taking histories, and their performance is evaluated by faculty and discussed with them.

The ***Marysville Clinic*** is a non-traditional university ambulatory practice located 33 miles from Columbus, Ohio and staffed by 5 full-time faculty clinicians who are members of the Department of Veterinary Preventive Medicine. This full-service large animal practice provides a core ambulatory clinical experience for fourth-year veterinary students. The Marysville rotation is consistently highly ranked by veterinary students for the real-life practice experience it provides (i.e., in additional to traditional large animal practice, students sometimes participate in tasks such as taking inventory and billing clients).

In 2004, the College's clinical curriculum was modified to provide students with two 2-week ***Selective Rotations*** in clinical areas of their own choice. Students may elect to return to any of the existing core clinical rotations or they may choose from several other on-campus or off-campus selective rotations including anatomic and clinical pathology, avian and exotic animal medicine at the Cleveland Zoo, dairy and beef production medicine, ultrasonographic imaging, Michigan State University dairy rotation, Ohio Department of Agriculture meat inspection, radiation oncology, research in Veterinary Biosciences, and USDA and APHIS veterinary services.

The 2-week core clinical rotation in ***Veterinary Preventive Medicine*** provides several unique clinical experiences for our professional students including time spent visiting the Columbus Zoo, swine operations at the Marion Correctional Institute, the IAMS manufacturing plant and research center, the Armed Forces Veterinary Program at Wright Patterson Air Force Base, poultry operations, a meat processing plant, local practices to discuss and evaluate practice management issues, Big Darby Creek to study river hygiene, Olentangy River Wetlands Research Park, Waterman Dairy, the Ohio Department of Agriculture, The Wilds to learn about handling large wildlife species, and Ohio correctional facilities to learn about dog training and handling.

21.4.4 If off-campus clinical instruction is used, complete Table D and describe the planning, supervision, and monitoring of students; and contracting arrangements for non-institutional based faculty.

The only non-institutional, off-campus program that is part of the clinical program is the Shelter Program (described above) which is carried out at the Franklin County Dog Shelter. The program is supervised by a clinical faculty member (Dr. Lawrence Hill). Students spend 2 weeks performing general surgery and anesthesia on shelter dogs and learn about small animal population medicine. A syllabus describes the program and provides course objectives, expectations, grading methods, and student responsibilities and activities.

21.4.5 Describe the involvement and responsibilities of professional students in the health care management of patients (and clients) in clinical programs of the college.

Veterinary students participate in all phases of patient management including diagnosis, treatment, and client communications. The clinical program is designed to maximize the primary care experience of the professional students, and our high caseload provides substantial practical experience for the students. Students are given responsibility commensurate with their skills and competence under the direct supervision of animal health technicians, interns, residents, as well as clinical and tenure track faculty board-certified in their areas of specialty.

The student greets the client and calls them into an examination room where a complete history is obtained and the student performs a physical examination of the patient. The student then develops a problem list, differential diagnoses for each major problem, diagnostic plan, and provisional treatment plan. Next, the student discusses the case with the supervising clinician, and the clinician completes another physical examination of the animal. The clinician then provides feedback to the student and modifies the plan as needed based on their clinical findings and judgment. The clinician and student return to the examination room where the clinician reviews the history with the client and discusses diagnostic and treatment options. Risks and benefits of the plan are explained and permission forms for procedures, anesthesia, and surgery are signed by the owner as necessary. The client also signs an estimate of the expected cost of the diagnostic and treatment plan.

Students take primary responsibility for care and evaluation of their patients. They order diagnostic tests, collect and submit samples, and assist in procedures such as consultations with other services, imaging studies, needle aspirates, biopsies, anesthesia, endoscopy, surgery, patient monitoring, and placement of catheters. Animal health technicians and clinicians assist the students in these tasks and allow the students to perform as many tasks as are safe for the patient given the student's confidence and skills. The students are involved in the decision-making process as it relates to their patients and all patients are discussed at least once (and often twice) daily at service rounds. At rounds, students are asked to interpret findings, suggest diagnoses, explain pathophysiology, and make suggestions for other diagnostic tests and treatment.

Students are responsible for routine daily client communications and document client communications in the medical record. Students may contact clients more than once a day if special procedures or surgery are performed to communicate findings and provide updates on the condition of the patient. Under guidance of the attending clinician, students may give clients updates about the current status of their bill. Students also arrange and supervise

client visits to hospitalized patients. Students complete daily progress notes in the medical record according to the familiar SOAP acronym (i.e., subjective, objective, assessment, plan) of the problem-oriented medical record. Attending clinicians review the students' progress notes in the medical record and provide constructive feedback. Students maintain anesthesia records during surgery and complete surgery reports that are reviewed and signed by the attending surgeon. Students are responsible for the routine care and treatment of their patients. At the time of release, the student completes an on-line discharge summary and instructions form that then is read, corrected, and signed by the attending clinician. The discharge summary and instructions are given to the client, faxed and mailed to the referring veterinarian and a copy is kept in the permanent medical record. These patient summaries also are maintained in a Filemaker Pro database which allows clinicians and staff to perform text-based searches and retrieve data for research and teaching purposes. Students personally discharge their patients and explain home care to the owners, even on weekends and evenings as necessary.

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

Most of the clinical and tenure track faculty members of the Department of Veterinary Clinical Sciences are board-certified specialists who practice in their area of expertise and provide clinical instruction for the professional students by evaluating referral cases in the teaching hospital. The clinical faculty includes board-certified specialists in emergency/critical care, surgery, internal medicine, nutrition, oncology, cardiology, ophthalmology, dermatology, anesthesiology, radiology, and radiation oncology. The hospital also conducts a Care and Wellness Community Practice that provides wellness and vaccination clinics, sees first opinion cases, and triages emergency cases. The core clinical rotations for students in these various clinical areas range from 10 to 30 days depending on the specialty area. Additionally, students can elect two 2-week selective rotations through any of these areas. Content specialists from private practice see cases part-time in the teaching hospital to provide students with exposure to dentistry and animal behavior. Externships in private practice are available for students desiring clinical exposure to avian and exotic animal medicine.

Clinical resources are integrated in the clinical instruction and didactic courses in several ways. For example, our human-animal bond and communications programs offer students instruction in client interactions. Students are videotaped taking histories from clients, and faculty members provide students with feedback on their communication skills. Case material from the clinic is incorporated into case presentations in core and elective courses such as small animal internal medicine case presentations (VCS 753), clinical endocrinology (VCS 728), small animal medicine problem-solving (VCS 718, VCS 719), hematology (VBS 693) and clinical pathology and cytology (VBS 710). Formal case presentations are made by the students on a weekly basis at Grand Rounds, which are supervised by a faculty member on a rotating basis. Weekly clinicopathologic conferences and cytology rounds are additional ways in which case material is incorporated into clinical instruction.

21.4.7 Describe the adequacy of the medical records system used for the hospital(s).

An efficient medical records system is vital to the teaching, research, and service missions of the College. The hospital maintains a centralized medical records system incorporating an electronic health information system (Vetstar HIS) with original clinical hardcopy (paper) documentation. In addition, an electronic/digital system is in place for diagnostic imaging. The medical record includes authorization forms, history and physical examination findings, patient orders and progress notes, diagnostic laboratory results, diagnostic imaging interpretations, consultations reports, procedure and surgery reports, discharge summaries/client instructions and reports to referring veterinarians. Some reports (diagnostic imaging, clinical laboratory, necropsy, histopathology, and surgery reports) are maintained in the HIS as an electronic medical record. All client accounting information is processed in the HIS and permanently maintained as part of the medical record.

The Medical Records Section is supervised by a Registered Health Information Administrator and includes one Registered Health Information Technician and 4 FTE additional clerical-technical staff. Medical records staff members assemble records, perform quality assurance on all records, and maintain the record tracking system within the HIS. Medical records staff members provide confidentiality and records orientation to professional students and clinicians and assist with HIS training. Medical records staff members also code clinical diagnoses and procedures using Systematized Nomenclature of Medicine-Clinical Terminology (SNOMED-CT) via the HIS. Proper coding allows cases to be retrieved for research and teaching purposes as well as for transfer to the Veterinary Medical Databases (VMDB). Clinicians may request searches of the HIS for specific diagnoses or procedures and also may

request research retrievals from the national VMDB. The Health Information Administrator collaborates with the Medical Records Committee to implement policies and procedures related to health information management and to develop new medical record data collection forms as needed. Recently, the College has devoted additional resources to the Medical Records Section by hiring 1 FTE position devoted to coding medical records for retrieval purposes. In addition, temporary staffing has been supplied to assist in eliminating a backlog of medical records to be coded.

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

Caseload has grown or remained stable for all major domestic species (see trend analysis above) resulting in abundant case material for the clinical education of our professional students. We are fortunate to be located in a large metropolitan area surrounded by rural regions, a situation which provides a large and diverse caseload. One area of weakness is our avian and exotic animal program. This program had been stable between 2001 and 2003, but our 2 clinical faculty members in this discipline resigned in 2002 and 2003 and could not be replaced resulting in loss of the hospital's clinical program in avian and exotic animal medicine and surgery. To compensate, the college has developed many 4-week externship opportunities for students in these areas including 24 opportunities in exotic animal medicine and surgery, 16 in zoo animal medicine, 13 in avian medicine, 4 in wildlife medicine, and 2 in aquatic animal medicine. We also contract with specialists in avian and exotic animal medicine to provide didactic instruction to the students. The professional students also obtain some exposure to avian and exotic species during their visits to the Wilds and the Columbus Zoo as part of their core clinical rotation in Veterinary Preventive Medicine. Core clinical selective rotations also are available for avian and exotic animal medicine, and selective rotations are available at the Cleveland and Columbus Zoos.

Hospital revenue has grown from approximately $10.6 million in fiscal year 2000-2001 to $15.1 million in fiscal year 2004-2005 (a 43% increase). During this time, hospital revenue as a percentage of total expenditures has increased from 83% to 87% reflecting improvement in an already highly efficient system. We have applied this revenue to improve the clinical programs in our hospital in several ways including hiring additional animal health technicians, supporting the new internship program in small animal medicine and surgery, providing support for some residency positions, providing support for some clinical instructor positions, purchasing new state-of -the-art equipment for the hospital (e.g. linear accelerator, digital radiography), and completing renovations of some hospital physical spaces. Our hospital director has implemented selected business plans proposed by clinical faculty to expand programs in ways that are expected to pay for themselves by increased hospital revenue. Reinvestment of hospital revenue in our clinical programs and hospital physical facility has allowed us to improve clinical instruction and patient care despite ongoing erosion of state support for our programs.

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

The role of the professional student in patient management is described in detail in 21.4.5 (see above). All outpatients and hospitalized patients are used as teaching material for fourth-year professional students in clinical rotations, and students are closely involved with delivery of health care and client communication. Clinical cases are discussed daily at service rounds and weekly at grand rounds. Services without primary patient care responsibility also discuss these cases (e.g. anesthesiology evaluates patients to determine the appropriate anesthetic protocol to use, radiology discusses the findings derived from imaging studies of patients, intensive care monitors critical patients and makes decisions about specialized therapy, students review cytology findings on their cases with clinicians and clinical pathology faculty). Clinical faculty encourage students to evaluate patients hospitalized on other services and alert students to patients in the hospital that have interesting physical findings. With owner consent, patients that die are necropsied and students perform the necropsies under supervision of faculty pathologists. The students and supervising pathologist can access diagnostic images acquired from these patients using the Eklin Digital Radiography System.

Faculty members utilize information from clinical cases in their core curriculum lectures to first- and second-year veterinary students. This approach allows pre-clinical students to see the relevance of the basic science material they are learning and engenders excitement about their upcoming clinical experience. Several elective courses in the curriculum are devoted to presentation of clinical case material to third-year professional students (see 21.4.6 above). Pre-clinical students have the opportunity to take clinical elective courses with individual faculty that include evaluation of currently hospitalized patients.

Library and information resources

Ohio State University College of Veterinary Medicine

STANDARD 5: LIBRARY AND INFORMATION RESOURCES

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

The Veterinary Medicine Library is one of more than 60 separate collections in 25 library facilities on The Ohio State University's central and regional campuses. Administered by The Ohio State University Libraries, the library supports students, faculty and staff in the College of Veterinary Medicine by maintaining a collection of nearly 40,000 print and electronic volumes providing information related to veterinary medicine, medicine, pharmacology, public health, anatomy, physiology, pathology, microbiology, parasitology, practice management, ethics and animal welfare.

The Ohio State University Libraries holds nearly 6 million printed volumes, 5 million microforms, and over 350 online databases, making it the 19th largest research library in North America. As a member of the OhioLINK consortium, the library also provides access to 40 million items from the combined collections of 85 Ohio college and university libraries and the State Library of Ohio, most of which may be requested by students, faculty and staff and delivered to any Ohio State library for pickup within 3 to 5 days. The Ohio State University Libraries provides electronic access to over 9,000 journals through the University Libraries' website, the majority of which cover the areas of science, technology, and medicine. The Veterinary Medicine Library also maintains print subscriptions to 155 journals currently unavailable online. For items not held in the libraries, regular interlibrary loan borrowing is available from just about any library in the world. More information about the Ohio State Library system can be found at http://library.osu.edu and specific details about the veterinary library can be found at http://library.osu.edu/sites//vetmed/.

Adjacent to the library, the Wenger student computer laboratory houses 36 iMac computers each equipped with a combination DVD-R/CD-RW drive, Microsoft Office Suite 2004, and iLife software. Each workstation accommodates 2 persons for a laboratory capacity of 72 students. Students use the computers to access online course materials, laboratory images, and internet email. The room also is outfitted with overhead sound and digital projection systems. The laboratory provides an image scanning workstation and 3 eMac G4 workstations dedicated to video production and statistical analysis. A full-time laboratory manager answers student questions, provides technical support, manages the server, and oversees daily operations of the laboratory.

A $230,000 renovation of the student learning area of the Veterinary Teaching Hospital was completed early in 2003. The renovated space includes a classroom that seats 30-40 persons and features a dry-erase board, desktop computer, radiograph view-boxes and overhead digital projection system; 3 small group (6-8 person capacity) conference rooms each equipped with dry-erase board, desktop computer, combination DVD/VCR player, and radiograph view-boxes; a student lounge area with comfortable seating and a plasma screen high definition display that can be used to view the extensive collection of video learning materials stored in the area; 3 computer modules each containing 4 eMAC desktop computers; a document printing station; and, mailboxes for third and fourth year veterinary students. Wireless access and network connections with adjacent power outlets also are available in this area.

Describe the academic credentials for the librarian in charge of the library

Sarah Murphy serves both as Head of the Veterinary Medicine Library and Assistant Professor for University Libraries. She received her master's degree in library science (MLS) in May 2000 and has been in her current position since April 2001. Ms. Murphy is a member of the Veterinary Medical Libraries Section of the Medical Library Association. As Chair of the Section's Standards Committee in 2002, she led efforts to write the *Standards for the academic veterinary library*, which subsequently were approved by the MLA Board of Directors in April 2005 (see http://www.pubmedcentral.gov/articlerender.fcgi?tool=pubmed&pubmedid=15685288). She currently serves as Past-Chair of the Veterinary Medical Libraries Section and is Past-President of the Ohio Health Sciences Library Association. Her research interests include library outreach to practicing veterinary professionals, information for veterinary consumers, citation patterns of veterinary faculty, and reference narratives.

Briefly describe the availability of learning resources support for faculty and students, including personnel.

The Veterinary Medicine Library is open 83 hours per week during autumn, winter, and spring quarters and 48 hours a week over summer quarter. The library, 10 adjacent group study rooms and selected other areas of the Veterinary Medicine Administration Building are OSU Wireless Hotspots, and offer wireless internet connection. In addition to wireless connectivity, students may access the library's electronic resources using 13 computer workstations, of which one is fully compliant with the Americans with Disabilities Act. There are 2 integrated TV/VCR/DVD units in the library's study rooms and a separate copy room with a multi-function copy device which allows students, faculty and staff to copy, print, or scan documents directly to their email. University Libraries also offers RefWorks, an online reference management tool, to all faculty, students, and staff.

Personnel for the Veterinary Medicine Library include the Head Librarian, 1 full-time library assistant, and 9 student employees. The librarian provides leadership for the Veterinary Medicine Library by identifying, developing, and implementing goals and standards for the library; establishing policies and procedures for the Veterinary Medicine Library as a departmental library; and communicating and interpreting policies and procedures of the University Libraries system. The librarian develops and maintains the collections of the Veterinary Medicine Library in accordance with the mission and vision of the Veterinary Medicine Library and the mission, vision, and strategic plan of the College of Veterinary Medicine. The Sam Segall Memorial Library Fund provides $30,000 per year for the purchase of books, journals and databases. The Charles D. Diesem Veterinary Anatomy Fund provides an additional $2,000 to $3,000 funding per year for library materials. The librarian provides reference assistance online, in person, and by telephone, as well as formal library instruction programs for classes and groups of interested individuals. To achieve these objectives, the librarian is responsible for developing and maintaining a positive working relationship with the College of Veterinary Medicine's Library Committee. Any faculty member, student, or staff member may recommend a book for purchase at any time. Changes in the mission and composition of the library committee currently are under consideration by the college administration (see proposed changes below). The full-time library assistant is responsible for operating the circulation desk, managing the library's document delivery services, and supervising, hiring, and training all student employees.

Describe current plans for improvement.

The revised College of Veterinary Medicine Library Committee will serve as a liaison between the college and University Libraries, and will advise the library on information needs in relation to changing priorities within the College's academic and research programs; provide input on priorities for library collections and services, including the strategic development of digital projects and programs; and, evaluate current trends in scholarly communication and copyright protection that influence access to and distribution of scholarly information. As currently envisioned, the committee will consist of 10 members: 2 faculty members from each department appointed by the department chair to serve 3-year, staggered terms; a representative from Educational Resources; 1 professional student; 1 graduate student; and the Head of the Veterinary Medicine Library (ex-officio). The chair shall be elected from its voting members by the committee.

Whereas the trend is towards digital library services with no physical boundaries, the Veterinary Medicine Library is committed to providing inspiring and functional space for individual and group study, reflection, consultation and research. The library recently received a grant from The Ohio State University Libraries and donations from OSU faculty to start a small leisure reading collection. This collection will include current fiction and non-fiction best sellers, with a focus on health, stress management, time management, and other topics of interest to professional students. The library also is working to support lifelong learning by developing library outreach services for college alumni and veterinarians who practice in the state of Ohio. Current initiatives include the institution of a library courtesy card enabling Ohio veterinarians to check materials out from any Ohio State University or OhioLINK member library. The library also has initiated a document delivery service that allows veterinarians to request copies of journal articles in the library's collection for a nominal fee. The articles then can be delivered electronically as pdf files to the veterinarian's desktop. The librarian recently completed a survey examining veterinary faculty citation patterns between 2000 and 2004 to determine whether the library provided access to the journals faculty cited most frequently. Results indicated that for 419 journals cited 10 or more times over the 5-year period, the library provided access to all but 7 titles. Additional studies to evaluate the library's effectiveness in meeting the information needs of faculty, students, and staff will continue in the future.

Students

Ohio State University College of Veterinary Medicine

STANDARD 6: STUDENTS

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

Table A: Veterinary Medical Program

Class	2006	2005	2004	2003	2002	2001
1st year	142	140	140	136	136	137
2nd year	138	138	133	134	136	133
3rd year	139	133	133	134	133	130
4th year	134	130	135	135	132	127
No. graduated	133	130	135	135	132	127

Table B: Interns and Residents (enter each person in only one category)

Department	No. Interns *	No. Residents	No. Residents-MS	No. Residents-PhD
Veterinary Clinical Sciences				
2005-2006	11	0	39	0
2004-2005	10	0	41	0
2003-2004	8	0	34	1
2002-2003	8	0	33	1
2001-2002	6	0	30	1
Veterinary Biosciences				
2005-2006	0	2	0	3
2004-2005	0	1	0	4
2003-2004	0	1	0	6
2002-2003	0	1	0	6
2001-2002	0	1	0	4
Veterinary Preventive Med				
2005-2006	0	0	0	0
2004-2005	0	0	0	0
2003-2004	0	0	0	0
2002-2003	0	0	0	0
2001-2002	0	0	0	0

* Includes 3 large animal interns in 2005-2006 and 2 large animal interns in previous years. All other interns are small animal medicine and surgery.

Table C: Graduate Students

Academic Year	MS			PhD			Other		
	Total	Min	%Min	Total	Min	%Min	Total	Min	%Min
2005-2006	87	34	39%	91	57	63%	0	0	0%
2004-2005	93	39	42%	100	62	62%	0	0	0%
2003-2004	77	28	36%	91	60	66%	0	0	0%
2002-2003	70	20	29%	93	59	63%	1	1	100%
2001-2002	68	23	34%	86	49	57%	1	1	100%

Table D: Other Educational Programs

Year	ACTIVITIES				
	ECFVG Clinical Year *Number enrolled*	**Foreign Seniors** *Number enrolled*	**Veterinary Technician Program*** *Number enrolled*	**Undergraduate Programs** *Number Enrolled* §	**Other** *Number enrolled* †
2005-2006	0	0	90	63	10
2004-2005	0	0	85	51	8
2003-2004	0	0	79	0	0
2002-2003	0	0	77	0	0
2001-2002	0	0	NA	0	0

* The Veterinary Technician Program is administered by Columbus State Community College, but veterinary technician students rotate through the teaching hospital for their clinical experience.

§ VPM 101: Introduction to Veterinary Medicine (Dr. Charles Neer)

† Students from Ross University and St. George's University participate in clinical rotations according to contractual agreements with the College.

NA: Not available

Trend Analysis

Enrollment of professional students has increased 5% from 527 students in 2001 to 553 students enrolled in 2006. Our students have been very successful in obtaining internships after graduation with an average success rate of 83% (116/140) over the past 6 years (2001-2006) (see Appendix 6-3). The number of clinical residents in our training programs has grown approximately 33% from 30 in 2001-2002 to approximately 40 beginning in 2004. Competition for these residency training positions remains very steep. For example, between 2003 and 2006, the ratio of applicants to positions was 83:1 for small animal surgery, 31:1 for equine surgery, 30:1 for small animal medicine, and 8:1 for food animal medicine and surgery. In 2001, the College instituted an internship program in Small Animal Medicine and Surgery that has been very successful. We received 151 applicants for 4 positions in 2001 and 245 applicants for 7 positions in 2006 and the ratio of applications to positions has ranged from 28:1 to 38:1 during this time, indicating a very competitive program. The number of graduate students in PhD programs has remained stable at an average of 92 per year with an average of 62% minorities. Numbers of graduate students in MS programs has grown approximately 48% over the past 5 years with a relatively stable percentage representing minorities (average of 36%). In 2004, the College introduced an introductory course about veterinary medicine for undergraduate students and also began accepting a small number of fourth year contract veterinary students from Ross University and St. George's University for clinical rotations.

Provide a list of student services

Athletic facilities are located on campus, an organized university intramural sports program is available, and veterinary students may audit physical education courses. Ohio State University's state-of-the-art Recreation and Physical Activities Center (RPAC) was completed at a cost of $140 million and opened in August 2005.
Clubs and organizations are described on pages 16-25 of the College's Student Handbook (see below) and listed in Appendix 6-1.
Counseling: Students seeking assistance with personal matters may consult the College's Office of Student Affairs or the ***Honoring the Bond*** social work intern program. These services provide students with on-site, short-term intervention and resource referral. For additional follow-up, students may be referred to the University's Counseling and Consultation Services, the Younkin Success Center or the Wilce Student Health Center.
Financial Aid Support: A financial aid officer dedicated to assisting veterinary students with loan and credit issues is available in the Office of Student Affairs each week during the academic year.
Mentoring (advising): A voluntary faculty academic advisory program allows all entering first-year students to be assigned a faculty advisor before the beginning of their first academic quarter. Each class also may select a class faculty advisor.
Monitoring Academic Progress: The Office of Student Affairs evaluates quarterly grade reports and notifies students of academic deficiencies. The Academic Standards Committee evaluates students in academic difficulty

and reviews petitions for reinstatement for students dismissed from the program. The Office of Student Affairs verifies completion of curricular requirements for graduation.
Organization of Special Events: Veterinary Administration organizes college events including commencement, honors and awards, student orientation, and alumni events.
Peer assistance: The College's Office of Educational Design and Systems assists students with study skills and time management. The office also provides student tutors for assistance with academic subjects.
Registration: The Office of Student Affairs provides students with the call numbers for required courses each quarter. Students register for classes at the website of the University Registrar. Scheduling is supervised and monitored by the Student Affairs Office. Students in good academic standing at the third quarter their first year may enroll in elective courses. The Office of Student Affairs completes all course registrations for electives and for fourth year students.
Scholarships: The College Scholarship Committee determines policy and supervises distribution of scholarship funds. Appendix 6-2 lists scholarships available to students in good standing, and descriptions of these scholarships can be found on pages 11-14 of the College Bulletin (see below). Through gifts and endowments, the College administered scholarships amounting to $240,000 in 2005-2006 (see Appendix 6-2). In addition, the College received general funds scholarship support from the university in the amount of $793,000 for fiscal year 2006 and $840,000 for fiscal year 2007.
Testing: The College offers special accommodations to students with documented learning disabilities. The University's Office of Disability Services provides testing for learning disabilities and can officially document a disability. Once documented, the Office for Disability Services provides the College with recommendations on how the best assist the student.
Tutoring: The University's Learning Skills Office located in the Younkin Success Center offers assistance in test-taking and study skills.

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

The Placement Office is located in Educational Design and Systems (Room 0005 Veterinary Teaching Hospital) and is involved in coordinating professional placement for senior veterinary students. Job opportunity letters are kept on file in the Academic Technology Center for student use. The SCAVMA Auxiliary organization sponsors a career and placement day at which fourth year students can interview with interested veterinary practitioners.

Provide a description of the testing/grading system

The grades used by the College of Veterinary Medicine and their equivalent Grade Points are: A (4.00), A- (3.70), B+ (3.30), B (3.00), B- (2.70), C+ (2.30), C (2.00), C- (1.70), D+ (1.30) D (1.00), E (failed, no points). It is the option of each teaching team whether to assign a Plus or Minus to the grade. Other marks used in grading are I (Incomplete), S (Satisfactory), U (Unsatisfactory), or W (Withdrawn). In Clinical Rotations, grades below C- are considered failing; therefore D+ and D grades are not used during the fourth year. The method of grade determination is to be published in the syllabus for each course. Each teaching team will determine what constitutes the requirements for attaining a respective grade, i.e. that point at which a grade changes to the next higher or lower grade. All core courses and clinical rotations (except VM 700.08: Preventive Medicine clinical rotation) are assigned a letter grade. Elective courses offered during years 1-3 may be assigned a letter grade or graded S/U. All selective and externship experiences offered in the senior year are graded S/U.

Provide academic catalogues or an electronic address for this resource and freshman/upper class orientation materials

A PDF of the 2005 College of Veterinary Medicine Bulletin is available at:
http://www.vet.ohio-state.edu/assets/pdf/education/studentResources/CollegeBulletin20050819.pdf

The above document provides information about careers in veterinary medicine, facilities, Educational Resources, Veterinary Technology Services, libraries, the admissions process, registration and scheduling, fees and expenses, financial aid including scholarships, loans, and student employment, academic curriculum (core courses), academic standards, awards, student rights and responsibilities, the honor code, the grading system, health and safety issues, postgraduate programs (including residencies), academic departments, college and university services (including counseling and career placement), student organizations, and a listing of the college faculty.

A PDF of the 2005-2006 College of Veterinary Medicine Student Handbook is available at:
http://www.vet.ohio-state.edu/assets/pdf/education/studentResources/studentHandbook2006.pdf

The above document provides information for students about college rules, health and safety, financial aid, advising, counseling, the veterinary medicine library, student chapters of professional organizations, veterinary fraternities, student council, honors and awards criteria, student publications, and the honor code.

A PDF of the 2006-2007 Procedures Manual for Senior Students is available at:
http://www.vet.ohio-state.edu/assets/pdf/restricted/accreditation/hospProcManStudent.pdf

The above document provides information about the fourth year clinical program including hospital policies and orientation information about various hospital sections and services.

A PDF of the 2006-2007 Procedures Manual for House Officers is available at:
http://vet.osu.edu/assets/pdf/restricted/accreditation/hospProcManOfficers.pdf

The above document provides information about the policies, operations and procedures of the teaching hospital for clinical house officers (i.e. interns and residents).

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

The Associate Dean of Academic and Student Affairs conducts informal chats with students to identify concerns about professional instruction and curriculum, and a suggestion box is available for students to provide anonymous feedback. A student survey instrument was placed on the College's website in February 2006. The survey asked the students to review the accreditation standards as they apply to our college and indicate how satisfied they were that the college met each of the standards (4 = very satisfied; 3 =somewhat satisfied; 2 =neutral; 1 = somewhat dissatisfied; 0 = very dissatisfied). If they were uncertain, had no opinion, or felt the standard addressed issues that did not relate to their experience as a veterinary student, they were asked to select choice 2 (neutral). A textbox was provided for the students to include comments, complaints or suggestions as they apply to each standard. The numerical responses (N = 239; 43% participation) and a summary of the comments of the students are presented in Appendix 6-4.

Describe current plans for improvement

The College plans to hire a new recruitment and diversity officer to address the need to encourage under-represented groups to enter the veterinary profession. The recruitment officer will develop public relations materials and media directed at K-12 students, identify target groups of students, create opportunities to interact with and expose these students to the veterinary profession at a young age, and attend career fairs throughout the Ohio and other states. The recruitment and diversity officer will manage and further develop the mentorship program and devise a system to bring the public to the College by means of tours and open houses.

Admissions

Ohio State University College of Veterinary Medicine

STANDARD 7: ADMISSIONS

State the minimum requirements for admission

No specific undergraduate college major is required. Students should plan a program toward a degree, although a bachelor's degree is not required for admission. Requirements for admission include:

(1) Required pre-veterinary medical courses must be completed at a fully accredited college or university with a grade of C or better. Ohio and contract state residents must have a cumulative grade point average (GPA) of ≥ 3.00. Non-resident applicants are considered for at-large seats and usually need a minimum GPA of 3.40. See Appendix 7-1 for required pre-veterinary courses.
(2) Standardized test results. Either the Graduate Record Examination (GRE; minimum score, 955) or Medical College Admission Test (MCAT; minimum score, 24) must be taken.
(3) One page statement explaining the candidate's qualifications to pursue a career in veterinary medicine.
(4) Work experience outline indicating names and addresses of employers, dates of employment, and duties and responsibilities.
(5) Minimum of 80 hours experience with the same veterinarian in some area of veterinary medicine (private or public).
(6) Three recommendations are required, 2 of which must be from veterinarians.
(7) Personal interview with the members of the Admissions Committee is arranged by invitation. To receive an interview, students enrolled in graduate school must provide a letter from their graduate faculty advisor indicating current status in graduate school and stating that they are aware of the student's application to the professional curriculum.

Describe the student selection process, including measures to enhance diversity

The admissions committee currently has 17 active members including 8 full time faculty members, 3 emeritus faculty members, and 6 alumni. Of the 17 members, 5 are women. Currently, 140 seats are available for each entering class of veterinary students: 97 seats for Ohio residents, 5 seats for contract state residents, and 38 at-large seats.

Primary criteria for consideration include appropriate educational background including required prerequisite courses as well as acceptable GPA and standardized test scores. *Secondary* criteria include character traits and life experiences that suggest the candidate will be an ethical, responsible, and productive member of the profession. These include communications and interpersonal skills, attitude, leadership, judgment, and knowledge of the profession including experience with animals and work experience related to veterinary medicine. Applicants are required to provide evidence of relevant personal, professional and educational experiences.

An *objective* score (up to 45 points) is calculated on the basis of GPA (maximum of 35 possible points) and standardized test score (maximum of 10 possible points). Candidates are interviewed if they have satisfactorily completed the prerequisite courses, have satisfactory professional experience and have adequate objective scores according to their status as an Ohio resident (≥ 32 for first time Ohio applicants or ≥ 27 for repeat Ohio applicants), contract state resident (≥ 30), or at-large candidate (≥ 34). To enhance diversity, an additional committee point may be awarded to candidates on the basis of racial or ethnic minority status, economically disadvantaged background or unique qualifications related to specific areas of need within the profession (e.g., food animal medicine, public health, biomedical research). The College also plans to hire a new recruitment and diversity officer to address the need to encourage under-represented groups to enter the veterinary profession (see Students Standard).

Two admissions committee members conduct interviews and assign points (maximum of 55 possible points). The following subjective areas are evaluated and scored during the interview: academic strength, adversity/stress management, social and community activities/leadership skills, academic trend, financial awareness/work record, motivation and commitment to veterinary medicine, scientific communication/biomedical knowledge, communication skills (written and oral), comprehension of the veterinary profession, knowledge of and exposure to animals, letters of reference, committee points (1 additional point may be added to up to 10% of candidates the interviewer feels will contribute in a unique way to the profession – e.g. increased racial, economic or professional diversity). The candidate's *subjective* score is average of the two interview scores.

The admissions score is the sum of the *objective* and *subjective* scores. Each candidate's portfolio is presented at a regularly scheduled Admissions Committee meeting, and a vote is taken on whether to place the application in the acceptable or denied category. A list of candidates to be offered seats is determined from the list of acceptable candidates ranked according to their numerical admissions scores.

List factors other than academic achievement used as admission criteria

The Pilot Program was developed in 1985 to provide opportunities for certain Ohio applicants who meet all admissions requirements, have high subjective scores, but whose GPA although acceptable may not be competitive as a consequence of some serious personal adversity. As compared to the minimum requirements for admission described above, candidates for the Pilot Program must have a GPA < 3.1 in their first year of application, ≥ 1000 on the GRE or ≥ 50% on the VCAT or MCAT, a subjective score ≥ 40 from each interviewer, ≥ 7 points for their letters of reference, been interviewed in 2 different years, been nominated by both interviewers and approved by the Admissions Committee during a regular meeting, and have residency in the state of Ohio. Once eligible, applicants will not lose eligibility as a result of later GPA improvement. Pilot Program candidates are ranked numerically for final consideration based on total points using a formula that takes into account GPA, test scores, number of times applied, subjective score average, and average points from letters of reference. The Admissions Committee determines how many Pilot Program candidates will be admitted (up to 5 seats offered). Pilot Program seats are offered to candidates before regular Ohio admissions are determined, and names of candidates admitted under the Pilot Program are removed from the remaining regular candidate list. After the Pilot Program seats are determined, the Admissions Committee fills the remaining Ohio Resident seats.

Complete Table A

Year	State residents		Non-residents		Contract students		Total	
	A/P*	O/A**	A/P	O/A	A/P	O/A	A/P	O/A
2005	250/97	102/100	606/38	87/35	17/5	8/5	873/140	197/140
2004	303/97	106/100	598/38	89/36	18/5	5/4	919/140	200/140
2003	282/97	100/97	536/38	89/38	32/5	8/5	850/140	197/140
2002	283/94	97/94	605/36	65/36	35/5	8/5	923/135	170/135
2001	302/94	97/95	562/36	68/35	28/5	7/5	892/135	172/135

*A/P = Applications/Positions Available; **O/A = Offers Made/Acceptances

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

The College plans to completely convert the admissions process to the Veterinary Medical Colleges Application Service (VMCAS) of the Association of American Veterinary Medical Colleges (AAVMC). Participation in VMCAS will allow the College to collect data and better evaluate the best means to adjust the student selection process by comparing admissions criteria and the weight that should be given to academic performance. The admissions process also will be adjusted to minimize delays in the interview process by instituting an initial applicant file evaluation by faculty of the College and then only to send forward the files of applicants who have had the appropriate experience and recommendations to be considered for the next step in the evaluation process. The next step in the process will consist of interviews with two interviewers who will evaluate each applicant. These interviewers will consist of faculty, professional students, alumni, and practitioners. The interviewers will be trained in appropriate interviewing techniques, including the appropriate types of questions to ask, how to interpret responses, and how best to determine the skills, knowledge and personal qualifications of the candidates.

Faculty

Ohio State University College of Veterinary Medicine

STANDARD 8: FACULTY

Complete Tables A – D and assess the strengths of the faculty and support staff in fulfilling the college mission

The faculty and staff adequately meet the goals stated in the College Mission Statement including, "diagnosis, treatment, prevention and understanding of animal diseases; conservation of livestock resources; promotion of public health; and advancement of medical knowledge through professional and graduate education, research and service." Tables A, B, C, and D are presented in Appendix 8-1. The faculty is relatively small in number (student-to-faculty ratio of 5.3) but extremely high in quality as judged by its accomplishments (see Appendices 8-2 and 10-1 for assessment of faculty quality).

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

Stagnant state support for higher education and lucrative compensation packages for veterinary specialists in the private sector are the primary challenges faced by the College in maintaining adequate faculty numbers. The attractiveness of the private sector is a challenge that is not a unique to our College, but is shared by nearly all veterinary schools in the country.

In earlier years, the opportunity to practice state-of-the-art medicine in a well-equipped facility with highly-trained colleagues was an important factor in the decision of many newly trained specialists to enter academic veterinary medicine. Today, some specialty practices are better equipped than veterinary teaching hospitals and also are well-staffed by highly-trained veterinary specialists. In the Department of Veterinary Clinical Sciences, it sometimes has been difficult to identify even 2 highly-qualified applicants for some clinical positions. The problem has not occurred in Veterinary Biosciences where large numbers of applicants (15 to 40) still are available for open positions, but many of the applicants for these positions hold PhD but not veterinary degrees.

Compensation remains a major challenge for faculty recruitment and retention. Over the past 5 years, salary increases in the College generally have been very good, averaging approximately 4% per year. The high salaries offered by specialty practices and private industry provide the private sector with a competitive edge over veterinary schools in recruiting veterinary clinicians and scientists. An incentive plan has been developed in our College to enhance compensation of research-intensive faculty, but a similar program has not been implemented for clinical faculty whose compensation often is below that offered to veterinary specialists in practice.

Another challenge for academic veterinary medicine is identifying individuals with the desire and aptitude to teach veterinary students and pursue academic careers. Potential candidates should be identified early in their careers (possibly while in veterinary school) and they should be mentored by faculty members. Clinical faculty should present themselves as good role models for veterinary students, interns, and residents. Features of university employment that have the potential to improve quality of life (e.g., good health benefits, flexible work conditions) should be emphasized during recruitment. The College has developed flexible appointments for faculty to facilitate work-life balance, and the recently formed Quality of Life Committee addresses faculty concerns about the workplace community and develops appropriate policies.

Our College is fortunate to be located in the Midwest where the cost of living is reasonable and in a metropolitan area that provides a large and varied caseload of all domestic species. The academic environment provides a superior intellectual atmosphere for faculty growth and development as well as an opportunity to teach and work with highly-motivated talented students.

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

Over the last 5.5 years, the ratio of faculty hires to losses has been 1.1 (52/46) in the College. Some growth has occurred in Veterinary Biosciences (7 hires/5 losses = 1.40) whereas faculty numbers have remained stable in Veterinary Preventive Medicine (16 hires/14 losses = 1.14) and Veterinary Clinical Sciences (27 hires/26 losses = 1.04). Faculty turnover has been highest in Veterinary Clinical Sciences due to competition with specialty practices and other veterinary colleges. In Veterinary Clinical Sciences, faculty loss has been experienced primarily in the areas of equine surgery, food animal, critical care and neurology. Recent losses in these areas are being addressed by current searches. Veterinary Preventive Medicine has experienced growth in the areas of food safety, microbiology,

and epidemiology whereas Veterinary Biosciences has experienced growth in the areas of oncology, molecular virology, and immunology.

Provide a concise summary of promotion and tenure (P & T) policies, and the policy to assure stability for non-tenured, long-term faculty

Appointments in the College include tenure track, clinical track, auxiliary, and research scientist. The tenure initiating units (TIU) in the College are the academic departments. The TIU has primary responsibility for determining that candidates meet criteria for reappointment or tenure and promotion. The departmental P & T committee advises candidates on preparation of their dossiers and assists the Chair in the annual review process as needed. The departmental P & T committee conducts a meeting of eligible faculty (those with rank higher than the candidate being considered for reappointment or tenure and promotion) and makes a written recommendation to the Chair on the basis of a discussion of each candidate by eligible faculty followed by a secret ballot vote. The College P & T committee determines whether the TIU has conducted its review and reached a recommendation consistent with the standards, criteria, policies, and rules of the TIU, College, and University. The College P & T committee is advisory to the Dean. The Dean prepares a written assessment and recommendation for the University Provost for inclusion in the dossier of each candidate. Candidates are promptly informed in writing from the Dean when College-level reports (including the letter from the Dean to the Provost) are complete and available for review by the candidate if he or she wishes. The candidate is allowed 10 days to provide written comments on these reports for inclusion in the dossier. Any written comments from the candidate, College Promotion and Tenure Committee, or Dean are included in the dossier. The Office of Academic Affairs of the University makes a final decision after determining whether lower administrative levels have followed the guidelines for P & T in a consistent manner. Annual review of clinical track faculty (non-tenured, long-term faculty) is conducted as described above for tenure track faculty, and these faculty members are reappointed on an annual basis during their first 4 years of service. They are eligible for promotion from assistant professor-clinical to associate professor-clinical after 5 years, and may be reappointed for 5-year terms after promotion. Promotion from associate professor-clinical to professor-clinical also is available.

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

Each faculty member's distribution of effort is outlined by the department chair in the initial letter of offer, and this distribution is re-evaluated during the faculty member's annual review with the department chair. Successful advancement through the promotion and tenure process and merit salary increases are based on a demonstrated record of effort and achievement in the individual faculty member's areas of endeavor. Appointments vary in distribution of effort throughout the college. For example, some faculty are research-intensive (75%); others follow a more traditional tenure track appointment of 50% clinical service and 50% teaching, research, and scholarship; and finally, others are devoted primarily (85%) to clinical teaching and service (e.g. clinical track appointments). Areas of program focus and academic endeavor may change and evolve over time in the College's departments. Likewise, a faculty member's areas of emphasis and interest may change. Consequently, a faculty member's distribution of effort may change during their academic career, and such changes are discussed and negotiated during the annual review process. Subject to departmental and college approval, tenured faculty may change from tenure track to clinical track one time during their employment. Tenure track faculty who have not yet been tenured also may request a change to clinical track, but this request must occur before their fourth year review.

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

Faculty Professional Leave (Sabbatical) of up to one year is available to regular faculty every 7 years. One quarter of leave is available without salary reduction and additional quarters require some salary reduction. Applications for professional leave are made to the Office of Academic Affairs of the University. In recent years, several faculty have taken advantage of this development opportunity. Dr. Alicia Bertone completed an NIH-funded fellowship at Harvard University studying anti-arthritic gene therapy, Dr. Dan Smeak received a Fulbright Award to evaluate the surgical curriculum at the University of Helsinki, Dr. Ken Hinchcliff completed research on exercise-induced pulmonary hemorrhage in horses at the University of Melbourne in Australia, and Dr. Tony Buffington collaborated with colleagues at the Center for Neurovisceral Sciences and Women's Health at the University of California Los Angeles. Faculty also may participate in special research assignments lasting approximately 6 to 12 weeks. These

opportunities occur at full salary and are administered locally within the College. The College's Signature Program (see research standard) represents a method to foster interdisciplinary collaboration and faculty development in research endeavors.

The Ohio State University supports faculty professional development in several ways. The university's ***Faculty and Teaching Associate Development (FTAD)*** program offers workshops, forums, and seminars on a variety of issues concerning college teaching and learning. The FTAD staff consults with faculty on teaching-related issues such as planning teaching initiatives, revising curricula, evaluating programs, or providing support for graduate teaching associates. A mid-career and senior faculty program also is available. The ***Digital Union*** provides resources and services to enrich the technology environment for teaching, learning, research and outreach at the university. ***Carmen*** is a course management system that allows faculty to develop course content and interact with students using a web-based system. ***Technology Enhanced Learning and Research (TELR)*** provides a team of highly skilled instructional technologists, visual and web designers, web programmers, accessibility specialists, and researchers to help university faculty develop electronic and visual communications solutions for teaching and learning. ***Classroom Services*** facilitates the use of information technology by faculty, staff and students in teaching, research, and learning by providing equipment and professional assistance. ***Leadership Development*** provides orientation for faculty beginning administrative assignments and customized workshops on various aspects of management including performance appraisal. Within the College, the Department of Veterinary Biosciences conducts a faculty development seminar series with outside speakers.

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

Improvements in quality of life and work-home balance as well as employment benefits will be important faculty recruitment and retention tools to counter specialty practice and industry competition for talented veterinary clinicians and scientists. Faculty compensation also will become increasingly important considering the debt load of young veterinarians. Our College has developed an incentive plan to enhance compensation of research-intensive faculty, and a similar program should be developed to recruit and retain talented clinical faculty. These improvements and incentives also will be important in replacement of key senior faculty members in Veterinary Biosciences and Veterinary Clinical Sciences nearing retirement.

The College's signature programs in oncology, infectious disease, and biomedical imaging provide opportunities for multidisciplinary and interdepartmental collaboration and also function as recruitment tools to achieve the College's goal of hiring additional research-intensive faculty members. The College is in the planning stages for securing a new teaching hospital. Such a facility will facilitate our ability to recruit and retain talented veterinary clinicians.

Curriculum

Ohio State University College of Veterinary Medicine

STANDARD 9: CURRICULUM

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

The objectives of the curriculum are listed in Appendix 9-1 and an overview of the curriculum is presented in Appendix 9-2. The curriculum consists of *core* and *elective* courses. All core programs and many elective programs are interdisciplinary. Core courses comprise the majority of the program, but 32 credit hours of electives are required for graduation. Students may register for electives beginning spring quarter of their first year.

The *core program* provides a background in common medical principles and treatment of animal diseases in a combination of a discipline- and organ system-based curriculum. The core program of the first two years provides the scientific knowledge necessary for the student to launch an intensive study of animal health and disease. Core courses develop the specific anatomic, physiologic, pathophysiologic, pharmacologic, and clinical principles necessary to understand normal and abnormal structure and function and their relation to the diagnosis, treatment and prevention of disease. The third year is devoted primarily to core techniques courses that teach practical skills in medicine and surgery and to elective courses on the diagnosis and treatment of important diseases of the major domestic species many of which are taught in a problem-solving manner.

The *elective program* provides flexibility in the curriculum. It permits students who wish to pursue general veterinary practice an opportunity to study a variety of subjects and permits those who wish to specialize in a particular field or pursue graduate studies to learn some of the special skills they will need. Over 100 elective didactic courses are available in the curriculum and two 2-week selective rotations in the fourth year allow students to gain clinical exposure in targeted areas of interest. A separate 4-week elective experience also is available in the fourth year. Many students complete the fourth year elective experience at the Veterinary Teaching Hospital whereas others participate in approved off-campus programs (see description of externship program below).

Clinical experience is an integral part of veterinary medical education. The College has one of the largest clinical patient facilities in the United States in which to educate students in professional practice and provide contemporary veterinary health care to its clients. Emergency services also are provided. In clinics, students take patient histories, learn the art and science of diagnosis, and make recommendations for treatment or referral to other services for further evaluation. All of these activities are performed under the supervision of faculty who are specialists in their field. In field services, faculty and students evaluate and treat farm livestock, horses, and exotic animals. The herd health program is conducted by regular, clinical, and adjunct faculty in private practices, at state-owned farms, and in conjunction with private farms and businesses around Ohio where large numbers of animals are located.

Describe major curricular changes that have occurred since the last accreditation

The primary changes in the curriculum since the College's last accreditation are: (1) the previous 2-quarter ethics and jurisprudence course has been expanded to encompass a larger segment of the curriculum (i.e., taught over the first 3 years) and now includes basic life skills, career strategies, leadership success, communications, career development, business management, practice success and professional development (highlighted in light blue in Appendix 9-2); (2) a program in Shelter Medicine and Surgery was developed that allows students to obtain considerable practical experience (e.g. physical examinations, routine preventive health care, neutering) while providing care for dogs and cats at local animal shelters under the supervision of clinical faculty of the College (highlighted in tan in Appendix 9-2); (3) the concept of clinical tracking was introduced into the fourth year curriculum by providing two 2-week clinical rotations of the individual student's own choosing (called "selectives" and highlighted in light green in Appendix 9-2); (4) all clinical rotations in the fourth year have been standardized to 2 or 4 week blocks and redesigned so as to allow students to rotate through all sub-specialties of small animal medicine (internal medicine, cardiology, neurology, and oncology) rather than being required to elect only some of them (highlighted in light yellow in Appendix 9-2); and, finally, (5) a week-long plenary session (highlighted in pink in Appendix 9-2) was added at the beginning of the students' fourth year to consolidate material about regulatory veterinary medicine and to introduce and orient students to the Veterinary Teaching Hospital and their clinical rotations. This session concludes with a "white coat ceremony" at which the students receive their laboratory coats and are welcomed as colleagues into the clinic. Family and friends are invited to attend this ceremony.

Additional changes include expansion of the radiology course in the first year of the curriculum, incorporation of laboratory animal medicine into the population medicine course, expansion of the introduction to surgery course, expansion of the ophthalmology course, expansion of the small animal techniques course, consolidation of the intensive care and emergency medicine and surgery clinical rotations into small animal emergency and critical care and equine emergency and critical care rotations, and division of field services into separate equine and large animal field services. Some clinical rotations were shortened slightly to standardize rotation length and provide for the selective rotations (see above).

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

The Council on Education (COE) oversees the professional curriculum, provides leadership for curriculum change and serves as an open forum for faculty initiatives to improve the educational program of the College. The COE evaluates the curriculum by means of teaching team reports, standing committee and subcommittee activities, and quarterly open meetings. It facilitates communication among the teaching teams and reviews the educational program on an ongoing basis. The Associate Dean for Student and Academic Affairs in conjunction with the Office of Educational Design and Systems conducts surveys of recent graduates to determine their perception of preparedness in various areas of study and considers this information in oversight and curriculum planning.

A standard student evaluation of teaching is completed for each core and elective course at the end of the quarter during which the course is taught. Teaching teams keep the COE informed of their activities by annual written teaching team reports, which include results of the standard student evaluations of teaching and other information (e.g., numbers of students taught, grade distribution, team assessment of course, plans for change) that assists the COE in its oversight function. Individual teaching teams may conduct additional independent evaluations of their courses if they so choose. Team reports are submitted to the COE for all core courses no later than the end of the quarter following the quarter in which the course is taught. The College also conducts peer evaluations of teaching in which faculty members are assigned to attend lectures of their colleagues and provide written evaluations.

Course implementation teams (including at least one representative from each department) identify, organize and update the content of the core courses. The course teaching team leader is responsible for administration of the course and coordination of teaching team activities. Each teaching team is requested to submit a course plan to the COE, including proposed syllabus, course objectives, organization of subject matter, approximate time devoted to each topic, instructional approaches to be used and departments from which faculty will be needed. Coordination is accomplished informally among teaching team leaders, and final course plans are completed and submitted to the COE and department chairs. Elective courses proposed by faculty are evaluated by an electives committee that considers redundancy before approving new elective courses.

The Office of Academic and Student Affairs recently compiled an inventory of over 1,800 hours of lecture and laboratory taught in the first 3 years of the professional curriculum. This didactic material is categorized by key topics thus allowing the curriculum committee to identify redundancies and omissions and revise the curriculum in consultation with teaching teams and the faculty at large. Individual faculty members also may propose changes to the curriculum for consideration by the COE.

Describe the strengths and weaknesses of the curriculum as a whole

The College's curriculum exposes professional students to all aspects of veterinary medicine, and this broad-based coverage is its primary strength. The College's location in a large metropolitan area surrounded by a rural environment provides a large case load that includes all major domestic species. As a consequence, our students graduate with clinical competence in most areas of small and large animal practice. The comprehensive nature of the curriculum however does not allow much opportunity for discipline or species specialization by students, and this relative lack of flexibility is a weakness. Since our last accreditation review, the College has introduced so-called "selective" clinical rotations that allow students to choose areas in which they want to pursue additional training, but the opportunity for specialization or tracking still is relatively limited in our curriculum.

The College's curriculum provides considerable didactic variety (e.g., over 100 elective courses) for our professional students, and this diversity of courses is another strong point of the curriculum. However, the absence

of clinical rotations in avian and exotic animal medicine and in animal behavior is a weakness in the present curriculum. Also, the relative lack of flexibility in the curriculum makes it more difficult for students to pursue in-depth study of a particular subject. Students interested in pursuing one specific area of study can obtain such experience by using the externship program (see below).

In recent years, there has been limited coordination among the various components of the curriculum leading to uncertainty about overlaps and omissions in the educational program. Recent development of a database of lecture and laboratory topics in the curriculum (see preceding section) will allow the curriculum committee to identify areas of overlap and omission. Another weakness to be addressed is the current lack of a standardized outcomes assessment tool to determine competence in clinical techniques in professional students ready to enter clinical rotations in the spring of their third year. Under the guidance of the curriculum committee, the College plans to explore whether such a tool would be beneficial.

Describe preceptor and externship programs (including the evaluation process)

Senior veterinary students may participate in a 4-week externship selected from a list of approved off-site experiences or from among existing clinical rotations at the Ohio State Veterinary Teaching Hospital. The list of approved off-site programs is organized by focus area and includes experiences in alternative medicine, aquatic medicine, avian medicine, animal behavior, camelid medicine, dentistry, emergency medicine, equine medicine and surgery, exotic animals, feline medicine and surgery, food animal medicine and surgery, government practice, laboratory animal medicine, mixed animal practice, ophthalmology, practice management, radiology, reproduction, small animal practice, small animal referral practice, wildlife medicine, and zoo animal medicine. Available opportunities are listed at http://www.vet.ohio-state.edu/1384.htm. Students wishing to design their own externship experience by utilizing a program not currently approved may request approval of the program by the Office of Student Affairs. Veterinary practices and institutions also may propose externship programs for consideration. Proposals for new externship experiences are reviewed by the electives committee. Oversight of the externship experience is a function of the electives committee and is based on student evaluations of the programs.

In order to promote a consistently high level of training for all participating veterinary students, each participating program agrees to: (1) accept future students on the basis of mutual consent between the organization and the student applicant; (2) evaluate student performance and file a report with the college within 2 weeks after conclusion of the experience; (3) be evaluated by the students completing the experience with the understanding that results of the evaluation will be made available to other veterinary students and the sponsoring faculty member; and, (4) provide AVMA or other liability insurance.

In an addendum (printed or electronic) provide information on courses and rotations in the curriculum

See addendum of all core and elective courses and rotations arranged by year and posted at http://vet.osu.edu/246.htm. An overview of the curriculum is provided in Appendix 9-2.

Audit of selected curricular content

See Appendix 9-3.

Describe current plans for curricular revisions

No major curricular revisions are anticipated. Current plans include: (1) evaluating the success of the recently developed selectives program in the fourth year of the curriculum, (2) exploring ways to increase opportunities for specialization in clinical rotations (e.g. potentially allocating some of the externship weeks to additional selective rotations), (3) reassessing the first 2 years of the curriculum for redundancies and omissions, (4) reevaluating the third year of the curriculum to identify additional areas of needed coverage in the techniques courses, and (5) considering development of a standardized outcomes assessment tool to evaluate student competence in clinical techniques before entry into clinical rotations in their fourth year.

Research programs

Ohio State University College of Veterinary Medicine

STANDARD 10: RESEARCH PROGRAMS

Describe up to FIVE Programs of Research Emphasis and Excellence

In 2002, the College launched a Signature Program Initiative to promote multidisciplinary and interdepartmental collaboration in research and to identify and recruit talented scientists to reach our goal of adding research-intensive faculty members to the College. For research groups to be designated Signature Programs they must: 1) consist of three or more faculty members; 2) be interdisciplinary; 3) have sponsored research potential; 4) participate in infrastructure planning; 5) promote training; 6) be compatible with the university's strategic plan; 7) be beneficial to animal health or biomedical research; and, 8) have the potential to achieve national prominence. The Center for Retrovirus Research has been a Center of Excellence at Ohio State University for more than 17 years. Since 2002, the College has approved three Signature Programs: Comparative Oncology, Infectious Disease and Biomedical Imaging. Biomedical imaging is in its first year of development. Other areas of research emphasis and excellence listed below (equine medicine and surgery, endocrinology, epidemiology) have not requested Signature Program status but are extremely active and productive in research.

Center for Retrovirus Research

The Center for Retrovirus Research (CRR) was first established as an Ohio State University Center of Excellence by the Board of Regents in 1989. The CRR is governed by a charter, and has a director, internal scientific board and external advisory board. Administratively, the CRR is located in the College of Veterinary Medicine where the majority of its 21 members are employed. In addition, the CCR includes members from laboratories of the OSU Medical Center, Columbus Children's Hospital Research Institute, and Wright State University in Dayton, Ohio.

The CRR holds weekly scientific meetings devoted to study design, research problems and solutions, interpretation of experimental results and selected current research topics. These weekly meetings provide an opportunity for graduate students, post-doctoral fellows and principal investigators to present their work before a critical and informed audience. Approximately 25 to 35 faculty, students, and staff participate in these weekly meetings, including 6 to 8 principal investigators. The CRR publishes a quarterly newsletter, "RetroActive News." It conducts a Research Seminar Series that includes an annual Distinguished Research Career Award given to an internationally renowned scientist in the field of retrovirus research. In a given year, 6 to 8 nationally and internationally renowned scientists visit OSU, present research seminars, and spend 1 to 2 days interacting with faculty, research scientists, post-doctoral fellows, and graduate students. The majority of the CRR's research projects are funded by R01, R21, and R03 grants from the National Institutes of Health (NIH). In addition, one CRR member is the principal investigator on an NIH Program Project (P01) grant that includes 5 additional College faculty members as project or core leaders. Total annual extramural funding expenditures related to retrovirus research by CRR members were approximately $2.7 million for fiscal year 2004-2005.

Signature Program in Comparative Oncology

Comparative Oncology has been a strong area of research in the College for many years. In 2004, the Comparative Oncology Program (COP) requested and was given Signature Program status. The COP was established to integrate all faculty and graduate students performing cancer research into a working group to enhance translational research. Their mission is to promote interdepartmental and multidisciplinary collaboration in cancer research and to advance diagnostic and therapeutic strategies in oncology. The COP has close ties with the OSU Comprehensive Cancer Center (CCC). Members of the COP belong to all six programs of the CCC and College faculty hold key leadership positions in the CCC. The Leader of the CCC Viral Oncogenesis Program and the CCC Associate Director of Basic Science are faculty members of the College of Veterinary Medicine. The COP has biweekly meetings on topics ranging from individual research projects to strategy sessions on developing diagnostic, therapeutic and preventive modalities. The COP publishes a quarterly newsletter named "ONKOS." In addition, the COP has a seminar program for outstanding investigators to speak and meet our faculty and graduate students. All three departments in the College are represented in the COP: nine faculty from the Department of Veterinary Biosciences, nine from the Department of Veterinary Clinical Sciences and two from the Department of Preventive Medicine. Noteworthy achievements in the past year include establishment of a Clinical Trials Office, a Tumor Procurement Bank, a Flow Cytometry Phenotyping Service and hiring of an NIH-funded translational veterinary oncologist. Funding for COP faculty comes from the NIH, American Cancer Society, Department of

Defense, Morris Animal Foundation and American Kennel Club Canine Health Foundation. Total annual extramural funding expenditures by COP members were approximately $1.3 million for fiscal year 2004-2005.

Signature Program in Infectious Disease

The Infectious Disease Interactive Group (IDIG) was designated a Signature Program in the College of Veterinary Medicine in 2004. The mission of the IDIG is to benefit animal and public health by fostering infectious disease education and collaborative research. All three departments in the College are represented in the IDIG with 19 members from Veterinary Preventive Medicine, 8 from Veterinary Biosciences and 5 from Veterinary Clinical Sciences. Membership also includes scientists from Ohio Agricultural Research and Development Center (OARDC) and Ohio Department of Agriculture (ODA). The biweekly meeting are connected by videoconference to the OARDC in Wooster, Ohio and teleconferenced to the ODA in Reynoldsburg, Ohio. Research interests of participants in the IDIG are diverse and include a variety of viral agents (e.g., retroviruses, paramyxoviruses, influenza virus, circavirus, West Nile virus), rickettsial agents and several bacterial pathogens, especially those of food safety interest. In 2005, the IDIG hosted a one-day meeting on Mucosal Immunology with over 100 registered attendees. Total annual extramural funding expenditures by IDIG members were approximately $3.9 million for fiscal year 2004-2005.

Equine Medicine and Surgery

The Equine Medicine and Surgery Group is composed of seven faculty members as well as several residents and graduate students from the Departments of Veterinary Clinical Sciences and Veterinary Preventive Medicine. Major areas of research interest are orthopedic disease and exercise physiology. The mission of the orthopedic group is to investigate pathogenetic mechanisms underlying musculoskeletal disease and explore molecular medicine techniques for treatment of orthopedic diseases in horses and humans. Specific areas of research effort include gene therapy systems and tissue engineering. Projects include: 1) enhancement of articular cartilage healing with emphasis on the cartilage/bone interface, 2) acceleration of bone repair, 3) identification of genetic markers of orthopedic disease, 4) physiology and pharmacology of medications for joint disease, and 5) optimizing gene therapy protocols for use in patients with orthopedic disease. The exercise physiology group studies the responses of horses to exertion; the consequences of these responses in terms of the health, performance, and well-being; and, interventions that may modify these responses. Total annual extramural funding expenditures by the Equine Medicine and Surgery Group were approximately $0.8 million for fiscal year 2004-2005.

Endocrinology

The Endocrinology Group includes seven faculty members working in several interrelated areas of research endeavor including nutrition and growth, hormone biology and cancer. Specific areas of research include RET/PTC1-mediated thyroid tumorigenesis, gene transfer of the sodium iodide symporter in prostate and mammary cancer, pathogenesis of humoral hypercalcemia of malignancy, cellular regulation in normal and neoplastic keratinocytes, cellular regulation during lactation and in mammary carcinomas, development of a Cre/LoxP mammary gland specific "knock-out" transgenic mice, regulation of mRNA expression and stability by transforming growth factor-beta, pathogenesis of cancer metastases to bone, molecular progression of prostatic and mammary cancer, chemopreventive effect of gossypol on hormone-dependent cancer models, and molecular mechanisms of growth regulation. Total annual extramural funding expenditures by Endocrinology Group were approximately $0.8 million for fiscal year 2004-2005.

Describe up to TWO Additional Programs of Evolving Research Development

Signature Program in Biomedical Imaging

The Biomedical Imaging group was designated a Signature Program in the College in 2005. It is composed of seven faculty members with training and research experience with a variety of state-of-the-art biomedical imaging modalities including digital radiography, computed tomography, ultrasonography, and magnetic resonance imaging. Confocal microscopy and *in vivo* imaging (IVIS) technologies using fluorescent and luminescence technologies also are included in this group. Members of this working group belong to all three departments of the College of Veterinary Medicine, The Division of Imaging Research at the College of Medicine, University Laboratory Animal

Resources, and Biomedical Engineering. The Biomedical Imaging group is led by the radiology division of the Department of Veterinary Clinical Sciences. The mission of the Biomedical Imaging Signature Program is to enhance animal and human welfare by advancing the art and science of imaging. Current objectives are to: 1) expand collaborations among departments in the College of Veterinary Medicine and throughout the University, 2) educate faculty and students about the availability of imaging technology and its use, and 3) build a team of researchers from various disciplines to enhance the quality and depth of research in biomedical imaging. The Wright Center of Innovation in Biomedical Imaging opened in 2005 and contains 2 high-field (3 Tesla and 7 Tesla) magnets for imaging of humans and animals. A portion of the facility is dedicated to imaging veterinary patients and research animals and availability of such applications as magnetic resonance spectroscopy and dynamic contrast enhancement will greatly facilitate research activity in biomedical imaging.

Epidemiology

The Epidemiology Group is composed of seven faculty members in the Department of Veterinary Preventive Medicine. The research focus of this group primarily has been infectious disease, mainly in the context of public health. Epidemiology Group members also participate in activities of the Comparative Oncology and Infectious Disease Signature Programs. The Epidemiology Group has been assembled through faculty recruitment over the past 10 years with five faculty members added since 1995. One long-term goal of this group is to develop a premier graduate training program in epidemiology. This goal is well underway with development in 2005 of a combined Master's of Public Health training program in conjunction with Ohio State University's School of Public Health. Areas of research interest and activity include: 1) antimicrobial resistance, 2) equine protozoal myelitis, 3) syndrome surveillance and biosecurity, 4) wild animal survival, 5) mastitis, and 6) calf health. Research by the Epidemiology Group will be facilitated by receipt in 2006 of an Ohio State University Targeted Investment in Excellence Award of $4.8 million over 5 years for an interdisciplinary public health preparedness program for emerging infectious disease threats developed by the Department of Veterinary Preventive Medicine in collaboration with the College of Medicine, School of Public Health, College of Biological Sciences, College of Pharmacy and College of Food, Agriculture and Environmental Science.

Provide Evidence for the Breadth and Quality of the College Research Program

The breadth and quality of research programs in the College of Veterinary Medicine is indicated by: 1) numbers and types of intramural and extramural grants and contracts awarded to faculty, 2) numbers and quality of peer-reviewed publications by faculty, 3) intramural collaborations by faculty, 4) inter-programmatic activities with other academic units of the university, 5) quality of graduate student training, 6) involvement of veterinary students and residents in research, 7) participation of faculty at national and international scientific meetings, 8) service of faculty on competitive extramural grant review boards, 9) service of faculty in leadership positions of extramural scholarly organizations, and 10) awards and honors received by faculty (see Appendix 10-1). Extramural research grants over the past 3 years are shown in Table 10-1 in Appendix 10-2.

Intramural research program

The College of Veterinary Medicine sponsors 5 intramural research grant programs (i.e. Canine, Equine, USDA, IAMS, and Paladin funds). These programs are intended to provide developmental funds to conduct pilot projects and as a source of funding for the resident Master's degree program. Grants are accepted on a semiannual or annual schedule depending on the program. All grants are competitively reviewed by the Council for Research. Table 10-2 in Appendix 10-2 shows the number and total annual funding of grants for each program over the past 3 years. In additional to these programs, the David White Research Award and Barber Charitable Trust provide fellowship support for graduate students participating in biomedical research.

Intramural Collaborations

Intramural collaboration among the College's three departments fosters the mission of the College to discover new knowledge and apply it toward improvement of animal health. The establishment and subsequent growth of the College's Signature Program Initiative has allowed faculty in Veterinary Biosciences, Veterinary Preventive Medicine, and Veterinary Clinical Sciences to exchange ideas and develop long-term plans to solve problems in veterinary medicine using a team approach that promotes movement of ideas from basic science to clinical

application. The College's signature programs are described above (see “Programs of Research Excellent and Emphasis” and “Developing Research Programs” above).

Inter-programmatic Collaborations

The Ohio State University is nearly unique in having a full range of health professions schools all on one campus, including Colleges Dentistry, Medicine, Nursing, Optometry, Public Health, Pharmacy and Veterinary Medicine. Thus, opportunities for multi-disciplinary collaboration are abundant. Several faculty members in the College of Veterinary Medicine also are members of other centers and programs across campus. Among these are the James Cancer Hospital and Comprehensive Cancer Center, the Davis Heart Lung Institute, the Center for Interface Biology and the Columbus Children's Hospital and Research Institute.

Graduate student training

Oversight for graduate training in the College of Veterinary Medicine traditionally has been carried out by departmental graduate studies committees, but the College plans to establish a combined graduate studies committee that incorporates the three existing departmental programs under the Office of Research and Graduate Studies so as to improve efficiency and foster inter-departmental collaboration. Such consolidation will allow graduate students to better identify research advisors and laboratories that meet their research interests and needs while at the same time providing them with the greatest opportunity for success in the graduate program. A combined program also will allow for a uniform application and admission process, better mentoring of graduate students, and improved monitoring of the success of the graduate programs in the College. Current graduate programs in the College include a Master's Degree program for clinical residents or non-DVM graduate students, a dual degree program for veterinary students (DVM and MSc or DVM and PhD), a PhD program for DVM or non-DVM graduate students, and a Master's Degree in Public Health. The College also participates in 2 university-wide programs, Ohio State Biochemistry Program (OSBP) and Molecular, Cellular and Developmental Biology (MCDB) which bring additional graduate students into the College Research Program.

Awards and honors received by faculty.

Appendix 10-1 is a list of faculty awards, honors, editorships, editorial board service, extramural study section and grant review board service, and leadership in extramural professional organizations and scholarly societies over the past 5 years.

Describe the Impact of the Overall Research Program on the Professional Program and Professional Students

Residents in the Departments of Veterinary Clinical Sciences and Veterinary Biosciences are required to enroll in graduate school. Residents in Veterinary Clinical Sciences earn a Master’s Degree as a part of their clinical training program. The Master’s Degree involves completion of didactic courses and a thesis describing an original research project. The Residency/Master’s program is supported by a combination of general funds, development funds, hospital revenue, and endowments. Projects are funded by available intramural and extramural research grant opportunities.

Veterinary students may gain research experience through several mechanisms. Many find opportunities for exposure to basic research by part-time employment in the laboratories of funded research scientists in the College. The summer veterinary research program provides additional resources for veterinary students interested in obtaining research experience. Summer funding comes from several sources. The College of Veterinary Medicine currently has 2 endowments for veterinary student summer research. Additional funding is provided by the College either by direct support or through matching support with research laboratories. The College also participates in summer programs through Morris Animal Foundation Veterinary Student Fellowships (2 submitted for 2006) and other extramural sources. Finally, veterinary students can obtain basic laboratory experience and exposure to hypothesis-driven science under the direction of a faculty member by participating in a research elective for a minimum of 5 hours per week. Table 10-3 in Appendix 10-2 lists the number and percentage of veterinary students involved in research for the past 3 years.

Advances in Veterinary Medicine Day

The College holds Advances in Veterinary Medicine Day each year in April. The program is designed to showcase the research and scholarship accomplishments of veterinary students, residents, graduate students, and faculty in the College. Poster judging takes place in the early part of the day. Undergraduate, professional and graduate student posters are evaluated by teams of faculty judges. Travel grants (supported by the College's Alumni Society) are awarded to the best poster presentations in each of the 5 areas of study (immunology and infectious diseases, molecular and cellular biology, structure and function, clinical research, and epidemiology and applied research). The awards help students fund travel to a national or international scientific meeting to present their research. After the awards presentation, a keynote speaker presents a seminar on his or her area of research expertise. Over the years, we have been very fortunate to host a variety of speakers including faculty of other universities, the Chief of FoodNet and the National Antimicrobial Resistance Monitoring System of the Centers for Disease Control, and a former Assistant Surgeon General. Topics have ranged from cancer research and genetics to food-borne diseases and homeland security. Classes for the professional students are temporarily suspended so they can participate and attend the activities. Over the past 3 years, participation by the professional students in the poster presentation has almost doubled, as more of them gain experience in the research laboratories of the College. Table 10-4 in Appendix 10-2 shows veterinary student participation in Advances in Veterinary Medicine Day over the past 3 years.

Plans for Enhancing the Impact of Research on the Veterinary Professional Program

In its recent publication, *Critical Needs for Research in Veterinary Science*, the National Research Council emphasizes the importance of preparing the next generation of veterinarians to take advantage of opportunities in specialty research areas. Veterinary research occurs in many disciplines, and collaborative interdisciplinary research is crucial in translating scientific advances from the bench top to clinical practice. In keeping with the recommendations of the Council, the College aims to: 1) create an environment that encourages collaborative research among disciplines, institutions and agencies, 2) increase the number of veterinarians trained in basic, preclinical and translational or clinical research, 3) strengthen summer research programs for veterinary students that can lead to MS and PhD degrees, 4) increase the support for veterinary students seeking advanced research training, 5) commit resources to improve the infrastructure that supports research, 6) increase national awareness of the need for veterinary training in research funded by federal agencies (e.g., NIH, USDA), 7) invest in the development of national resources of animal tissue for genomic and proteomic studies, and 8) lobby the NIH, USDA and other federal agencies to increase the level of support for veterinarians committed to research. The College is committed to addressing these areas to prepare our students for all professional opportunities.

Outcomes assessment

Ohio State University College of Veterinary Medicine

21.13.1 Student educational outcomes

21.13.1.a. NAVLE (NBE and CCT) school score report data and passage rates over the past five years (Table A)

Year	Students taking exam	Students passing exam (%)	Average scores
2000-2001 - NAVLE	127	121 (95%)	532
2001-2002 - NAVLE	127	124 (98%)	541
2002-2003 - NAVLE	133	126 (95%)	529
2003-2004 - NAVLE	134	131 (98%)	528
2004-2005 - NAVLE	130	127 (98%)	508
2005-2006 - NAVLE*	132	116 (88%)	500

*Only includes data from test dates in November and December, 2005

21.13.1.b. Student attrition rates with reasons (Table B)

Relative Class	Attrition*	Reason for Relative Attrition		Absolute Attrition**
		% Academic	% Personal	
2001	2	50%	50%	1
2002	2	50%	50%	1
2003	4	50%	50%	1
2004	5	80%	20%	2
2005	5	60%	40%	0

* Students who are either withdrawing from the program or moving to a different (earlier) class

** Student who leave and never return

21.13.1.c. Employment rates of graduates (within one year of graduation)

Over the past 5 years, 82 to 87% of students who completed surveys provided at graduation already had jobs. The average number of job offers was 2.5 per OSU student compared with a national average of 2.1 job offers per student over the same time period. The average starting salary of all OSU graduates between 2001 and 2005 was $41,911 compared with a national average of $41,641 during this same time period. Of students who did not have jobs at the time of graduation, a few (2-3) had not started looking for jobs. Of the 15-20 who had looked for jobs, 5-10 had no offers yet and 10-15 had several (2-3) offers pending. Due to mobility, we are not able to determine location and employment of students who have not accepted jobs by the time of graduation. A 5-year summary of data on number of job offers, type of employment, salary, and debt load for OSU students compared with national data is presented in Appendix 11-1. Increasingly, our students have applied for internship positions and have been very successful. Over the past 5 years, the number of students applying for internships has doubled from 15 in 2002 to 32 in 2006 and the success rate has ranged from 73 to 89% (see Appendix 6-3).

21.13.1.d. Assessments of graduating seniors and assessments of alumni at some post-graduation point assessing educational preparedness and employment satisfaction.

Alumni of the College are surveyed 1 and 5 years after graduation to assess their perception of how well the curriculum prepared them for their professional careers. At the same time, employers of new (1-year) graduates are surveyed. A uniform survey has been used since 2003, but before that time a variety of formats was used and the data obtained are not readily comparable. Summaries of surveys completed from 2003 through 2005 are included in Appendix 11-2. Approximately 85% or more of 1-year and 5-year alumni felt their education was good or excellent. Their level of comfort with their overall technical competence ranged from 6.42 to 7.01 on a scale of 1 to 10. Areas of highest level of comfort included history taking, physical examination, and administering intravenous injections. Areas of lowest level of comfort included orthopedic surgery, ultrasonography, business and reproduction.

Students in the class of 2006 were asked to participate in an on-line survey of the strengths and weaknesses of the College as well as their perception of how well the program prepared them in various areas. The survey was completed by 92 of 134 (69%) students and the results are presented in Appendix 11-3. Students feel the greatest strengths of the program are the high-quality dedicated faculty, the breadth and diversity of the curriculum, and the large and diverse caseload of the teaching hospital. Perceived weaknesses include excessive emphasis on small animals in the curriculum and insufficient hands-on experience in the pre-clinical curriculum. Students regard dependence on student labor in the hospitals arising from a high caseload in most areas as a weakness of the clinical curriculum. Faculty recruitment and retention and facilities replacement were clearly identified by graduating students as the most crucial issues facing the College in the near future.

21.13.1.e. Assessments of employers of graduates to determine satisfaction with the graduates

Employers of graduates are assessed with the same survey instrument used for alumni. A uniform survey has been used since 2003, but before that time a variety of formats was used and the data obtained are not readily comparable. Employers list thoroughness, communication skills, confidence, medical knowledge and ability to work independently as the employee qualities most important to them. Employers surveyed rated their overall level of comfort with the technical competence of new graduates as 7.1 to 7.2 on a scale of 1 to 10. Areas of highest level of comfort included history taking, physical examination, parasitology, medication prescription, and fluid therapy. Areas of lowest level of comfort included orthopedic surgery, ultrasonography, and business. Summaries of surveys completed from 2003 through 2005 are included in Appendix 11-2.

21.13.1.f. Assessments of faculty and house officers on adequacy of resources and preparedness of students

In 2006, faculty were asked to complete an on-line survey about the adequacy of College resources and student preparation after finishing the pre-clinical and clinical phases of the curriculum. All faculty felt the library and information resources were excellent or adequate, and the majority felt caseload was adequate or excellent. Nearly half of the faculty felt the facilities were inadequate. The survey included faculty working in both newer (i.e. Galbreath Equine Center built in 1996) and older (i.e. Veterinary Teaching Hospital built in 1973) facilities. When considering student improvement between the beginning and end of the pre-clinical phase of the curriculum, areas in which scores (on a scale of 1 to 5) improved by ≥ 1.0 included clinical skills, integration of basic and clinical science, diagnostic skills, patient management skills, knowledge base in farm animals, and knowledge base in small animals. When considering improvement between the beginning of the clinical phase of the curriculum and graduation, areas in which scores (on a scale of 1 to 5) improved by ≥ 1.0 included clinical skills, diagnostic skills, patient management skills, veterinary client interaction skills, clinical competency in small animal, and population care in small animal. Cited strengths of both phases of the curriculum included high quality experienced faculty, breadth and depth of the curriculum, and a large and diverse caseload. Cited weaknesses of the pre-clinical curriculum were the large amount of information students are expected to assimilate, insufficient oversight of the curriculum, and insufficient opportunity for small group learning. Cited weaknesses of the clinical phase of the curriculum were difficulty retaining high quality clinical faculty, inadequate physical facilities, and excessively short clinical rotations. Faculty recruitment and retention and replacement of outdated facilities were cited as the two most important issues facing the College in the near future. The results of the faculty survey are presented in Appendix 11-4.

In 2006, interns and residents were asked to complete an on-line survey about the adequacy of College resources and student preparation at graduation as compared to entry into the clinical phase of the curriculum. The majority of interns and residents felt the caseload was excellent and all of them felt the library and information resources were excellent or adequate. Approximately half of the interns and residents felt the physical facilities were inadequate. The survey included interns and residents working in both newer and older facilities. When considering improvement between the beginning of the clinical phase of the curriculum and graduation, areas in which scores (on a scale of 1 to 5) improved by ≥ 1.0 included clinical skills, diagnostic skills, patient management skills, problem-solving skills, clinical competency in small animal, and practice management and business skills. Cited strengths of the clinical curriculum included dedicated clinical faculty, high caseload and large amount of "hands-on" clinical learning and case responsibility given to students. Cited weaknesses included insufficient length of clinical rotations, failure of students to learn how to think independently and insufficient tracking. Replacement of physical facilities and faculty recruitment and retention were cited as the two biggest issues facing the College in the near future. The results of the intern and resident survey are presented in Appendix 11-5.

21.13.1.g. Additional assessment that might assist the college in benchmarking its educational program

The quality of our core and elective courses is monitored by review of student evaluations and discussion at quarterly Council on Education meetings. Students complete evaluations of instruction for all courses (available at http://vet.osu.edu/1064.htm) and a system of peer evaluation of teaching allows instructors to benefit from the suggestions of colleagues. Students submit evaluations of their off-campus elective experiences, and veterinarians participating in these programs evaluate student performance. The graduate studies committee monitors the progress of residents and graduate students in the College. Resident evaluation forms are completed by supervising faculty clinicians, progress reports are completed by residents and graduate students, and exit interviews are conducted with finishing residents. The number and competitiveness of our internship and residency programs and the success of our trainees in their careers are additional indicators of program quality.

The Hospital Executive Committee monitors the caseload of the teaching hospital. As tracked by the Hospital Information System, our caseload has grown approximately 16% in the past 5 years from just under 30,000 to nearly 34,500 yearly patient visits. The origin and number of patient referrals is monitored, and client satisfaction surveys were conducted yearly between 2003 and 2005. Clients cited the professional staff and the care their pets received as what they liked best about the hospital and the relatively long wait as what they liked least (see Appendix 11-6).

Additional indicators of the success of our educational program include faculty extramural awards, honors, and scholarly activity (see Appendix 10-1) and textbooks published by faculty members (see Appendix 8-2). Participation of faculty members in local, regional, national and international continuing education programs also reflects the quality of our educational programs. Success in development, public relations, and alumni affairs allows us to showcase our educational programs and capitalize on their quality. The quality of our library and information technology services facilitates the success of our educational mission.

21.13.2. Institutional outcomes

21.13.2.a. Describe how the college evaluates progress in meeting its mission.

With broad faculty input, the College formulated a strategic plan in 2002 that included specific strategic goals in many areas of endeavor including research, student quality and diversity, educational programs, facilities and delivery of clinical services, development, and public relations. Existing strategic goals are evaluated on an annual basis by the Deans and Chairs Advisory Group to determine if these goals remain realistic and desirable in the present educational and economic climate. If judged appropriate and realistic, progress is evaluated and adjustments are made to assure continued success in achieving the goals outlined in the strategic plan. Information used to evaluate progress includes research activity (e.g. intramural and extramural grants and contracts, scientific publications), measures of student quality and success (e.g., entering GPA, number of applicants per seat, NAVLE scores, salaries, numbers of job offers), student and faculty evaluations of curriculum, benchmarks of faculty success (e.g. awards, honors, scholarly activity, textbooks, continuing education), assessment of clinical programs (e.g., caseload, hospital revenue, client satisfaction surveys, tracking of referrals), development (e.g. gifts, endowed positions), and public relations.

The College compares itself to other Big Ten universities that have veterinary schools (i.e., Illinois, Michigan State, Wisconsin, Purdue, Minnesota) as well as to a group of other highly successful veterinary programs (i.e., University of California at Davis, Cornell, Colorado State, Pennsylvania, Texas A&M, North Carolina State) using the Comparative Data Report of the Association of American Veterinary Medical Colleges. Data compared and evaluated include faculty numbers, student numbers, tuition, total budget, state appropriations, research expenditures, and patient visits. These comparisons allow the College to assess itself relative to its peers and determine which areas of the strategic plan to modify.

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

The facilities of the College range from adequate to excellent in their ability to meet our educational purposes. The new Veterinary Medicine Academic Building (VMAB) is excellent and provides high quality teaching

laboratory space as well as a state-of-the-art computer laboratory and library. The new Marysville Large Animal Ambulatory Services Clinic provides professional students with unparalleled clinical experience that simulates private practice. The Galbreath Equine Center is an excellent resource for teaching equine medicine and surgery. Sisson Hall provides very good facilities for teaching of anatomy and administration of the veterinary preventive medicine program. Despite some recent modifications such as remodeling of the hospital auditorium and student lounge area, the Veterinary Teaching Hospital (VTH) must be renovated and supplemented with an additional hospital facility. It is a crowded, high traffic facility that receives heavy usage and is more than 30 years old. Goss Laboratory also needs replacement, but some of the research space of the College has shifted to VMAB allowing Goss Laboratory to remain functional despite its age. The College has been working with Flad and Associates to plan for facilities replacement. Currently, a development plan is being devised to raise $40 million for renovation of the VTH and building a new small animal hospital facility.

The College's faculty is excellent but insufficient in number. Central university administration is aware of the challenge in recruiting and retaining sufficient numbers of high quality clinical faculty in a competitive private sector market. Our faculty members participate in university governance, and the dean's previous experience as Vice President for Research provides ready access and good communications with the Provost's office and central campus. Strong participation on university committees has resulted in several university awards for service to faculty members in our College.

Financial resources for our programs are adequate and have grown reasonably well over the past 5 years. State support has been relatively unchanged, and growth has occurred in tuition, sponsored program revenue, and hospital revenue. Tuition cannot be relied upon for future growth considering the extent of veterinary student educational debt. Veterinary educational debt relative to the earning potential of newly graduated veterinarians is an issue of national concern. We need to look toward development and entrepreneurial partnerships for future financial growth to support both endowed positions as well as facilities replacement.

Our College continues to attract excellent students based on entry GPA and numbers of applicants per available seat. We continue to produce graduates who are in demand in the private practice sector based on numbers of job offers, starting salaries, and feedback from employers. Employer feedback indicates that our graduates are well-prepared for practice in part due to our high caseload and the large amount of patient care and client communication responsibility our students shoulder in the clinic.

The organizational structure of the College currently is adequate, but operating at capacity due to recent consolidation of Student Affairs and Academic Affairs into one office. Oversight of curriculum and management of student activities both occur through this administrative area. A new administrative position for Clinical Programs and Opportunities will facilitate redistribution of administrative effort. The new office of information technology will allow consolidation and improvement in the College's information resources as well as continue to move our recently designed website forward.

21.13.2.c. Describe outcomes assessed for college activities that are meaningful for the overall educational process. If your program assesses other outcomes, briefly describe the results.

Peer review of faculty scholarly activity is carried out by departmental promotion and tenure committees that act in an advisory capacity to the chairs. Each faculty member undergoes annual performance review at the departmental level and these reviews are used in making decisions about salary increases. Scholarly activity also is assessed by consideration of faculty honors and awards. Our faculty members have received several Ohio State University Distinguished Service, Professor, and Scholar awards in recent years. Between 2004 and 2005, four of our faculty members have been inducted into American Association for the Advancement of Science and one was inducted into the National Academy of Sciences. Our faculty members have been named Extension Veterinarian of the Year and won international clinical awards such as the Bourgelat Award. Success in faculty development is evidenced by completion of sabbaticals, supported in one case by receipt of a Fulbright Scholarship. Our faculty members serve as editors of scholarly journals and have authored 13 textbooks between 2001 and 2006. Numbers and types of intramural and extramural grants and contracts awarded to faculty, numbers and quality of peer-reviewed publications, and service on NIH study sections are indicators of faculty success in biomedical research. According to ScienceWatch (May/June 2005), Ohio State University's College of Veterinary Medicine ranked third behind the U.S. Department of Agriculture and U.C. Davis in numbers of citations for scientific publications

between 1994 and 2004. The College recognizes the excellence of its faculty with yearly awards including the Pfizer Research Award, Norden Distinguished Teacher Award, Charles C. Capen Award for Teaching Excellence in Graduate Education, and the Dean's Award for Creativity in Teaching. See appendices 8-2 and 10-1 for details about faculty scholarly activity, awards, honors and published textbooks.

A high degree of faculty participation in regional, national, and international continuing education is an indicator of faculty achievement in postgraduate veterinary education. To some extent, the success of our foreign visitor program in Veterinary Clinical Sciences is a consequence of the exposure of veterinarians around the world to the teaching styles of our faculty. Our faculty members also participate as officers and committee members in their specialty professional organizations such as the American College of Veterinary Internal Medicine, American College of Veterinary Surgery, American College of Veterinary Pathology, and American College of Veterinary Radiology. Finally, unsolicited letters of commendation by satisfied clients are another informal indicator of the excellence of our clinical faculty members.

21.13.2.d. Describe how outcomes findings are used by the college to improve the educational program (give examples).

Students evaluate all courses in the curriculum yearly, and these evaluations as well as unsolicited suggestions from students are taken into consideration in making adjustments to the curriculum. For example, student concern about inflexibility in the curriculum in part led to recent development of selective clinical rotations that provide students with opportunities to tailor their clinical experience to areas of special interest. Selective rotations are available to students in numerous areas of clinical endeavor not available in the core clinical curriculum. Examples include clinical pathology, avian and exotic animal medicine (including selective rotations at the Cleveland and Columbus Zoos), diagnostic imaging, ultrasonography, radiation oncology, and dairy and beef cattle operations. The Shelter program allows students to acquire substantial hands-on experience with routine surgical procedures such as spaying and neutering. This program was developed in response to student, employer and alumni input suggesting that students would benefit from additional surgical experience before graduation. Elective courses in clinical endocrinology, gastrointestinal endoscopy, case-based problem solving, and clinical pathology have been developed in response to student requests for more educational opportunities in these areas.

In response to employer and alumni surveys that indicated a need for enhanced education about the business aspects of practice, the previous ethics and jurisprudence course was expanded to include topics such as basic life skills, career strategies, leadership success, communications, career development, business management, practice success and professional development. In the clinic, a course devoted to client communications has been developed to make students more comfortable interacting with clients. The course features videotaping of students while taking histories from owners, and these videotapes later are reviewed with the students by faculty allowing for valuable constructive criticism.

21.13.3. Clinical competencies outcomes

Provide evidence that students/graduates have had adequate access to primary care cases and hands-on experiences with live animals during the clinical year. Provide the learning objectives for each of the 9 listed competencies

Learning objectives for the professional students are listed in the syllabi for many of the core and elective didactic courses. Appendix 11-7 indicates in which core didactic courses and clinical rotations (VM 700.01-VM 700.22) the 9 requested areas of clinical competency are addressed. Appendix 11-8 indicates in which elective courses and rotations the 9 requested areas of clinical competency are addressed. Evidence that our program provides an adequate clinical caseload for hands-on experience and primary patient care is presented in the clinical resources standard. Students have access to a library of videotapes demonstrating procedures and techniques in small animal, food animal and equine medicine and surgery. They have the opportunity to review these videotapes before completing the required techniques courses (VM 615.01, VM 615.02, VM 616, VM 617). Examples of learning objectives for each of the 9 areas of clinical competency are presented in Appendix 11-9.

Provide evidence that students/graduates have had adequate access to primary care cases and hands-on experiences with live animals during the clinical year. Provide a summary of the analysis of evidence-based data collected for each of the 9 listed competencies used to assure that graduates are prepared for entry level practice.

Professional students learn basic medical and surgical techniques and procedures in 4 core courses taught in Fall and Winter quarters of their third year: Small Animal Surgical Techniques (VM 615.01), Small Animal Medicine Techniques (VM 615.02), Large Animal Medicine Techniques (VM 616) and Equine Techniques (VM 617). Students can prepare for these courses by watching videotapes of the various techniques and procedures provided in the Student Learning Center. Students are evaluated in these courses by quizzes and examinations, and they receive letter grades. In VM 615.01, a laboratory grading sheet is used to rate students on a 1-10 scale for surgical techniques during their operative practice laboratories. In VM 615.02, VM 616, and VM 617 instructors supervise the students and verify successful completion of the required techniques, but a formal written evaluation form is not completed. Students continue to develop their clinical competency throughout the core clinical rotations (VM 700.01 to VM 700.22; see Appendix 11-7) that begin in the Spring of their third year, continue through the Summer, and extend throughout the fourth academic year.

The Senior Student Rotation Grading System (SSRGS) is the assessment tool used to evaluate the clinical competency of professional students in their core clinical rotations. It has 2 parts: one evaluates students on science, knowledge and technical skills and is graded on a letter basis and the other evaluates students on their professional and interpersonal skills and is graded on pass/fail basis. A copy of the grading form is presented in Appendix 11-10. This form evaluates specific clinical objectives such as skills and efficiency in techniques, medical records keeping skills, client and patient compassion, patient handling and husbandry, and communication skills. In addition, the SSRGS provides a mechanism by which clinicians can provide written comments and constructive criticism that can be sent directly to students by email. In 2006, the SSRGS was completely redesigned by the College's webmaster and the Office of the Associate Dean of Academic and Student Affairs. We do not currently have a summary analysis of the data that has been collected thus far using the newly revised system.

The clinical competency of students is evaluated informally in many other ways during their clinical rotations. Examples include review of student entries in patient medical records and clinician review and correction of client discharge instructions that the students complete. Understanding of the pathophysiology of disease, interpretation of diagnostic information, assessment of patient condition, and skill in developing therapeutic plans all are evaluated informally on a daily basis during ward rounds. The success of students in these areas ultimately is reflected in the grades they receive on the SSRGS and in the email comments that are sent to the students using this system. In the client communications course, the students complete videotapes of client interviews. Students self-assess these videotapes (i.e., strengths, weaknesses), receive input from other students in the course, and finally are evaluated by the instructors. Four communications skills are evaluated: non-verbal communication, open-ended questioning, reflective listening, and empathy. The understanding and accomplishments of our students with regard to biomedical research is evaluated by monitoring the number of students participating in the College's summer research program for students and by the number and success of students who participate in and present posters at research day (see research standard for details). Clinicians evaluate surgical skills by reviewing the hospital surgery reports that students complete for their cases as well as by completing the SSRGS. Evaluations of the surgical skills of students also are made by faculty who supervise the Shelter rotation.

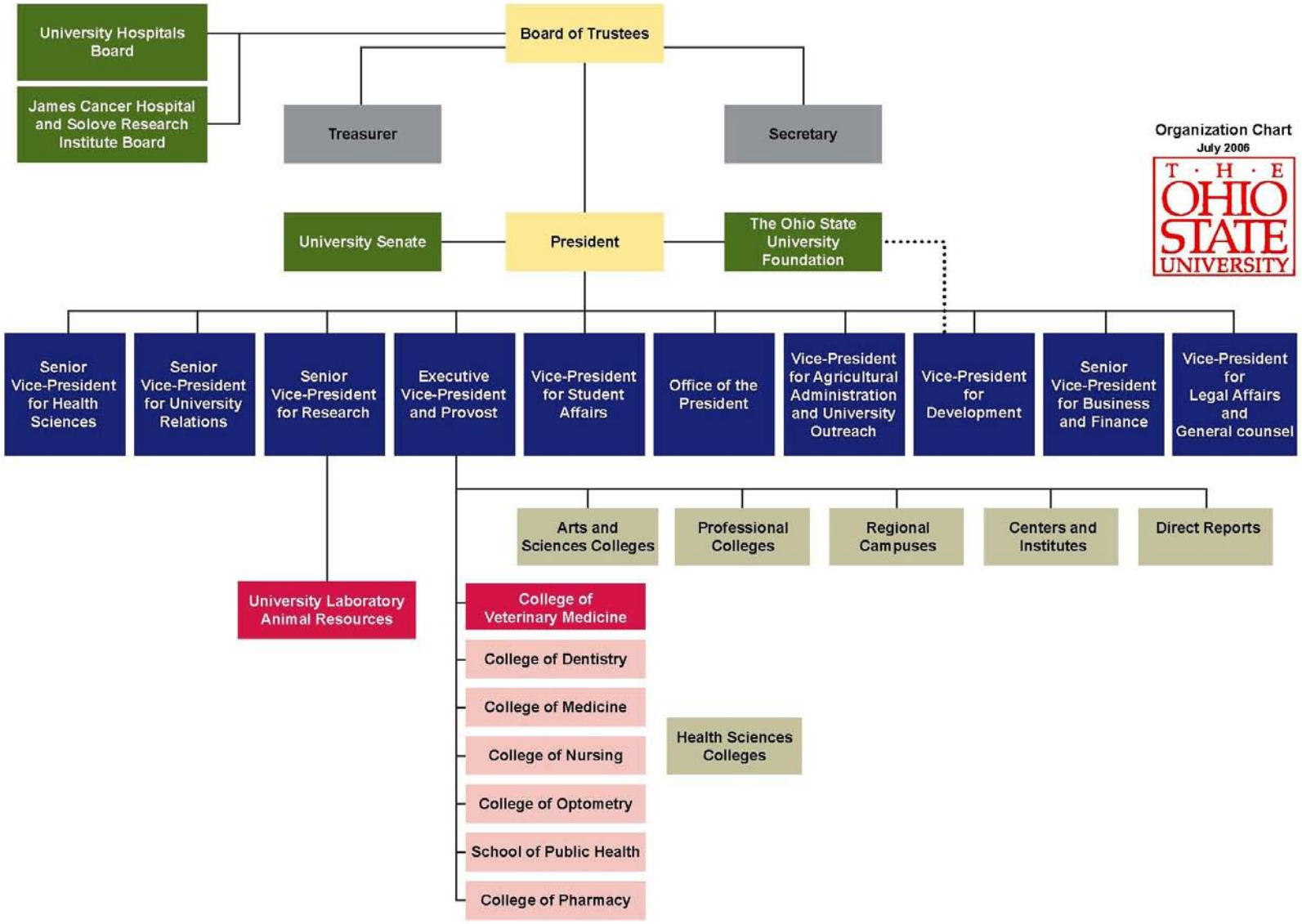
Describe changes that were made in the curriculum based upon the competencies of your graduates

Recent changes that have been made in the curriculum to enhance the clinical competencies of our students include development of the Shelter program to increase student experience with physical examinations, routine diagnostic procedures, and elective surgery (e.g. spays, castrations); adoption of selective core clinical rotations that allow students to choose areas of clinical focus; and, development of the ***Honoring the Bond*** program and client communications course.

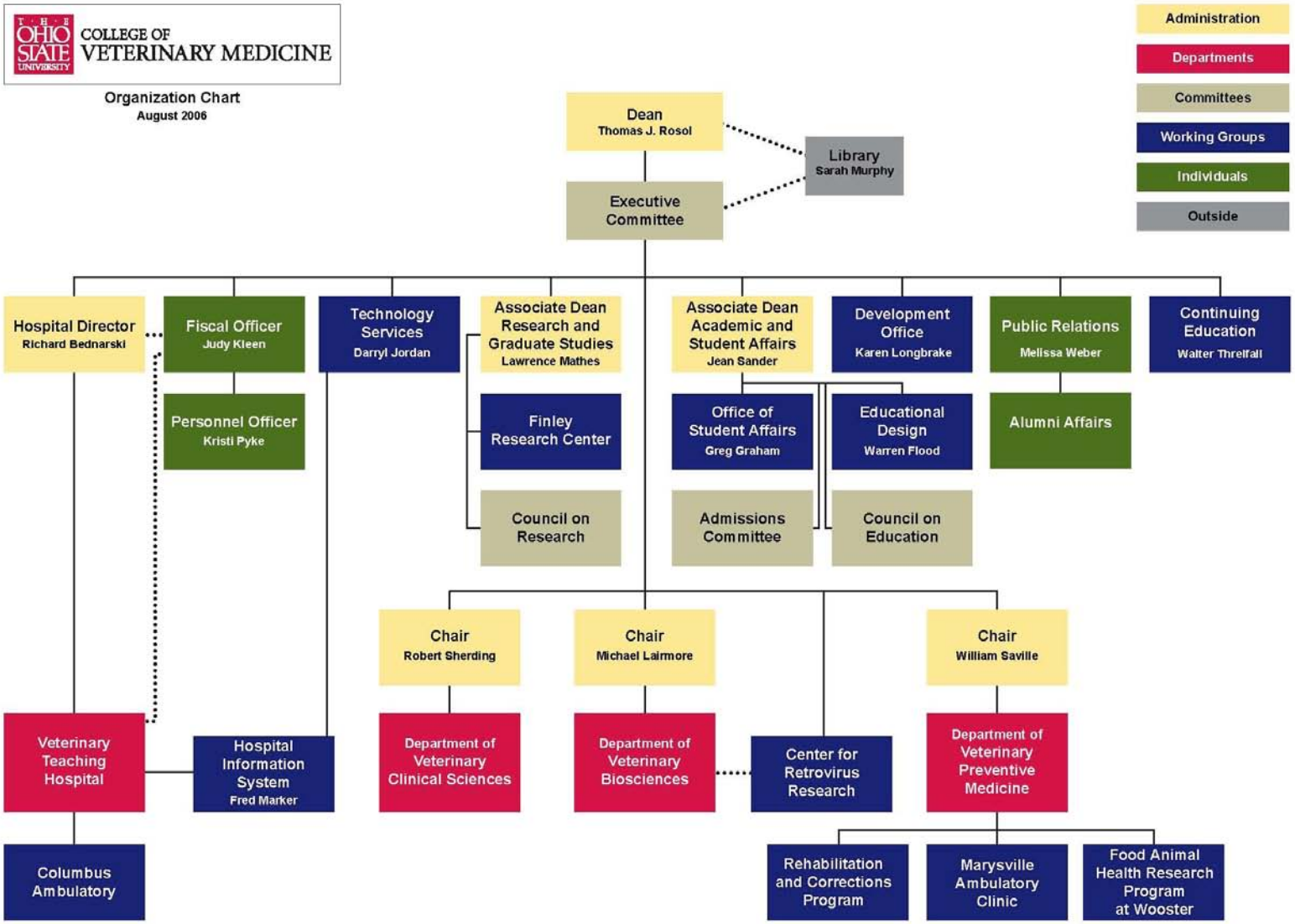
Appendices

Ohio State University College of Veterinary Medicine

APPENDIX 1-1: ORGANIZATIONAL CHART OF THE OHIO STATE UNIVERSITY (JULY 2006)



APPENDIX 1-2 ORGANIZATIONAL CHART OF THE COLLEGE OF VETERINARY MEDICINE (AUGUST 2006)



APPENDIX 2-1: COLLEGE EXPENDITURES (TABLE A) AND REVENUE (TABLE B)

Total Expenditures for Immediate Past 5 Fiscal Years
Direct and Indirect Expenses

Table A

Year	Instruction	Academic Support	Student Services	Services of Educational Activity				Un-Sponsored Student Aid	Sponsored Student Aid	Sponsored Research	Other Sponsored Activity	Ext & Public Services	Total Direct Expenses
				Teaching Hospital	Diagnostic Lab	Other Amount	Other Type						
2004-2005	$17,628,506	$9,408,329	*	$16,937,089	N/A	$1,454,370	Analytical Toxicology Lab	**	$608,785	$13,207,990	$1,550,149	$1,822,237	$62,617,454
2003-2004	$16,269,848	$6,939,281	*	$14,834,200	N/A	$1,503,151	Analytical Toxicology Lab	**	$559,132	$12,542,005	$1,146,563	$1,832,913	$55,627,092
2002-2003	$15,283,891	$6,991,511	*	$15,391,231	N/A	$1,261,016	Analytical Toxicology Lab	**	$437,344	$9,997,793	$3,323,157	$1,530,936	$54,216,878
2001-2002	$14,000,577	$7,064,211	*	$13,930,736	N/A	$1,331,800	Analytical Toxicology Lab	**	$538,868	$8,196,120	$2,507,645	$1,607,735	$49,177,692
2000-2001	$13,409,510	$3,770,435	*	$12,368,500	N/A	$1,514,090	Analytical Toxicology Lab	**	$309,813	$7,791,918	$2,353,177	$1,578,257	$43,095,700
% Change over 5 Years:	31.5%	149.5%		36.9%		-3.9%			96.5%	69.5%	-34.1%	15.5%	45.3%

Note: * Student Services Expenditures are included in Academic Support
** Unsponsored Student Aid is centrally funded and does not track to the College - see text

College Revenue
(Sources of Funds)
From All Sources for Immediate Past 5 Fiscal Years

Table B

Year	State Appropriations	Tuition & Fees	Is Tuition Estimated Amount?	Endowment Income (current yr)	Gifts for Current Use	Sponsored Program Income/Cost Recovery	Analytical Toxicology Lab	Sales and Services			Reserves and Transfers	Total Revenue
								Teaching Hospital	Diagnostic Lab	Other Sources from Sales & Services		
2004-2005	$11,944,671	$10,663,671	Y	$963,212	$2,654,887	$11,668,407	$4,110,911	$15,153,166	N/A	$1,056,659	$4,401,870	$62,617,454
2003-2004	$11,556,008	$9,537,603	Y	$1,029,368	$1,831,600	$11,576,173	$5,867,781	$13,794,794	N/A	$818,990	($385,228)	$55,627,089
2002-2003	$11,184,897	$8,162,974	Y	$1,068,933	$2,673,234	$8,448,530	$5,081,407	$12,099,824	N/A	$895,744	$4,601,336	$54,216,879
2001-2002	$11,482,910	$7,582,107	Y	$1,285,958	$1,993,181	$7,398,969	$5,121,723	$11,229,795	N/A	$856,750	$2,226,299	$49,177,692
2000-2001	$11,476,218	$6,639,287	Y	$853,465	$2,856,196	$7,546,372	$4,737,988	$10,577,720	N/A	$840,426	($2,431,969)	$43,095,703
% Change over 5 Years	4.1%	60.6%		12.9%	-7.0%	54.6%	-13.2%	43.3%		25.7%	-281.0%	45.3%

APPENDIX 2-2: TREND ANALYSIS FOR COLLEGE REVENUES

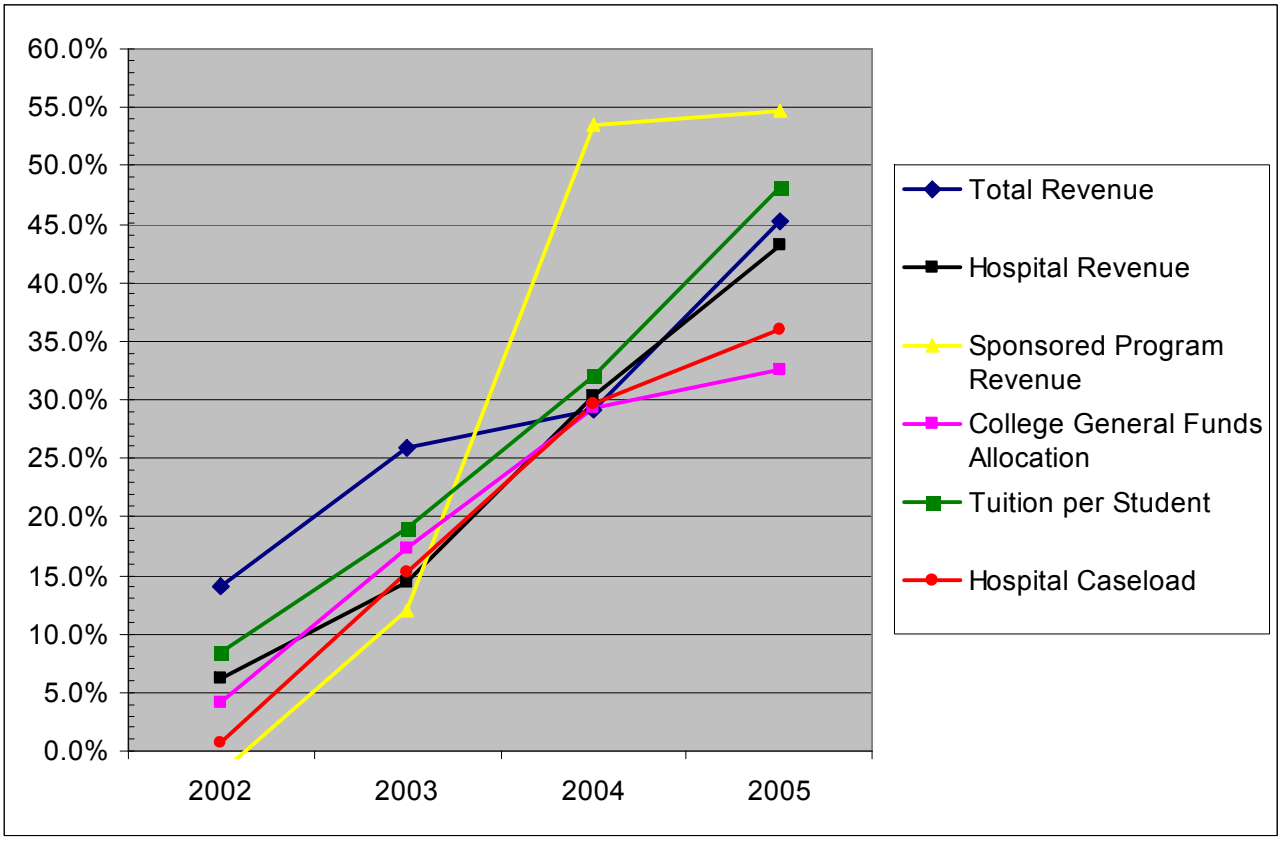
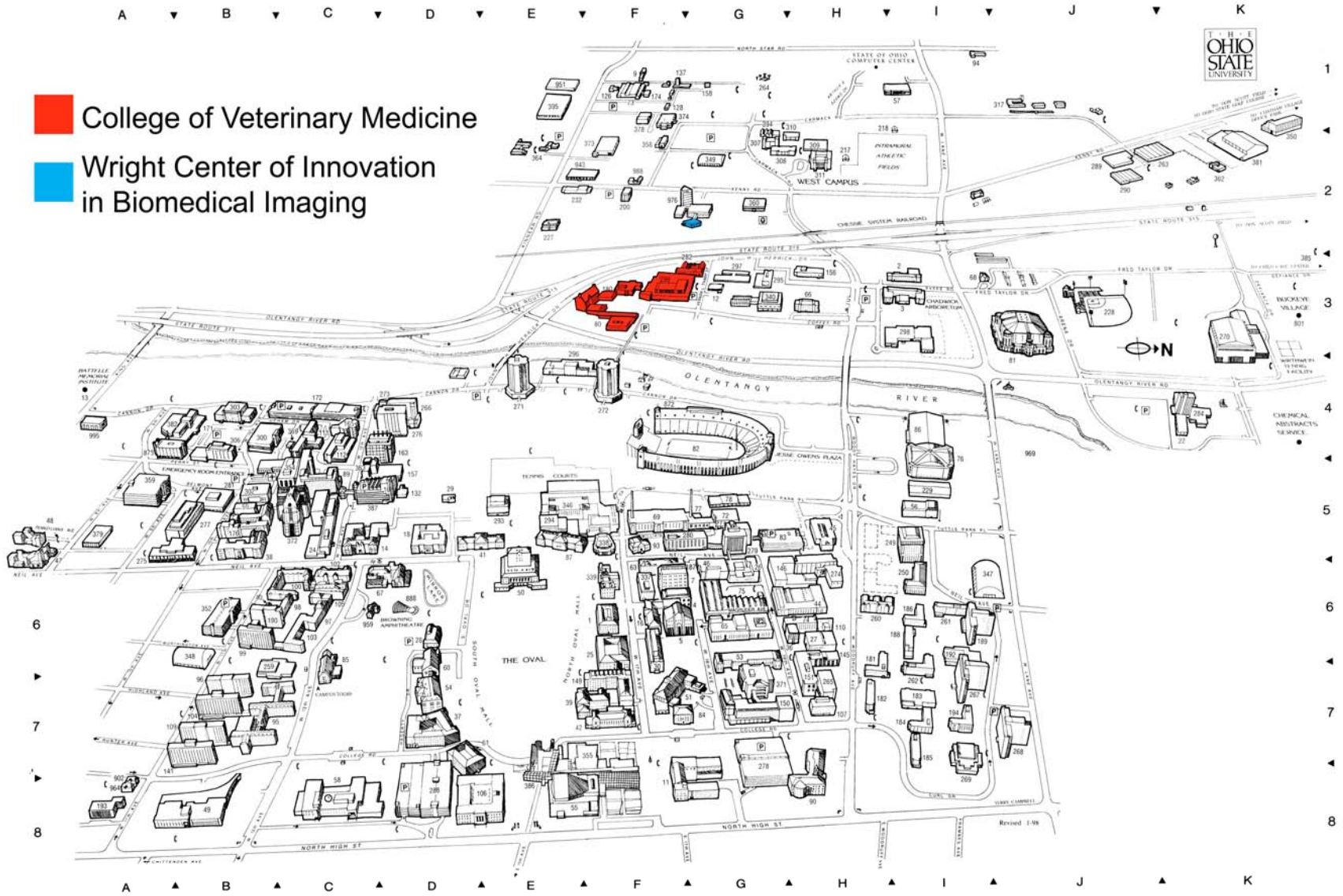


Figure 1: College revenue trends over the past 5 years.

Revenue as a Percentage of Total Expenditures		
	Veterinary Teaching Hospital	*Marysville Clinic*
2000-2001	83%	86%
2001-2002	85%	81%
2002-2003	85%	81%
2003-2004	86%	84%
2004-2005	87%	86%

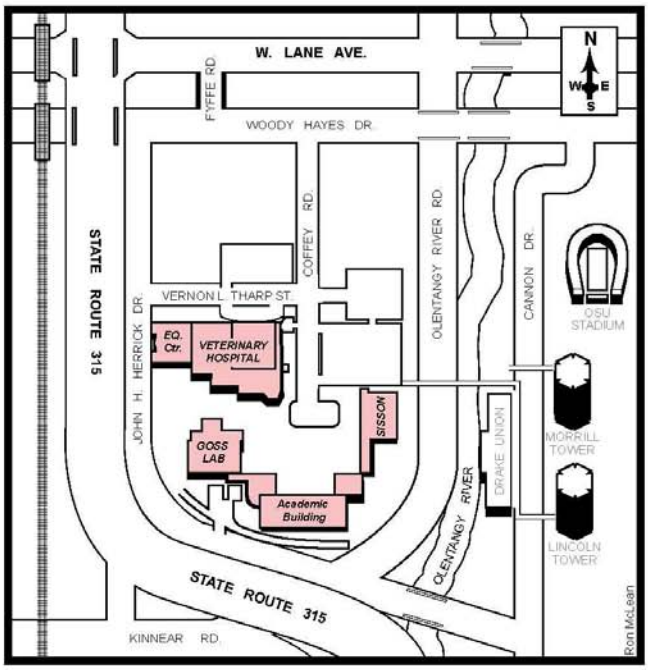
Table 1: Revenue as a percentage of total expenditures for the Veterinary Teaching Hospital and Marysville Large Animal Ambulatory Services.

APPENDIX 3-1: LOCATION OF THE COLLEGE OF VETERINARY MEDICINE AND WRIGHT CENTER OF INNOVATION IN BIOMEDICAL IMAGING ON THE OHIO STATE UNIVERSITY CAMPUS

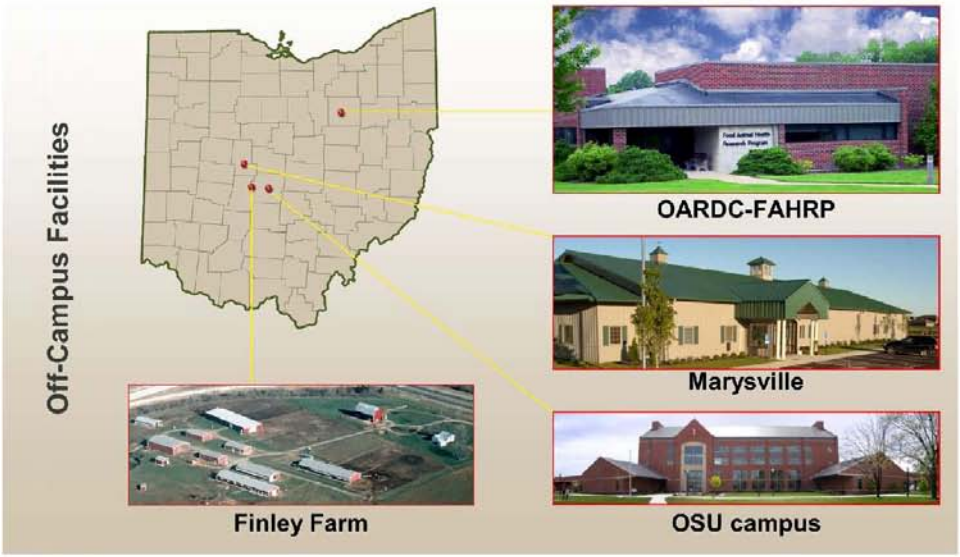


APPENDIX 3-2: LOCATION OF ON-CAMPUS AND OFF-CAMPUS FACILITIES OF THE COLLEGE OF VETERINARY MEDICINE

On-Campus Facilities



Off-Campus Facilities



APPENDIX 4-1: CLINICAL RESOURCES: TABLES A, B, C, & D

Table A: Teaching Hospital			
2005-2006			
Animal Species	**No. of patient visits**	**No. hospitalized**	**No. of hospital days**
Bovine	1,128	558	3,699
Canine	15,947	3,083	8,298
Caprine	310	127	884
Equine	2,838	1,573	8,243
Feline	3,665	660	2,039
Ovine	215	67	546
Porcine	120	24	83
Caged pet birds	3	0	0
Caged pet mammals	25	1	1
Avian wildlife	0	0	0
Other small animal	20	2	4
Other large animal*	1,507	867	6,628

*Other category represents large camelid caseload

Table A: Teaching Hospital			
2004-2005			
Animal Species	**No. of patient visits**	**No. hospitalized**	**No. of hospital days**
Bovine	954	456	2,712
Canine	15,077	3,083	8,572
Caprine	286	83	597
Equine	2,757	1,674	7,636
Feline	3,671	676	1,954
Ovine	262	80	465
Porcine	123	18	49
Caged pet birds	27	0	0
Caged pet mammals	65	2	7
Avian wildlife	4	0	0
Other*	1,566	942	7,690

*Other category represents large camelid caseload

Table A: Teaching Hospital			
2003-2004			
Animal Species	**No. of patient visits**	**No. hospitalized**	**No. of hospital days**
Bovine	1,085	464	3,205
Canine	13,739	2,933	7,752
Caprine	325	80	509
Equine	2,954	1,875	9,191
Feline	3,587	694	2,126
Ovine	270	66	427
Porcine	115	17	31
Caged pet birds	204	15	55
Caged pet mammals	581	49	89
Avian wildlife	12	2	30
Other*	1,343	710	5,170

*Other category represents large camelid caseload

Table A: Teaching Hospital			
2002-2003			
Animal Species	**No. of patient visits**	**No. hospitalized**	**No. of hospital days**
Bovine	1,001	440	2,694
Canine	13,019	2,823	6,777
Caprine	381	93	472
Equine	2,903	1,839	9,204
Feline	3,367	705	2,166
Ovine	277	78	429
Porcine	97	8	13
Caged pet birds	250	19	105
Caged pet mammals	600	59	87
Avian wildlife	9	1	8
Other*	1,021	509	3,318

*Other category represents large camelid caseload

Table A: Teaching Hospital			
2001-2002			
Animal Species	**No. of patient visits**	**No. hospitalized**	**No. of hospital days**
Bovine	972	387	2,980
Canine	12,753	2,929	8,481
Caprine	274	74	17
Equine	2,875	1,854	9,852
Feline	3,415	726	2,109
Ovine	210	65	349
Porcine	93	7	14
Caged pet birds	349	50	161
Caged pet mammals	659	98	228
Avian wildlife	8	1	1
Other*	1,195	621	4,091

*Other category represents large camelid caseload

Table B: Ambulatory & Field Service Program		
2005-2006		
Animal species	**No. of farm (site) calls**	**No. animals examined/treated**
Bovine	NA	2,119
Caprine	NA	121
Equine	NA	11,077
Ovine	NA	147
Porcine	NA	141
Other	NA	332

NA: Not available

Table B: Ambulatory & Field Service Program		
2004-2005		
Animal species	**No. of farm (site) calls**	**No. animals examined/treated**
Bovine	NA	2,235
Caprine	NA	117
Equine	NA	9,650
Ovine	NA	121
Porcine	NA	173
Other	NA	298

NA: Not available

Table B: Ambulatory & Field Service Program		
2003-2004		
Animal species	**No. of farm (site) calls**	**No. animals examined/treated**
Bovine	NA	2,343
Caprine	NA	111
Equine	NA	10,459
Ovine	NA	110
Porcine	NA	180
Other	NA	189

NA: Not available

Table B: Ambulatory & Field Service Program		
2002-2003		
Animal species	**No. of farm (site) calls**	**No. animals examined/treated**
Bovine	NA	2,474
Caprine	NA	97
Equine	NA	11,636
Ovine	NA	173
Porcine	NA	254
Other	NA	331

NA: Not available

Table B: Ambulatory & Field Service Program		
2001-2002		
Animal species	**No. of farm (site) calls**	**No. animals examined/treated**
Bovine	NA	1,390
Caprine	NA	92
Equine	NA	8,124
Ovine	NA	146
Porcine	NA	126
Other	NA	148

NA: Not available

Table C: Herd & Flock Health Program				
2005-2006				
	Herd/flock health programs provided within your institution (please answer YES or NO)		Herd/flock health programs provided through off-campus programs (please answer YES or NO)	
	YES or NO	**No. of sites**	**YES or NO**	**No. of sites**
Dairy	YES	2	YES	50
Beef feedlots	YES	1	NO	0
Cow-calf	YES	1	YES	65
Small ruminants	YES	2	YES	44
Swine	YES	1	YES	27
Poultry	YES	1	NO	0
Fish	NO	0	NO	0
Equine	YES	1	YES	571
Other	NO	0	YES	51

Table C: Herd & Flock Health Program				
2004-2005				
	Herd/flock health programs provided within your institution (please answer YES or NO)		Herd/flock health programs provided through off-campus programs (please answer YES or NO)	
	YES or NO	**No. of sites**	**YES or NO**	**No. of sites**
Dairy	YES	2	YES	40
Beef feedlots	YES	1	NO	0
Cow-calf	YES	1	YES	65
Small ruminants	YES	2	YES	44
Swine	YES	1	YES	27
Poultry	YES	1	NO	0
Fish	NO	0	NO	0
Equine	YES	1	YES	560
Other	NO	0	YES	51

Table C: Herd & Flock Health Program				
2003-2004				
	Herd/flock health programs provided within your institution (please answer YES or NO)		Herd/flock health programs provided through off-campus programs (please answer YES or NO)	
	YES or NO	**No. of sites**	**YES or NO**	**No. of sites**
Dairy	YES	2	YES	40
Beef feedlots	YES	1	NO	0
Cow-calf	YES	1	YES	65
Small ruminants	YES	2	YES	44
Swine	YES	1	YES	27
Poultry	YES	1	NO	0
Fish	NO	0	NO	0
Equine	YES	1	YES	560
Other	NO	0	YES	51

Table C: Herd & Flock Health Program				
2002-2003				
	Herd/flock health programs provided within your institution (please answer YES or NO)		Herd/flock health programs provided through off-campus programs (please answer YES or NO)	
	YES or NO	**No. of sites**	**YES or NO**	**No. of sites**
Dairy	YES	2	YES	40
Beef feedlots	YES	1	NO	0
Cow-calf	YES	1	YES	65
Small ruminants	YES	2	YES	44
Swine	YES	1	YES	27
Poultry	YES	1	NO	0
Fish	NO	0	NO	0
Equine	YES	1	YES	560
Other	NO	0	YES	51

Table C: Herd & Flock Health Program				
2001-2002				
	Herd/flock health programs provided within your institution (please answer YES or NO)		Herd/flock health programs provided through off-campus programs (please answer YES or NO)	
	YES or NO	**No. of sites**	**YES or NO**	**No. of sites**
Dairy	YES	2	YES	40
Beef feedlots	YES	1	NO	0
Cow-calf	YES	1	YES	65
Small ruminants	YES	2	YES	44
Swine	YES	1	YES	27
Poultry	YES	1	NO	0
Fish	NO	0	NO	0
Equine	YES	1	YES	560
Other	NO	0	YES	51

If your program uses non-institutional sites for clinical education of students (excluding internships, preceptorships, and externships), please provide the following information for each site to verify that appropriate services are offered. If certain services are not provided, please indicate where the students learn the required clinical skills. If your school/college does not use remote facilities, please do not complete the chart or respond to the requested information.

Table D: Non-institutional sites for clinical education									
2005-2006									
Hospital	*Learning Rotation (duration)*	*Surgical and Medical Facilities*	*Necropsy*	*Imaging*	*Diagnostic Support Services*	*Isolation*	*Intensive or Critical Care*	*Reference Materials*	*Medical Records*
Franklin County Shelter	2 weeks	Yes	No	No	Yes	Yes	No	Yes	Yes

APPENDIX 4-2: CLINICAL RESOURCES: TREND ANALYSIS

Clinical Caseload Trends 2001-2006					
Species	*% change over last five years*	*% change 05-06 vs 04-05*	*% change 04-05 vs 03-04*	*% change 03-04 vs 02-03*	*% change 02-03 vs 01-02*
Bovine	+16.0%	+18.2%	-12.1%	+8.4%	+3.0%
Canine	+25.0%	+5.8%	+9.7%	+5.5%	+2.1%
Caprine	+13.1%	+8.4%	-12.0%	-14.7%	+39.1%
Equine	-1.3%	+2.9%	-6.7%	+1.8%	+1.0%
Feline	+7.3%	-0.2%	+2.3%	+6.5%	-1.4%
Ovine	+2.4%	-17.9%	-3.0%	-2.5%	+31.9%
Porcine	+29.0%	-2.4%	+7.0%	+18.6%	+4.3%
Pet birds	-99.1%	-88.9%	-86.8%	-18.4%	-28.4%
Pet mammals	-96.2%	-61.5%	-88.8%	-3.2%	-9.0%
Avian wildlife	-100.0%	-100.0%	-66.7%	+33.3%	+12.5%
Other	+27.8%	-2.5%	+16.6%	+31.5%	-14.6%

Ambulatory and Field Services Caseload Trends 2001-2006					
Species	*% change over last five years*	*% change 05-06 vs 04-05*	*% change 04-05 vs 03-04*	*% change 03-04 vs 02-03*	*% change 02-03 vs 01-02*
Bovine	+52.4%	-5.2%	-4.6%	-5.3%	+78.0%
Caprine	+31.5%	+3.4%	+5.4%	+14.4%	+5.4%
Equine	+36.3%	+14.8%	-7.7%	-10.1%	+43.2%
Ovine	+0.7%	+21.5%	+10.0%	-36.4%	+18.5%
Porcine	+11.9%	-18.5%	-3.9%	-29.1%	+101.6%
Other	+124.3%	+11.4%	+57.7%	-42.9%	+123.6%

APPENDIX 6-1: STUDENT ORGANIZATIONS AND CLUBS

More information about these student organizations is available in the PDF of the College Bulletin
http://www.vet.ohio-state.edu/assets/pdf/education/studentResources/CollegeBulletin20050819.pdf

Alpha Psi Fraternity
American Animal Hospital Association (AAHA)
American Association of Equine Practitioners (AAEP)
American Association of Feline Practitioners (AAFP)
American Association of Zoo Veterinarians (AAZV)/Assn. of Avian Vets (AAV)
American Holistic Veterinary Medical Association (AHVMA)
American Society of Laboratory Animal Practitioners
Association of Veterinarians for Animal Rights
Bear Conservation Medicine
Christian Veterinary Fellowship (CVF)
Equine Club
Food Animal Medicine Club
Human Animal Bond Club
Inter-Professional Council (IPC)
Omega Tau Sigma Fraternity
Phi Zeta Veterinary Honor Society
Pre-veterinary Club
Radiology Club
SCAVMA Auxiliary Organization
Shelter Medicine Club
Society for Theriogenology
Student Chapter of the American College of Veterinary Pathologists (SACVP)
Student Chapter of the American Dog Owners Association (SCADOA)
Student Chapter American Veterinary Medical Association (SCAVMA)
Student Emergency and Critical Care Society (SVECCS)
Theriogenology Club
Veterinary Alliance for Diversity
Veterinary Business Management Association
Veterinary K9 Association at OSU
Veterinary Student Animal Behavior Club
Veterinary Medicine Student Council
Veterinary Student Surgery Organization

APPENDIX 6-2: SCHOLARSHIPS AVAILABLE TO VETERINARY STUDENTS

More information about these student scholarships can be found in the PDF of the College Bulletin
http://www.vet.ohio-state.edu/assets/pdf/education/studentResources/CollegeBulletin20050819.pdf

American Kennel Club Scholarships
American Association of Equine Practitioners/American Live Stock Insurance Company
Bil-Jac Foods Scholarship
Pamela L. Blakeslee Memorial Scholarship
Dr. Edwin Blamey and Mrs. Isabel Blamey Scholarships
Dorothy Bliss Endowed Scholarship Senior
Michael A. Bricker, DVM Equine Scholarship
Leland and Jessie Browne Scholarships
Louis & Raye Carlin Scholarship
Cincinnati Kennel Club Student Scholarship
College of Veterinary Medicine Alumni Scholarships
Columbiana County Kennel Club Scholarship
Dr. Leslie Kasdorf Cramer Memorial Scholarship
Betty Crawford Lifetime Achievement Award
Jean M. Davis Scholarships
Degolier Scholarships
Delaware Ohio Kennel Club Scholarship
Ralph Clark Dunn Scholarship
Daniel & Ruth Ebert Scholarship
Matthew J. Eggert Scholarships
Dr. Lloyd C. Ferguson Scholarships
Mary Fox Scholarships
Ellen Gerlat Memorial Scholarship
Harry E. Goldstein Scholarships
Andy Hague Endowed Scholarship
James and Annette Hartman & Lester E. Wiley Scholarship
Dr. Kermit R. Heidt Scholarships
Heldt Family Scholarships
Luella Henkel Memorial Scholarships
Morgan Horvitz Scholarship
M. L. Hubbard Scholarships
Kathryn Johnston Equine Scholarship
Barbara C. Joslin Endowed Scholarship
Knox-Guingrich Scholarship
Lou Levengood Memorial Scholarship
Lloyds of London Scholarship
George W. and William S. Lobach Memorial Scholarships
A. G. Madden/Cincinnati Veterinary Medical Association Scholarships
Medina Kennel Club Scholarship
Bruce A. Mayer Scholarships
Eleanore R. McCune Scholarships
Hermann Meyer Veterinary Anatomy Scholarship
Miami Valley Veterinary Medical Association Scholarship
Maurice W. and H. Ethel Neidigh Scholarships
Nestle Purina Pet Care Scholarship
Nicely Feline Scholarship
Ohio River Valley Llama Association Scholarship
Ohio State University Scholarships
Ohio Veterinary Medical Association Auxiliary Scholarship
Pfizer Scholarship
Arch & Mary Ellen Priestly Scholarship

Dr. Clyde L. and Dora L. Purdy Scholarships
Richland County Kennel Club Scholarship
Robert Rizzitano Scholarship
Salsbury Foundation Scholarships
Dr. Carlton W. Schwiesow Endowed Scholarship
Sam Segall Memorial Scholarship
Sneaker the Cat Scholarship
Stark County Veterinary Medical Academy Scholarship
Narcissa Price Steddom Trust Scholarships
Barbara S. Stein Memorial Scholarship
Sugarbush Kennel Club Scholarships
Walter G. Venzke Scholarship
Western Reserve Kennel Club Scholarship
Dr. Barbara Ann Wolfman Memorial Scholarship
Martin H. Zarnett Scholarship

APPENDIX 6-3: SUCCESS OF VETERINARY STUDENTS IN INTERNSHIP AND RESIDENCY PROGRAMS

Year	No. Intern Matches	No. Unmatched	Success Rate	No. Resident Matches	No. Unmatched	Success Rate
2006-2007	23	4	85.2%	8	16	33.3%
2005-2006	26	6	81.3%	5	12	29.4%
2004-2005	18	5	78.3%	9	7	56.3%
2003-2004	21	3	87.5%	10	7	58.8%
2002-2003	17	2	89.5%	5	8	38.5%
2001-2002	11	4	73.3%	7	7	50%

APPENDIX 6-4: STUDENT SURVEY ABOUT ACCREDITATION STANDARDS

Compiled from 239 student surveys (March 23, 2006)

Standard	Mean Score (N = 239)	Standard Deviation (N = 239)
Organization	3.25	0.85
Finances	2.87	1.10
Facilities	2.68	1.23
Clinical Resources	2.88	1.03
Library	3.51	0.79
Students	3.22	0.91
Admissions	3.07	1.08
Faculty	3.20	0.99
Curriculum	3.10	0.92
Research	3.16	0.99
Outcomes Assessment	2.80	0.86

The survey asked the students to review the accreditation standards as they apply to our college and indicate how satisfied they were that the college met each of the standards (4 = very satisfied; 3 =somewhat satisfied; 2 =neutral; 1 = somewhat dissatisfied; 0 = very dissatisfied). If they were uncertain, had no opinion, or felt the standard addressed issues that did not relate to their experience as a veterinary student, they were asked to select choice 2 (neutral).

STUDENT COMMENTS

Organization

Most students didn't seem to understand what was meant by the organization standard. Some identified a deficiency of infrastructure in terms of technical and clerical support for education. Some felt the Office of Academic and Student Affairs was overwhelmed trying to meet the needs of the students. A few students commented that the three departments of the College are not as cohesive as they should be, and they mentioned what appeared to them to be the "conflicting" agendas of the departments.

Finances

Most student comments were related to the high cost of veterinary education, and several mentioned that it is not realistic or sustainable to rely on repeated increases in tuition to fund the College. They recognize that the cost of veterinary education is outpacing their future earning potential in the profession. They emphasize the importance of identifying other means of funding the College's programs. Some students felt that veterinary technicians in the College are underpaid, and some mentioned a relative lack of support for the infrastructure needed to keep academic and clinical programs running efficiently.

Physical facilities and equipment

Students very much enjoy and appreciate the new Veterinary Medical Academic Building (except for heating problems in the lecture auditoriums and deficiencies in the number of available small group study rooms). They also were very complimentary about the new Marysville Large Animal Clinic, as well as improvements to Sisson Hall, the Veterinary Hospital Auditorium, and the Hospital Student Lounge Area of the Veterinary Hospital. However, there was uniform dissatisfaction with the overall condition of the Veterinary Teaching Hospital, which repeatedly was described as old and in need of replacement. In the meanwhile, it should receive much-needed repairs, maintenance, and improved custodial service. Heating and cooling problems, leaking ceilings and lack of adequate hot water were mentioned. Goss Laboratory also was identified as being in need of renovation.

Clinical resources

Students acknowledge and appreciate the excellent caseload of the teaching hospital in most clinical areas. The clinical experience at the Marysville Large Animal Clinic was singled out as being especially good. Deficiencies were identified in the equine case load, and there was tremendous concern voiced about the lack of an exotic animal caseload and clinical education in this area. Clinical experience in behavioral medicine also was noted to be deficient by some students. Others mentioned difficulty in obtaining patient medical records in a timely manner, and the Vet Star Hospital Information System was criticized for being awkward to use.

Library and information resources

The comments of the students about the library were very positive. They feel the library has a good selection of journals, and they were very complimentary of our veterinary librarian and her staff. Their primary criticisms were about the hours of operation, insufficient space to study, and difficulty obtaining some required textbooks on reserve.

Students

Students feel that class size has been increased solely to increase tuition revenue for the College. Some students suggested that letter grades be replaced by a satisfactory/unsatisfactory grading system throughout the curriculum and that such an approach would lessen competition for grades and promote a healthier learning environment. Some feel that grading in the clinic is too subjective. Some students feel there are insufficient resources to help struggling students and insufficient staff to complete grading promptly and get schedules posted in an efficient manner. Students were complimentary about the College's support for identifying financial aid and scholarships. The Dean of Academic and Student Affairs was mentioned as working very hard on behalf of the students. The excessively high faculty:student ratio was mentioned several times.

Admissions

Students feel the admissions process is clearly described in the College Bulletin, but several mentioned that more emphasis should be placed on veterinary experience and less on grades and standardized test scores. Students are impressed that the interview process remains a part of the admissions process and feel that it helps identify well-rounded candidates. Students pointed out that the present composition of the admissions committee (primarily "older men") does not reflect the demographic changes that have occurred in the veterinary profession in recent years. They suggest that the interviewers be trained in how to effectively conduct interviews and that admissions committee members should be full time active faculty rather than emeritus faculty and older practitioners. Some students feel that requiring a bachelor's degree for admission to veterinary school would enhance the maturity of students. Some felt that peer review should be introduced into the admissions process (i.e. professional student representation on the admissions committee). Some students felt the College should be doing more to enhance the diversity of the professional student population.

Faculty

Overwhelmingly, students feel the faculty (especially the clinical faculty) is excellent, but they are concerned about recent departures of faculty in Veterinary Clinical Sciences. Several students mentioned the high student:faculty ratio and the need to increase faculty numbers.

Curriculum

The general consensus was that the curriculum is excellent, comprehensive and well-organized. It is perceived however to be small animal-oriented, and students feel the need for more material on food animals and horses in core didactic courses. Also, students want more "hands-on" experience with live animals before their clinical rotations begin in the spring of their third year. Students appreciate the input of clinicians in the first three years of their curriculum. They feel there is a good selection of electives, but some electives have restricted enrollment. The lack of exotic animal and behavior programs was mentioned several times. Some students feel there are areas of redundancy and omission in the curriculum that could be corrected by better communication among faculty members and improved oversight of the curriculum by the Council on Education and curriculum committee. Students appreciate the recent development of elective clinical rotations (so-called selectives), but feel that the amount of clinical tracking in the curriculum should be increased even more.

Research

Students are impressed with the amount and quality of research being conducted in the College, but some feel that the research mission detracts from classroom and clinical teaching of veterinary students. Students who desire research experience should have easier access and opportunities to work with researchers in their laboratories.

Outcomes assessment

Many students didn't seem to understand the meaning of this standard. Others expressed dissatisfaction with how they are evaluated in the classroom and clinic, and some indicated it was difficult or impossible to assess the outcomes of teaching evaluations on the curriculum and faculty performance.

APPENDIX 7-1: PRE-VETERINARY COURSES REQUIRED FOR ADMISSION TO THE COLLEGE OF VETERINARY MEDICINE

Required pre-veterinary courses	Quarter hours	Semester hours
Biochemistry	5	3-4
Biology	10	6-8
General chemistry	15	10
Organic chemistry	6	4
English composition	5	3-4
Mathematics	5	3-4
Microbiology	10	8
Molecular genetics	5	3-4
Physics	10	6-8
Humanities and Social Sciences	20	14
Electives	10	6-8
Total	**101**	**66-76**

APPENDIX 8-1: FACULTY AND STAFF SUPPORT OF TEACHING AND RESEARCH (TABLES A – D)

Table A: Loss and Recruitment of Faculty (provide data for last 5 years)

Dept	Type of loss	Specialty	Rank at loss	Rank recruited	Year
VCS	Resigned	Community Practice	Assoc Prof – Clinical	Asst Prof – Clinical	2001
VPM	Resigned	DRC Contract	Assoc Prof – Clinical	Asst Prof – Clinical	2001
VCS	Resigned	Oncology	Asst Prof	Asst Prof	2001
VPM		Ambulatory	New Position	Asst Prof – Clinical	2001
VCS		Anesthesiology	New Position	Asst Prof – Clinical	2001
VCS		Cardiology	New Position	Assoc Prof	2001
VCS		Community Practice	New Position	Assoc Prof – Clinical	2001
VPM		Food Safety	New Position	Asst Prof	2001
VPM		Microbiology	New Position	Asst Prof	2001
VCS		Ophthalmology	New Position	Asst Prof	2001
Subtotal	**3**			**10**	**2001**
VCS	Retired	Small Animal Surgery	Prof	Asst Prof	2002
VCS	Resigned	Dermatology	Assoc Prof	Asst Prof	2002
VCS	Resigned	Neurology	Prof	Asst Prof	2002
VBS	Resigned	Chair	Prof	Prof	2002
VPM		OARDC Administration	New Position	Assoc Dir – OARDC	2002
VPM		DRC Contract	New Position	Asst Prof – Clinical	2002
VCS		Equine Surgery	New Position	Assoc Prof	2002
VCS		Radiation Oncology	New Position	Asst Prof – Clinical	2002
Subtotal	**4**			**8**	**2002**
VBS	Retired	Clinical Pathology	Prof	Asst Prof	2003
VCS	Retired	Neurology	Assoc Prof	Position lost	2003
VCS	Resigned	Community Practice	Asst Prof – Clinical	Position lost	2003
VCS	Resigned	Internal Medicine	Assoc Prof – Clinical	Pending approval	2003
VPM	Resigned	DRC Contract	Asst Prof – Clinical	Asst Prof – Clinical	2003
VCS	Resigned	Equine Emergency Med	Assoc Prof	Asst Prof – Clinical	2003
VCS	Resigned	Equine Emergency Surg	Asst Prof	Asst Prof	2003
VBS	Resigned	Pathology	Assoc Prof	Position open	2003
VPM	Resigned	Pathology	Asst Prof	Position lost	2003
VMA		Admin – Assoc Dean	New Position	Prof	2003
VCS		Emergency/Critical Care	New Position	Asst Prof – Clinical	2003
VBS		Molecular virology	New Position	Asst Prof	2003
VBS		Pathology/Oncology	New Position	Asst Prof	2003
Subtotal	**9**			**10**	**2003**
VMA	Retired	Admin – Dean	Prof	Prof	2004
VCS	Retired	Food Animal Medicine	Prof	Assoc Prof	2004
VPM	Retired	Swine Extension	Assoc Prof	Position open	2004
VCS	Resigned	Equine Ambulatory	Assoc Prof – Clinical	Asst Prof – Clinical	2004
VCS	Resigned	Equine Surgery	Assoc Prof	Assoc Prof	2004
VPM	Resigned	Parasitology	Asst Prof	Assoc Prof	2004
VPM		Dairy Extension	New Position	Assoc Prof	2004
VCS		Equine Ambulatory	New Position	Asst Prof – Clinical	2004
VCS		Food Animal Medicine	New Position	Asst Prof – Clinical	2004
Subtotal	**6**			**8**	**2004**
VBS	Retired	Pathology	Assoc Prof	Position open	2005
VBS	Retired	Physiology	Asst Prof	Position open	2005
VPM	Retired	Public Health	Assoc Prof	Asst Prof	2005
VCS	Resigned	Anesthesiology	Asst Prof – Clinical	Asst Prof – Clinical	2005

VCS	Resigned	Cardiology	Assoc Prof	Asst Prof	2005
VCS	Resigned	Equine Surgery	Asst Prof	Interviews	2005
VCS	Resigned	Equine Surgery	Assoc Prof – Clinical	Interviews	2005
VCS	Resigned	Food Animal Medicine	Asst Prof – Clinical	Search in progress	2005
VPM	Resigned	Microbiology	Asst Prof	Search in progress	2005
VCS	Resigned	Neurology	Asst Prof	Search in progress	2005
VPM	Resigned	Parasitology	Assoc Prof	Search in progress	2005
VCS	Deceased	Anesthesiology	Prof	Asst Prof – Clinical	2005
VPM	Resigned	Lab Animal Medicine	Asst Dir – ULAR	Asst Dir - ULAR	2005
VBS/VCS		Oncology	New Position	Assoc Prof	2005
Subtotal	**13**			**6**	**2005**
VCS	Resigned	Chair	Prof	Interviews	2006
VCS	Resigned	Hospital Director	Assoc Prof	Interviews	2006
VPM	Resigned	Ambulatory	Asst Prof – Clinical	Asst Prof – Clinical	2006
VPM	Resigned	Chair	Assoc Prof	Interim – Assoc Prof	2006
VPM	Resigned	DRC Contract	Asst Prof – Clinical	Asst Prof – Clinical	2006
VCS	Resigned	Emergency/Critical Care	Asst Prof – Clinical	Search in progress	2006
VPM	Resigned	Epidemiology	Asst Prof	Asst Prof	2006
VCS	Resigned	Food Animal Medicine	Assoc Prof	Targeted search	2006
VCS	Resigned	Radiology	Assoc Prof	Asst Prof – Clinical	2006
VCS	Resigned	Neurology	Assoc Prof	Search in progress	2006
VPM	Resigned	Avian	Prof	Position open	2006
VPM		Ambulatory	New Position	Assoc Prof – Clinical	2006
VPM		Epidemiology	New Position	Asst Prof	2006
VCS		Equine Medicine	New Position	Targeted search	2006
VBS		Immunology	New Position	Asst Prof	2006
VBS		Infectious Disease	New Position	Asst Prof	2006
VCS		Radiology	New Position	Search in progress	2006
Subtotal	**11**			**10**	**2006**
Total	**46**			**52**	

Legend: VBS = Veterinary Biosciences; VCS = Veterinary Clinical Sciences; VMA = Veterinary Administration; VPM = Veterinary Preventive Medicine

Table B: Staff support for teaching and research

Area	FTE Clerical	FTE Technical	Other	TOTAL
Clinical Teaching	33.9	97.35	7.5	138.75
Non-clinical Teaching	30	10	19.25	59.25
Research	2	48.5	5.5	56
TOTAL	**65.9**	**155.85**	**32.25**	**254**

Table C: Non-veterinarians

Title	MS	PhD	Board-certified	Board-certified & MS	Board-certified & PhD	TOTAL
Administrator	0	0	0	0	0	0
Professor	0	12	0	0	4	16
Associate Professor	1	3	1	1	0	6
Assistant Professor	0	3	0	0	0	3
Adjunct/Auxiliary Faculty	0	1	0	0	0	1
TOTAL	**1**	**19**	**1**	**1**	**4**	**26**

Table D: Veterinarians

Title	DVM only	MS	PhD	Board-certified	Board-certified & MS	Board-certified & PhD	TOTAL
Administrator	0	0	2	0	0	2	4
Professor	5	0	16	6	5	9	41
Associate Professor	3	2	7	4	6	6	28
Assistant Professor	9	1	9	7	5	6	37
Adjunct/Auxiliary Faculty	1	1	0	1	1	0	4
TOTAL	**18**	**4**	**34**	**18**	**17**	**23**	**114**

APPENDIX 8-2: FACULTY TEXTBOOKS PUBLISHED 2001-PRESENT

Note: Names of Ohio State University College of Veterinary Medicine faculty are underlined.

Stephen Birchard and Robert Sherding
Saunders Manual of Small Animal Practice
3rd edition
2006
WB Saunders-Elsevier
St Louis

Stephen DiBartola
Fluid, Electrolyte and Acid Base Disorders in Small Animal Practice
3rd edition
2006
WB Saunders-Elsevier
St Louis

Andrew Hillier
Advances in Veterinary Dermatology: Proceedings of the Fifth World Congress of Veterinary Dermatology
2005
Blackwell Publishing
Oxford, United Kingdom

Tony Buffington, Cheryl Halloway and Sarah Abood
Manual of Veterinary Dietetics
2004
WB Saunders-Elsevier
St Louis

Kenneth Hinchcliff, Andris Kaneps and Raymond Geor
Equine Sports Medicine and Surgery: Basic and Clinical Sciences of the Equine Athlete 2004
Elsevier Health Sciences
London

Donald Piermattei and Kenneth Johnson
An Atlas of Surgical Approaches to the Bones of Dogs and Cats
4th edition
2004
WB Saunders-Elsevier
St Louis

Stephen Reed, Warwick Bayly and Debra Sellon
Equine Internal Medicine
2nd edition
2004
WB Saunders-Elsevier
St Louis

Richard Nelson and Guillermo Couto
Manual of Small Animal Internal Medicine
3rd edition
2003
Mosby-Elsevier
St Louis

Mo Saif
Diseases of Poultry
11th edition
2003
Iowa State University Press
Ames

Andreas von Recum
Hunting Hounds in North America
2002
Pelican Publishing
Gretna

Kenneth Hinchcliff, Raymond Geor, and Joseph Pagan
Equine Exercise Physiology 6: Proceedings of the Sixth International Conference on Equine Exercise Physiology
2002
Equine Veterinary Journal, Limited
Suffolk, United Kingdom

Thomas Nyland and John Mattoon
Veterinary Diagnostic Ultrasound
2nd edition
2001
WB Saunders-Elsevier
St Louis

Maxey Wellman and Judy Radin
Interpretation of Canine and Feline Cytology
2001
Gloyd Group
Wilmington, Delaware

APPENDIX 9-1: OBJECTIVES OF THE VETERINARY CURRICULUM

The objectives of the veterinary curriculum are as follows:

1. Teach the concepts and skills necessary for successful pursuit of a career in veterinary medicine in a learning environment that encourages critical and analytical thinking and prepares students for lifelong learning and professional growth;
2. Provide a comprehensive professional curriculum that encourages students to explore diverse career opportunities and prepares them to pursue future specialization or graduate education;
3. Provide an environment in which professional values, ethics, leadership, citizenship, and societal needs are emphasized; and,
4. Train veterinarians dedicated to the preservation and advancement of animal and human health and the humane care of animals.

APPENDIX 9-2: OVERVIEW OF THE CURRICULUM

First year curriculum		
Course number	*Course title*	*Hours*
Autumn		
VM 510	Principles of epidemiology	4
VM 520	Topographic anatomy (canine)	5
VM 525	Introduction to radiology I	1
VM 530	Microscopic and developmental anatomy I	5
VM 540	Structure and function of cells	5
VM 560.01	Ethics and jurisprudence I	1
Winter		
VM 521	Topographic anatomy (equine)	4
VM 526	Introduction to radiology II	1
VM 531	Microscopic and developmental anatomy II	4
VM 550.01	Comparative biology of disease I	5
VM 550.02	Comparative biology of disease II	5
VM 560.02	Ethics and jurisprudence II	1
Spring		
VM 522	Topographic anatomy (food animals)	4
VM 561	Pharmacology I	3
VM 603	Neurobiology	6
VM 604	Endocrine system	5
VM 614.01	Basic Life Skills	1
Various	Electives (recommended)	1-3
Second year curriculum		
Course number	*Course title*	*Hours*
Autumn		
VM 600	Cardiovascular system	6
VM 601	Respiratory system	5
VM 614.02	Career strategies	1
VM 618	Hemic-Lymphatic system	5
VM 646	Population medicine	2
Various	Electives (recommended)	3
Winter		
VM 602	Urinary system	5
VM 607	Musculoskeletal system	6
VM 609	Digestive system	6
VM 613	Fluid therapy	1
VM 614.03	Leadership success I	1
Various	Electives (recommended)	3
Spring		
VM 562	Introduction to anesthesiology	2
VM 563	Introduction to surgery	3
VM 605	Reproductive system	5
VM 606	Integumentary system	5
VM 608	Principles of non-mammalian species	2
VM 610	Parasite control	2
VM 614.04	Communications I	1
Various	Electives (recommended)	3
Third year curriculum		
Course number	*Course title*	*Hours*
Autumn		
VM 612	Introduction to veterinary ophthalmology	3

VM 614.05	Career development/business management	2
VM 615.01 & VM 615.02 *	Small animal medicine & surgical techniques	5
	Or	
VM 616 & VM 617	Food animal medicine & techniques; Equine medicine & techniques	4
VM 640	Veterinary toxicology	3
Various	Electives (recommended)	5-9
	Winter	
VM 564	Pharmacology II	3
VM 611	Veterinary Preventive Medicine	4
VM 614.06	Practice success	1
VM 616 & VM 617	Food animal medicine & techniques; Equine medicine & techniques	4
	Or	
VM 615.01 & VM 615.02	Small animal medicine & surgical techniques	5
Various	Electives (recommended)	5-9

* The curriculum divides the calendar year, from Spring Quarter Year 3 through Winter Quarter Year 4, into 3 trimesters. Clinics I, II, and III run concurrently. Each student must rotate through each clinic grouping prior to graduation. The elective (externship) quarter must be taken Spring Quarter Year 4.

Fourth year curriculum		
Course number	*Course title*	*Hours*
	Plenary session	1
	Clinics I	
VM 700.03	Small animal surgery	6
VM 700.07	Radiology	3
VM 700.09	Anesthesiology	4
VM 700.11	Small animal emergency & critical care	6
VM 700.14	Applied pathology	3
Various	Selective clinical rotations	
	Clinics II	
VM 700.02	Small animal medicine	2
VM 700.05	Equine medicine & surgery	6
VM 700.12	Ophthalmology	2
VM 700.15	Dermatology	2
VM 700.16	Equine emergency & critical care	3
VM 700.19	Small animal cardiology	2
VM 700.20	Small animal neurology	2
VM 700.22	Small animal oncology	2
Various	Selective clinical rotations	
	Clinics III	
VM 700.01	Community practice	3
VM 700.04	Food animal medicine & surgery	6
VM 700.06	Equine field services	3
VM 700.08 §	Preventive medicine	5
VM 700.10	Large animal field services	3
VM 700.17	Shelter medicine & surgery	3
Various	Selective clinical rotations	
	Elective Quarter	
Various	Externship	4

§ Graded S/U

APPENDIX 9-3: AUDIT OF SELECTED CURRICULAR CONTENT

	Course # / Hours	Course # / Hours	Course # / Hours
CLINICAL REASONING AND PROBLEM SOLVING	VM 700.02 / 20 hrs	VM 700.04 / 15 hrs	VM 700.05 / 15 hrs
CRITICAL PATIENT CARE			
Intensive care and emergency medicine	VM 700.11 / 20 hrs	VCS 719 / 3 hrs	VM 615.02 / 3 hrs
Pain management	VM 615 / 3 hrs	VM 563 / 2 hrs	VM 615.02 / 1 hr
Principles and hospital practice for isolation of infectious disease	VM 700.04 / 20 hrs	VM 700.05 / 10 hrs	VM 700.16 / 5 hrs
INFORMATION MANAGEMENT AND THE MEDICAL RECORD			
Herd health	VM 700.04 / 20 hrs	VM 700.10 / 20 hrs	VM 700.08 / 20 hrs
Individual animals	VM 700.03 / 25 hrs	VM 615.02 / 25 hrs	VM 700.02 / 25 hrs
HUMAN ANIMAL BOND			
Behavior	VPM 693 / 20 hrs	VCS 793 / 13 hrs	VCS 793 / 11 hrs
Animal welfare	VM 700.17 / 30 hrs	VM 700.01 / 30 hrs	VPM 711.02 / 25 hrs
Euthanasia and grief counseling	VCS 729 / 11 hrs	VCS 726 / 4 hrs	VM 700.11 / 2 hrs
EPIDEMIOLOGY AND ZOONOSES			
Regulatory principles	VM 611 / 10 hrs	VM 510 / 2 hrs	VM 700.08 / 8 hrs
Epidemiology	VM 510 / 20 hrs	VM 611 / 5 hrs	VM 700.08 / 10 hrs
Animals and the environment	VM 510 / 10 hrs	VM 611 / 5 hrs	VM 700.08 / 10 hrs
Zoonoses	VM 646 / 10 hrs	VM 611 / 5 hrs	VM 610 / 4 hrs
Food safety	VPM 796.03 / 20 hrs	VM 646 / 10 hrs	VPM 510 / 4 hrs
Foreign animal diseases	VPM 771 / 20 hrs	VM 611 / 20 hrs	VPM 770 / 10 hrs
MOLECULAR AND CELLULAR BIOLOGY	VM 540 / 14 hrs	VM 550.01 / 50 hrs	VM 550.02 / 50 hrs
PROFESSIONAL DEVELOPMENT			
Career knowledge/options	VM 614.01 / 8 hrs	VM 614.02 / 8 hrs	VM 614.03 / 8 hrs
Attributes & worth of a professional	VM 614.01 / 8 hrs	VM 614.02 / 8 hrs	VM 614.03 / 8 hrs
Ethics	VM 560.01 / 10 hrs	VM 560.02 / 10 hrs	VCS 726 / 2 hrs
Communication	VM 614.03 / 8 hrs	VM 614.04 / 8 hrs	VCS 729 / 5 hrs
Business and practice management	VM 614.05 / 16 hrs	VM 614.06 / 8 hrs	VCS 726 / 4 hrs
CLINICAL TECHNIQUES AND SKILLS			
History and physical examination	VM 700.02 / 25 hrs	VM 700.22 / 25 hrs	VM 615.02 / 8 hrs
Hands-on clinical procedures (e.g. catheter placement, nasogastric intubation)	VM 700.02 / 40 hrs	VM 700.22 /40 hrs	VM 615.02 / 16 hrs

APPENDIX 10-1: EXTRAMURAL FACULTY AWARDS, HONORS, AND SCHOLARLY ACTIVITY (2001-2005)

AWARDS AND HONORS

2001

Tony Buffington	British Small Animal Veterinary Association Bourgelat Award
Charles Capen	Ohio State University Distinguished University Professor
Kent Hoblet	Extension Veterinarian of the Year
Charlie Neer	Ohio State University Career Services Award

2002

Ken Hinchcliff	Dr. Tom Cooley Memorial Research Award, International Sled Dog Veterinary Association
Ken Kwochka	Award for Excellence, American College of Veterinary Dermatology
Steve Reed	Ohio State University Distinguished University Service
Linda Saif	Ohio State University Distinguished University Professor
Dan Smeak	Ohio State University Community-based Scholarship and Service Award

2003

Dave Anderson	Industry Service Award, Alpaca Owners and Breeders Association
John Bonagura	Robert W. Kirk Award, American College of Veterinary Internal Medicine
Jim DeWille	University Alumni Distinguished Teaching Award
Glen Hoffsis	Ohio Animal Science Hall of Fame Inductee
Steve Reed	Schering-Plough Animal Health and The World Equine Veterinary Association Award for Applied Research
Linda Saif	Awarded Doctor honoris causa (honorary doctorate) The University of Ghent, Belgium
Jean Sander	The Golden Egg Award
Dan Smeak	Waltham Award, American Animal Hospital Association
Paul Stromberg	Distinguished Lecturer Award, Charles L. Davis Foundation

2004

Gary Bowman	Service Award, Ohio Pork Producers Council
Tony Buffington	World Small Animal Veterinary Association Hills Award For Excellence in Veterinary Healthcare and Promotion of Human-Animal Bond
Charles Capen	Outstanding Contributions to Animal Clinical Chemistry, American Association for Clinical Chemistry
Clarence Cole	Ohio State University Distinguished Service Award
Ken Hinchcliff	Reginald Pascoe Senior Clinical Award, Australian Equine Veterinary Association
Bruce Hull	Alpharma Award, American Association of Bovine Practitioners
Mike Lairmore	Ohio State University Distinguished Scholar Award
Larry Mathes	Fellow, American Association for the Advancement of Science
Bill Muir	Scientific Achievement Award, American College of Veterinary Emergency and Critical Care
Tom Rosol	Fellow, American Association for the Advancement of Science

Linda Saif	Inducted into the National Academy of Sciences; Chosen AARP One of 10 Impact People of the Year for 2004
Roman Skarda	Lifetime Achievement Award, American College of Veterinary Anesthesiologists
Dick Slemons	Phibro Excellence in Poultry Research Award, American Association of Avian Pathologists
Dan Smeak	Fulbright Scholar Award, U.S. State Department
Andreas von Recum	Fellow, American Institute of Medical and Biological Engineering
Andreas von Recum	Jacob Markowitz Award in Experimental Surgery

2005

Gary Bowman	Distinguished Diplomate, American College of Veterinary Preventive Medicine
Mike Lairmore	Fellow, American Association for the Advancement of Science
Larry Mathes	OSU Distinguished Scholar Award
Teresa Morishita	Extension Veterinarian of the Year
Yasuko Rikihisa	Fellow, American Association for the Advancement of Science
Bill Shulaw	Ohio State University Extension State Personnel Service Award

EDITORSHIPS

Mary Jo Burkhard	Associate Editor, Current HIV Research (2001-present)
Steve DiBartola	Co-Editor-in-Chief, Journal of Veterinary Internal Medicine (1997-present)
Tod Drost	Associate Editor, Veterinary Radiology and Ultrasound (2003-present)
Ken Hinchcliff	Co-Editor-in-Chief, Journal of Veterinary Internal Medicine (1998-present)
Ken Johnson	Deputy Editor in Chief, Veterinary and Comparative Orthopaedics and Traumatology (2003-present)
Donna Kusewitt	Editor-in-Chief, Veterinary Pathology (2000-2003) Associate Editor for Illustrations, Veterinary Pathology (2003-2005)
Mike Lairmore	Associate Editor, Retrovirology (2003-present)
Dan Smeak	Editor, VetStream (2000-2002)
Walt Threlfall	Editor, Current Therapy in Large Animal Theriogenology (2004-2006)

EDITORIAL BOARD SERVICE

David Anderson	Editorial Board, Veterinary Surgery (2005-2007)
James Belknap	Editorial Boards, Veterinary Surgery (2001-2003); Compendium on Contin. Educ. Prac.: Equine Edition (2005-2008)
David Benfield	Editorial Board, American Journal of Veterinary Diagnostic Investigation (1998-2006)
Alicia Bertone	Editorial Board, Equine Veterinary Journal (1996-present)
John Bonagura	Editorial Boards, Journal of Feline Medicine and Surgery (2004-2006); Clinical Techniques in Small Animal Practice (2000-2006); Journal of Veterinary Cardiology (2005-2006)
Mary Jo Burkhard	Editorial Board, Veterinary Clinical Pathology (2003-present)
Charles Capen	Editorial Board, Laboratory Investigation (1988-2006); Experimental and Toxicologic Pathology (1990-2005); Toxicology and Ecotoxicology News (TEN) (1993-

	present); Methods in Toxicology (1989-present)
Pat Green	Editorial Board, Journal of Virology (1999-present); Retrovirology (2004-present)
Bob Hamlin	ECG Editor, Journal of the American Veterinary Medical Association (2000-present)
Ken Hinchcliff	Editorial Boards, Veterinary Therapeutics (2000-2004); Journal of Equine and Comparative Exercise Physiology (2001-present); Journal of Equine Veterinary Science (2002-present)
Daral Jackwood	Editorial Board, Avian Diseases (1990-present)
Mike Lairmore	Editorial Board, Virology (2001-present); Journal of Virology (2003-present)
Jeff Lakritz	Editorial Review Boards, American Journal of Veterinary Research (2004-2006); Veterinary Therapeutics (2000-present)
Jeff LeJeune	Editorial Board, Journal of Food Protection (2005, 2006)
John Mattoon	
Judy Radin	Editorial Board, Veterinary Clinical Pathology (2002-present)
Steve Reed	Editorial Boards, The Horse (1995-present)
Laura Rush	Editorial Board, Cancer Letters (2003-present); Veterinary Pathology (2005-present)
Linda Saif	Editorial Board, Animal Health Research Reviews (2000-present), Archives of Virology (1992-present); Journal of Virology (2002-present)
Mo Saif	Editorial Boards, AAAP Avian Diseases (1970-present); AAAP Diseases of Poultry (1991-present)
Val Samii	Editorial Review Boards, Veterinary Surgery (2003-2006); VCOT (2005-2008)
Jean Sander	Editorial Boards, AAVP Avian Diseases Manual (1998-2006); Journal of Applied Poultry Research (1993-2003)

EXTRAMURAL STUDY SECTION AND REVIEW BOARD SERVICE

Jim Belknap	Morris Animal Foundation (2001-2004), Chair in 2003
Chuck Brooks	National Institutes of Health
Tony Buffington	National Institutes of Health (2004-2006)
Mary Jo Burkhard	American Cancer Society (2004-present), Natural Sciences and Engineering Research Council of Canada (2004), Burroughs Wellcome Foundation (2002-2003)
Jim DeWille	U.S. Army Breast Cancer Research Program (1998-2005)
Julie Funk	U.S. Department of Agriculture, National Pork Board
Pat Green	National Institutes of Health (2003-present), American Cancer Society (1999-2004)
Bob Hamlin	International Life Science Institute
Ken Hinchcliff	Grayson-Jockey Club Research Foundation (1998-2001, 2005-present)
Daral Jackwood	U.S. Department of Agriculture
Donna Kusewitt	National Institutes of Health
Mike Lairmore	National Institutes of Health
Jeff LeJeune	USDA Office of Scientific Quality Review (2005)
Cheryl London	Morris Animal Foundation (2002-present)
Larry Mathes	National Institutes of Health (2005-present)
Kate Meurs	Morris Animal Foundation (2003-present)
Mike Oglesbee	National Institutes of Health
Judy Radin	National Institutes of Health (National Center for Research Resources), Central Ohio Diabetes Association
Yasuko Rikihisa	National Institutes of Health (1999-2003)
Tom Rosol	Morris Animal Foundation (2000-2003), Chairperson 2002; U.S. Army Medical Research and Materials (2001); National Institutes of Health (2001); National Institutes of Health, NCRR (2005)

Laura Rush	U.S. Department of Defense
Linda Saif	U.S. Department of Agriculture (1986-present); National Institutes of Health (2003, 2004)
Mo Saif	U.S. Department of Agriculture
Jean Sander	U.S. Department of Agriculture (1998-2001)
Tom Wittum	U.S. Department of Agriculture

LEADERSHIP IN EXTRAMURAL PROFESSIONAL ORGANIZATIONS AND SCHOLARLY SOCIETIES

Rich Bednarski	President, Ohio Veterinary Medical Association (2002)
Jim Belknap	Chair, Morris Animal Foundation, Strategic Planning Committee (2003-2004)
David Benfield	Co-Chairperson, American Association of Veterinary Laboratory Diagnosticians' Diagnostic Virology Subcommittee
Gary Bowman	Chair, American College of Veterinary Preventive Medicine Examinations Committee (2004-2005)
Tony Buffington	Chairman, Board of American College of Veterinary Nutrition (1999-2003)
Charles Capen	Chairman, Founding Accreditation Committee for International Academy of Toxicology Pathology (2000-2003)
Tod Drost	Secretary/President Elect, Society of Veterinary Nuclear Medicine (2005-2006)
Bill Epperson	President, American Association of Extension Veterinarians (2004-2005)
Bill Epperson	Chair, Program Committee, Applied Animal and Public Health Research and Extension (2005-2006)
Grant Frazer	Chair, Scientific Committee, American College of Theriogenologists (2001)
Pat Green	Board of Trustees, Ohio Chapter of Leukemia and Lymphoma Society (1999-2002)
Nongnuch Inpanbutr	President, American Association of Veterinary Anatomists (2002-2004)
Ken Johnson	President, AO Vet (2002-2004)
Catherine Kohn	Chair, USEF Equine Health Research Fund Grant Review and Funding Committee (1998-present); Chair, ACVIM Forum Program Committee (2005)
John Mattoon	President Elect, American College of Veterinary Radiology (2004); President, American College of Veterinary Radiology (2005); President, Veterinary Ultrasound Society (2004-2005)
Rich Meiring	President, American Association of Bovine Practitioners (2004-2005)
Rich Meiring	Chair, AVMA Council on Veterinary Service (2001-2002)
Kate Meurs	Director, ACVIM(Cardiology) Canine Pacemaker Service (1998-present)
Judy Radin	President-elect, American Society for Veterinary Clinical Pathology (2005)
James Robertson	Co-Chair, Large Animal Soft Tissue: Upper Respiratory Tract Disorders, 10th Annual Scientific Meeting European College of Veterinary Surgeons (2001); Chair, Equine Program, Midwest Veterinary Conference (2002-2004)
Tom Rosol	ACVP Annual Meeting Program Chairperson (2002); ACVP Chairperson, Standing Education Committee (2003)
Mo Saif	AVMA Liaison Committee (1996-present); Chairperson AAAP/Enteric Diseases Committee (1988-present)
Jean Sander	Chairperson, Appeals Committee for American College of Poultry Veterinarians (2005-2006); Secretary/Treasurer, Master of Avian Medicine Alumni Association (1998-2003)
Bill Shulaw	Co-Chair, Small Ruminant Committee, National Johne's Disease Working Group (1998-present)
Dick Slemons	Co-Chair, Fifth International Symposium on Avian Influenza, U.S. Animal Health Association (2002)

Paul Stromberg	Secretary/Treasurer, American College of Veterinary Pathology (2000-2005); Vice President/President-elect, American College of Veterinary Pathology(2005); Board of Directors, Charles Louis Davis DVM Foundation
Walt Threlfall	President, Western Veterinary Association (2005)
Steve Weisbrode	President, American College of Veterinary Pathology (2001)
Maxey Wellman	Chair, American College of Veterinary Clinical Pathology General and Certification Examination Committees (2005)
Tom Wittum	President, Association for Veterinary Epidemiology and Preventive Medicine (2005-2007)

Note: Excluded are intramural (i.e. college) awards; service as a reviewer for journals; simple membership or committee service in extramural organizations (vs. chair or leadership position), and site visits.

APPENDIX 10-2: RESEARCH ACTIVITIES OF THE COLLEGE OF VETERINARY MEDICINE

Table 10-1: College of Veterinary Medicine Extramural Research Activity (NA = Not Available)

Department	No. faculty	Faculty involved in research	Research faculty teaching in professional curriculum	Total research FTE	Extramural research grants		No. peer-reviewed research publications
					Number	Value	
2004-2005							
Biosciences	28	26	25	NA	79	$7,146,205	93
Clinical Sciences	51	46	46	NA	63	$1,775,184	120
Preventive Medicine	26	25	21	NA	50	$3,059,648	43
Total						**$11,981,037**	
2003-2004							
Biosciences	29	24	23	NA	64	$7,393,774	63
Clinical Sciences	52	41	40	NA	42	$1,391,987	80
Preventive Medicine	28	23	18	NA	37	$2,908,375	70
Total						**$11,694,136**	
2002-2003							
Biosciences	29	25	24	NA	69	$5,331,798	65
Clinical Sciences	50	38	37	NA	41	$857,170	65
Preventive Medicine	27	18	15	NA	37	$2,061,560	47
Total						**$8,250,528**	

Table 10-2: Intramural Grants Program

Grant Program	Number of applications	Number funded	Total annual funding
2004-2005			
Canine	13	5	$107,290
Equine	8	5	$83,301
IAMS	2	1	$48,360
USDA	2	1	$31,044
Total			**$269,995**
2003-2004			
Canine	18	10	$212,245
Paladin	1	1	$10,590
Equine	12	4	$99,010
USDA	3	2	$27,085
Total			**$348,930**
2002-2003			
Canine	20	9	$149,891
Paladin	2	1	$16,320
Equine	11	7	$157,558
IAMS	7	4	$140,671
USDA	3	1	$26,558
Total			**$490,998**

Table 10-3: Research Experience for Veterinary Students

Year	No of Students (Percentage)	Funding	
		Summer Program	Research Lab
2004-2005	58 (17%)	15	43
2003-2004	44 (8%)	12	32
2002-2003	41 (8%)	13	28

Table 10-4: Research Day Student Poster Presentations

Year	Veterinary Students	Graduate Students & Residents
2004-2005	21	58
2003-2004	12	43
2002-2003	12	38

APPENDIX 11-1: EMPLOYMENT DATA FOR GRADUATING PROFESSIONAL STUDENTS

Year of graduation	2001	2001	2002	2002	2003	2003	2004	2004	2005	2005
	OSU	USA	OSU	USA	OSU	USA	OSU	USA	OSU	USA
Students graduated	127	2255	132	2243	135	2307	135	2225	130	2171
Respondents	127	1610	122	1772	127	1860	105	1814	94	1747
Average job offers per student	2.3	2.3	2.8	2.3	2.3	2.2	2.6	2.1	2.6	2.1
Average total debt load	$66,756	$67,819	$72,547	$72,719	$84,232	$76,558	$86,136	$81,052	$86,457	$88,087
Percentage with jobs	82%		86%		87%		83%		NA	
Average salary (number of respondents)	$39,132 (127)	$39,389 (1173)	$41,009 (122)	$40,364 (1314)	$40,700 (127)	$41,602 (1361)	$43,258 (105)	$42,978 (1325)	$45,458 (94)	$43,874 (1292)
Advanced study	$21,441 (22)	$21,966 (263)	$22,281 (28)	$22,178 (321)	$21,113 (28)	$22,993 (349)	$24,444 (26)	$24,009 (325)	$23,436 (21)	$25,100 (372)
All public and corporate	$40,000 (2)	$42,316 (28)	$47,000 (1)	$44,985 (36)		$52,378 (25)		$50,140 (25)	$59,584 (4)	$53,526 (40)
Other	$36,250 (4)	$44,100 (15)	$31,000 (2)	$45,366 (22)	NA (1)	NA (9)		NA (8)	$23,000 (1)	NA (7)
Unknown		$36,200 (5)		$20,000 (1)		$41,029 (16)		$39,939 (46)		$47,750 (8)
Private practice	$44,464 (76)	$44,547 (862)	$47,643 (74)	$46,339 (934)	$47,568 (81)	$48,004 (962)	$50,006 (77)	$49,635 (921)	$51,898 (68)	$51,416 (865)
LA exclusive	$39,500 (3)	$43,600 (41)	$60,000 (1)	$48,303 (33)	$20,000 (1)	$52,283 (40)	$60,000 (1)	$50,403 (33)	$57,500 (4)	$49,157 (35)
LA predominant	$44,433 (6)	$43,696 (46)	$47,100 (5)	$45,087 (39)	$51,750 (4)	$47,314 (43)	$53,000 (8)	$48,529 (34)	$63,500 (4)	$51,933 (30)
Mixed	$43,950 (10)	$43,359 (126)	$45,531 (16)	$43,948 (142)	$54,250 (12)	$47,785 (132)	$51,000 (12)	$47,704 (123)	$50,450 (10)	$49,321 (136)
SA predominant	$46,813 (8)	$45,068 (149)	$48,278 (9)	$46,582 (156)	$49,636 (11)	$49,384 (124)	$52,221 (14)	$50,878 (139)	$53,333 (12)	$53,193 (146)
SA exclusive	$44,793 (46)	$45,817 (459)	$48,368 (41)	$48,178 (510)	$46,661 (50)	$49,213 (547)	$49,286 (38)	$50,703 (546)	$51,231 (32)	$53,796 (456)
Equine	$40,000 (3)	$33,985 (41)	$42,000 (2)	$34,273 (54)	$31,667 (3)	$35,572 (76)	$37,625 (4)	$38,628 (46)	$43,750 (6)	$35,347 (62)

NA: Not available. National data from *J Am Vet Med Assoc* 227:1084, 2005; 224:1677, 2004; 224:213, 2004; and, 222:312, 2003 (data for 2006 not available yet).

APPENDIX 11-2: EMPLOYER AND ALUMNI SURVEYS

COLLEGE OF VETERINARY MEDICINE	Survey Year 2005			Survey Year 2004			Survey Year 2003		
Alumni and Employer Survey Data for:	1 Yr Grads Class of 2004	Employers of 1 Yr Grads Class of 2004 EMPLOYERS	5 Yr Grads Class of 2000	1 Yr Grads Class of 2003	Employers of 1 Yr Grads Class of 2003 EMPLOYERS	5 Yr Grads Class of 1999	1 Yr Grads Class of 2002	Employers of 1 Yr Grads Class of 2002 EMPLOYERS	5 Yr Grads Class of 1998
Rating of Overall OSU Education Preparation									
	Education	Preparation	Education	Education	Preparation	Education	Education	Preparation	Education
Excellent	39.00%	81.30%	62.20%	25.80%	59.30%	35.10%	32.00%	64.00%	
Good	53.70%	12.50%	35.10%	72.60%	29.60%	59.60%	53.00%	32.00%	
Average/Fair	7.30%	6.20%	2.70%	1.60%	11.10%	5.30%	11.00%	4.00%	
Flawed	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	3.00%	0.00%	
Poor	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	3.00%	0.00%	
Three Most Important Employee Qualities									
First		Medical knowledge/skills			Thoroughness of exam & work-up		Medical knowledge/skills	Medical knowledge/skills	
Second		Client Relations			Communication skills		Financial production level	Communication skills	
Third		Staff relations			Confidence		Communication skills	Ability to work independently	
Technical Competencies Comfort Level (10 = Very Comfortable . . . . . 1 = Very Uncomfortable)									
Mean of Overall Comfort Level	6.97	7.88	7.40	6.86	7.19	7.01	6.42	7.09	6.59
Competencies with highest comfort level									
	Intravenous Injection 9.24	Fluid Therapy 8.82	Physical Exam 9.43	Intravenous Injection 8.79	Physical Exam 8.27	Physical Exam 9.19	History Taking 8.7	Physical Exam 8.5	Physical Exam 8.7
	Physical Exam 9.22	Med. Lit. Interpert. 8.76	Intravenous Injection 9.41	Physical Exam 8.74	Parasite Diagnosis 8.26	History Taking 9.00	Intravenous Injection 8.6	History Taking 8.3	History Taking 8.6
	History Taking 9.20	Prescribing Medications 8.71	History Taking 9.32	History Taking 8.66	Prescribing Medication 8.22	Intravenous Injection 8.89	Physical Exam 8.4	Fluid Therapy 8.1	Intravenous Injection 8.4
Competencies with lowest comfort level									
	Orthopedic Surgery 4.20	Orthopedic Surgery 5.56	Orthopedic Surgery 3.68	Orthopedic Surgery 3.70	Orthopedic Surgery 4.16	Orthopedic Surgery 3.56	Orthopedic Surgery 2.7	Orthopedic Surgery 3.3	Orthopedic Surgery 3.1
	Ultrasound 4.76	Ultrasound 5.69	Ultrasound 4.32	Ultrasound 4.35	Ultrasound 5.05	Ultrasound 4.04	Ultrasound 3.4	Ultrasound 4.7	Ultrasound 4.3
	Reproductive Programs 4.85	Business 6.31	Business 4.89	Reproductive Programs 4.97	Business 5.81	Reproductive Programs 4.47	Business 4.0	Business 5.6	Business 4.8

APPENDIX 11-3: SENIOR STUDENT EXIT INTERVIEW

A survey of graduating professional students was conducted in 2006 to determine perceptions of students about the strengths and weaknesses of the College as well as how well the curriculum prepared them in selected areas. The survey was completed by 92 of 134 (69%) graduating students in the class of 2006. Of the respondents 82% were female, 16% were male, and 2% did not indicate gender. Designated practice type was small animal in 60/92 (65%), equine in 12/92 (13%), mixed in 8/92 (9%), food animal in 1/92 (1%), and other or not specified in 11/92 (12%).

Respondents were asked to rate the adequacy of their training according to a scale from 1 (poor) to 5 (excellent) or "not sure."

Question	Mean Score	Std Dev
Provided an adequate breadth and variety of pre-clinical courses	4.13	0.70
Stimulated active problem solving in the pre-clinical curriculum	3.55	0.94
Provided an appropriate balance of pre-clinical and clinical experience	3.40	1.02
Encouraged appreciation and understanding of professional behavior	4.20	0.94
Provided adequate experience with and responsibility for clinical cases	3.59	1.08
Provided a wide range of clinical experiences	3.72	1.11
Stimulated active problem-solving in the clinical rotations	3.88	0.91
Provided adequate clinical supervision and instruction	4.07	0.87
Provided adequate pre-clinical elective experiences	3.43	1.09
Provided adequate clinical elective experiences (selectives)	3.54	1.15
Provided adequate student support services	3.98	0.93
Fostered the importance of making sound ethical decisions	4.26	0.89
Promoted independent learning	3.65	1.00
Offered opportunities for research experience	3.49	1.04
Provided flexibility for students' needs and interests	3.14	1.09
Treated students respectfully	3.76	1.05
Brought together a diverse student body	3.10	1.13
Consistently applied standards regarding student performance	3.29	1.04
Provided an adequate knowledge base for the National Board Exam	4.07	1.01
Provided adequate resources to support learning (e.g. computers, library)	4.36	0.74
Provided adequate opportunity for off-campus externships	3.55	1.23
Provided adequate exposure to business management skills	3.55	1.20

Area	Mean Score	Std Dev
Basic understanding of structure, function, and disease	4.07	0.68
Diagnostic skills	4.12	0.78
Skills in developing a treatment plan	4.00	0.76
Skills in preventive medicine	4.07	0.64
Problem-solving abilities	3.99	0.67
Communication skills	4.07	0.94
Accepting professional and ethical responsibility	4.28	0.83
Commitment to active life-long learning	4.22	0.86
Leadership skills	3.72	0.88
Practice management and business skills	3.53	1.01
Self-confidence	3.39	1.12
Ability to maintain an appropriate life/work balance	3.01	1.18
Initiative and motivation	3.76	0.86

Students were asked to indicate the single greatest strength and weakness of the pre-clinical curriculum and the single greatest strength and weakness of clinical curriculum.

Greatest STRENGTH of pre-clinical curriculum (top 3)
1. Body systems-based pre-clinical curriculum
2. High quality, dedicated faculty
3. Breadth and diversity of curriculum

Greatest WEAKNESS of pre-clinical curriculum (top 3)
1. Insufficient hands-on experience
2. Excessive emphasis on small animals
3. Insufficient emphasis on clinical relevance of pre-clinical material

Greatest STRENGTH of clinical curriculum (top 3)
1. High quality, dedicated faculty clinicians and residents
2. Large and diverse caseload
3. Wide variety of clinical rotations and requirement to rotate through all clinical areas

Greatest WEAKNESS of clinical curriculum (top 3)
1. Excessive dependence on students for labor due to high caseload
2. Lack of on-site avian and exotic animal program
3. Relatively low caseload in equine

Students were asked to list the single biggest issue facing the College in the future. Most frequently cited were:
1. Faculty recruitment and retention (cited 25 times)
2. Facilities: replacement of the teaching hospital (cited 13 times)
3. Need for increased tracking in clinical rotations (cited 5 times)
4. Replacement of the avian and exotic animal program (cited 5 times)
5. Facilitation of training in food animal careers (cited 3 times)
6. Improvement in equine program (cited 3 times)
7. Addressing the cost of veterinary education (cited 3 times)

APPENDIX 11-4: FACULTY SURVEY OF PROFESSIONAL STUDENT PREPAREDNESS

The faculty survey was conducted to determine the opinion of faculty on the preparedness of profession students at 4 points in the educational process: entry into the College, exit from the pre-clinical curriculum, entry into the clinical curriculum, and graduation from the College. Surveys were completed by 47 of 112 faculty in the College (42% response rate). Of these, 10 evaluated the pre-clinical curriculum, 8 evaluated the clinical curriculum, 28 evaluated both phases of the curriculum, and 1 provided only comments. These faculty averaged 15.7 ± 11.0 years of teaching experience (range, 1.5 to 45.0 years) and 26/47 (55%) were team leaders for courses taught in the curriculum. Of the 47 faculty, 26 felt the caseload was adequate, 18 felt it was excellent and 3 felt it was inadequate. The facilities were felt to be inadequate by 22, adequate by 19, and excellent by 6. The library and information resources was felt to be excellent by 26, adequate by 21 and inadequate by none. Variability of responses likely was due in part to the fact that different faculty members teach in different parts of the curriculum (pre-clinical, clinical, or both) and are housed in facilities of differing ages ranging from 1961 (Goss Laboratory) to 2003 (VMAB).

Respondents were asked to rate the preparedness of professional students at various points in the curriculum according to a scale from 1 (poor) to 5 (excellent) or "not sure."

Area of Competence	Entry into College			Exit from pre-clinical program		
	Mean score	Std Dev	Not sure	Mean score	Std Dev	Not sure
Basic biological sciences	3.31	0.66	9	3.66	0.70	6
Clinical skills (history, physical exam)	2.00	0.88	11	3.16	0.90	6
Integration of basic and clinical science	1.77	0.82	7	3.03	0.95	6
Diagnostic skills	1.90	0.79	7	3.15	0.99	4
Patient management skills	1.73	0.96	12	3.10	1.11	9
Problem-solving skills	2.47	0.93	4	3.11	0.87	3
Professional values/behavior	2.90	0.80	8	3.20	0.80	3
Veterinary client interaction skills	2.15	0.93	18	3.08	1.15	13
Effective use of the medical literature	2.04	0.93	13	2.75	0.80	6
Independent learning	2.76	0.88	13	3.09	1.00	4
Veterinary knowledge base in farm animal	1.70	0.73	17	2.82	1.14	14
Veterinary knowledge base in equine	2.21	2.25	19	2.83	0.89	14
Veterinary knowledge base in small animal	2.65	0.99	18	3.81	0.85	12
Practice management and business skills	1.56	0.73	22	2.50	0.86	12

Area of Competence	Entry into clinical program			Graduation from College		
	Mean score	Std Dev	Not sure	Mean score	Std Dev	Not sure
Basic biological sciences	3.23	0.69	0	3.53	0.65	0
Clinical skills (history, physical exam)	2.59	0.61	4	4.09	0.63	3
Integration of basic and clinical science	2.79	0.70	1	3.67	0.54	2
Diagnostic skills	2.62	0.78	1	3.88	0.73	1
Patient management skills	2.34	0.77	5	3.84	0.64	4
Problem-solving skills	2.85	0.56	1	3.63	0.69	1
Professional values/behavior	3.09	0.75	1	3.66	0.97	1
Veterinary client interaction skills	2.74	0.71	8	4.07	0.58	6
Effective use of the medical literature	2.48	0.85	4	3.06	1.01	2
Independent learning	2.65	0.85	1	3.14	0.96	0
Clinical competency in farm animal	2.17	1.04	17	3.05	1.10	15
Clinical competency in equine	1.95	0.83	15	2.86	0.83	14
Clinical competency in small animal	2.77	0.91	9	4.07	0.54	8
Population animal care in farm animal	1.92	0.90	23	2.67	1.18	20
Population animal care in equine	1.92	0.64	22	2.56	0.96	19
Population animal care in small animal	2.12	0.78	18	3.19	0.98	13
Practice management and business skills	2.06	0.75	18	2.68	1.00	17

Faculty members were asked to indicate the single greatest strength and weakness of the pre-clinical curriculum and the single greatest strength and weakness of clinical curriculum.

Greatest STRENGTH of pre-clinical curriculum (top 3)
1. High quality faculty
2. Breadth and comprehensive nature of pre-clinical curriculum
3. Integration of clinical material early in the curriculum

Greatest WEAKNESS of pre-clinical curriculum (top 3)
1. Large volume of material that students must assimilate
2. Inadequate monitoring and oversight of curriculum
3. Insufficient opportunities for small group learning and problem-solving

Greatest STRENGTH of clinical curriculum (top 3)
1. Large and diverse caseload
2. High-quality, experienced clinical faculty
3. Large amount of "hands-on" clinical experience for professional students

Greatest WEAKNESS of clinical curriculum (top 3)
1. Difficulty retaining sufficient numbers of high quality clinical faculty (high turnover)
2. Inadequate clinical facilities
3. Excessively short clinical rotations for students

Faculty members were asked to list the top 3 issues facing the college in the future. Most frequently cited among the top 3 were:
1. Faculty recruitment and retention (mentioned 36 times as one of the top 3 issues)
2. Replacement of outdated facilities (mentioned 26 as one of the top 3 issues)
3. Curriculum review and revision and identification of sources of funding each were mentioned 5 times as 1 of the top 3 issues.

APPENDIX 11-5: INTERN/RESIDENT SURVEY OF PROFESSIONAL STUDENT PREPAREDNESS ON ENTRY AND EXIT FROM CLINICAL PROGRAM

The intern and resident survey was conducted to determine the opinion of house officers on the preparedness of our professional students as they enter and exit the clinical program. Of 58 house officers, 25 (43%) completed the survey. Of these, 6 were interns, 18 were residents, and 1was a graduate student. Of the respondents, 17 felt the caseload was excellent, 7 felt it was adequate and 1 felt it was inadequate. Variable perceptions about caseload likely reflect the fact that the survey included small animal, food animal and equine house officers. Of the responding house officers, 12 felt the physical facilities were inadequate, 11 felt they were adequate, and 2 felt they were excellent. Some of the variability in the responses about physical facilities may reflect the fact that the Galbreath Equine Center (1996) is a relatively new facility compared to the Veterinary Teaching Hospital (1973). Finally, 15 of the respondents felt the library (housed in the new VMAB) was excellent, 10 felt it was adequate and none felt it was inadequate.

Respondents were asked to rate the preparedness of professional students entering and exiting the clinical program according to a scale from 1 (poor) to 5 (excellent) or "not sure." In areas of individual species care (i.e. farm animal, equine, small animal), the large number of "not sure" entries reflects the numbers of house officers in the various species specialties.

Area of Competence	Entry into clinical program			Exit from clinical program		
	Mean score	Std Dev	N=not sure	Mean score	Std Dev	N=not sure
Basic biological sciences	3.10	0.54	4	3.64	0.49	3
Clinical skills (history, physical exam)	2.88	0.61	1	3.88	0.74	1
Integration of basic and clinical science	2.60	0.82	0	3.52	0.77	0
Diagnostic skills	2.68	0.63	0	3.84	0.55	0
Patient management skills	2.60	0.91	0	4.00	0.82	0
Problem-solving skills	2.52	0.82	0	3.56	0.77	0
Professional values/behavior	3.48	0.87	0	3.60	0.87	0
Veterinary client interaction skills	3.38	0.65	1	4.17	0.76	1
Effective use of the medical literature	2.35	0.88	2	2.92	1.06	1
Independent learning	2.43	1.16	2	2.96	1.20	1
Clinical competency in farm animal	1.57	0.79	18	3.14	0.90	18
Clinical competency in equine	2.00	1.15	21	2.75	0.96	21
Clinical competency in small animal	2.79	0.63	6	3.89	0.57	6
Population animal care in farm animal	1.80	0.45	20	2.60	0.55	20
Population animal care in equine	1.33	0.58	22	1.67	0.58	22
Population animal care in small animal	2.91	0.54	14	3.64	0.81	14
Practice management and business skills	2.20	0.84	20	3.40	1.14	20

House officers were asked to indicate the single greatest strength and weakness of the clinical curriculum:

Greatest STRENGTH (top 3 cited)
1. Dedicated clinical faculty seeing cases and teaching students in clinic
2. High caseload in small animal medicine and surgery
3. High level of hands-on clinical learning and case responsibility for professional students

Greatest WEAKNESS (top 3 cited)
1. Insufficient length of individual student clinical rotations
2. Failure of students to think independently and integrate concepts
3. Insufficient tracking in clinical curriculum

House officers were asked to list the 3 top issues facing the college in the future. Most frequently cited among the top 3 were:
1. Replacement of physical facilities (mentioned 19 times in #1 or #2 position)
2. Faculty recruitment and retention (mentioned 15 times in #1, #2, or #3 position)
3. Caseload in large animal and equine (mentioned 4 times in #1, #2 or #3 position)
4. Increased tracking and increased length of individual clinical rotations each were mentioned 3 times in the #2 or #3 position.

APPENDIX 11-6: CLIENT SATISFACTION SURVEYS

Clients of the Small Animal Hospital are provided the opportunity to complete a brief "Client Satisfaction Survey" consisting of 14 "yes" or "no" questions followed by spaces to indicate what they liked "best" and "least" about their experience. The most frequent items cited "liked best" and "liked least" over the years 2003-2005 are shown in the table below:

Year	**2003**	**2004**	**2005**
Liked best			
Professional staff	49 (39%)	66 (41%)	34 (32%)
Care my pet received	42 (33%)	49 (31%)	35 (33%)
Liked Least			
Wait	29 (23%)	31 (19%)	19 (18%)
Surveys with comments	127	159	107

Questions that received "no" answers on 5% or more of the completed surveys over the years 2003-2005 are shown below:

Year	**2003**	**2004**	**2005**
Was the wait for services at our teaching hospital explained in advance?	19 (14%)	28 (17%)	12 (11%)
Was the billing presented in adequate detail?	10 (8%)		
Was our payment policy clearly communicated to you?	9 (7%)	11 (7%)	
Was your call answered promptly?		10 (6%)	
Was our waiting room comfortable and clean?			6 (5%)
Total number of surveys	133	166	112

Assessment: Overall, clients were very satisfied with their experience at the Small Animal Hospital, especially the medical care their pet received as well as the communications and compassion of our staff, including clinicians, students, technicians and reception. Despite our attempts to explain the longer wait at a teaching hospital as compared to a private practice, this aspect of the experience received the most criticism from clients.

APPENDIX 11-7: DEVELOPMENT OF CLINICAL COMPETENCY IN CORE COURSES AND ROTATIONS

Course	Description	Clinical Competency Area (see below)								
		1	2	3	4	5	6	7	8	9
VM 510	Principles of Epidemiology							X		
VM 560.01	Ethics and Jurisprudence I								X	
VM 560.02	Ethics and Jurisprudence II								X	
VM 562	Introduction to Anesthesiology			X						
VM 563	Introduction to Surgery				X					
VM 611	Veterinary Preventive Medicine							X		X
VM 614.04	Communications I								X	
VM 615.01	Small Animal Surgical Techniques			X	X					
VM 615.02	Small Animal Medicine Techniques			X		X	X			
VM 613	Fluid Therapy		X	X			X			
VM 616	Large Animal Techniques	X		X		X				
VM 617	Equine Techniques			X		X				
VM 646	Population Medicine	X						X		X
VM 700.01	Community Practice	X	X			X		X	X	
VM 700.02	Small Animal Medicine	X	X			X			X	
VM 700.03	Small Animal Surgery				X				X	
VM 700.04	Food Animal Medicine and Surgery	X	X		X	X		X	X	
VM 700.05	Equine Medicine and Surgery	X	X		X	X			X	
VM 700.06	Equine Field Services	X	X		X	X		X	X	
VM 700.07	Radiology									
VM 700.08	Preventive Medicine	X						X		X
VM 700.09	Anesthesiology			X						
VM 700.10	Large Animal Field Services	X	X		X	X		X	X	
VM 700.11	Small Animal Emergency/Critical Care	X	X	X			X			
VM 700.12	Ophthalmology	X	X		X	X			X	
VM 700.14	Applied Pathology	X						X		X
VM 700.15	Dermatology	X	X			X			X	
VM 700.16	Equine Emergency/Critical Care	X	X	X			X			
VM 700.17	Shelter Medicine and Surgery	X	X		X	X		X		
VM 700.19	Small Animal Cardiology	X	X			X			X	
VM 700.20	Small Animal Neurology	X	X			X			X	
VM 700.22	Small Animal Oncology	X	X			X			X	

CLINICAL COMPETENCY AREAS: 1. Comprehensive patient diagnosis (problem solving skills), appropriate use of clinical laboratory testing, and record management; 2. Comprehensive treatment planning including patient referral when indicated; 3. Anesthesia and pain management, patient welfare; 4. Basic surgery skills, experience, and case management; 5. Basic medicine skills, experience, and case management; 6. Emergency and intensive care case management; 7. Health promotion, disease prevention/biosecurity, zoonosis, and food safety; 8. Client communications and ethical conduct; and, 9. Strong appreciation for the role of research in furthering the practice of veterinary medicine.

APPENDIX 11-8: DEVELOPMENT OF CLINICAL COMPETENCY IN ELECTIVE COURSES AND ROTATIONS

Course	Description	Clinical Competency Area (see below)								
		1	2	3	4	5	6	7	8	9
VCS 622.01	Advanced Equine Techniques			X	X	X				
VCS 628	Small Animal Surgery			X	X					
VBS 693	Hematology	X								
VPM 693	Companion Animal Behavior (I & II)	X	X			X			X	
VCS 696	Integrative Medicine	X	X			X			X	
VPM 700	Molecular Epidemiology of Infectious Diseases	X						X		X
VBS 710	Veterinary Clinical Pathology and Cytology	X								
VPM 711.02	Public Service Problems	X						X		X
VCS 718	Small Animal Internal Medicine I	X	X			X			X	
VCS 719	Small Animal Internal Medicine II	X	X			X			X	
VCS 720.01	Introductory Nutrition	X	X					X	X	
VCS 722	Clinical Problems in Small Animal Cardiology	X	X			X			X	
VCS 723	Emergency/Critical Care Volunteer		X	X		X	X			
VCS 724	Feline Medicine	X	X	X		X			X	
VCS 725	Canine & Feline Dentistry	X	X	X	X				X	
VCS 726	Client Communication								X	
VCS 727	Companion Bird Medicine	X	X		X	X			X	
VCS 728	Clinical Endocrinology	X	X			X				
VCS 729	Pet Loss Education & Grief Support								X	
VCS 732	Equine Lameness & Gait Abnormalities	X	X			X				
VCS 733	Equine Medicine	X	X			X			X	
VCS 737	Equine Intensive Care		X	X		X	X			
VCS 738	Pleasure Horse Medicine	X	X			X			X	
VCS 739	Diagnostic Equine Lameness	X	X			X			X	
VCS 743	Pocket Pet Medicine	X	X		X	X			X	
VCS 746	Cattle Diseases	X	X			X			X	
VCS 747	Small Ruminant Diseases	X	X			X			X	
VCS 749	Equine Ophthalmology	X	X		X	X			X	
VCS 751	Equine Anesthesiology			X						
VCS 753	Small Animal Internal Medicine Cases	X	X			X			X	
VCS 762	Clinical Veterinary Ophthalmology	X	X		X	X			X	
VCS 763	Small Animal Endoscopy	X								
VPM 770, 771	Zoo & Wildlife Medicine	X	X			X		X		
VCS 791.01	Equine Theriogenology	X	X			X		X	X	
VCS 791.03	Canine Theriogenology	X	X			X		X	X	
VCS 795	Introductory Research Experience									X
VCS 796.03	Colic Team (Advanced Gastroenterology)	X	X	X	X	X	X			
VPM 796.03	Prevention of Communicable Disease					X		X		X
VPM 796.03	Food-Borne Illnesses and Human Health					X		X		X
VPM 796.04	Zoonotic Diseases					X		X		X
VPM 796.06	Dairy Herd Health	X	X			X		X		
VPM 796.07	Nutrition of Food Animals	X	X					X	X	
VPM 796.08	Diseases of Swine	X	X		X	X		X		
VPM 796.12	Literature in Production Medicine							X		
VPM 796.13	Applied Dairy Nutrition	X	X			X		X		
VPM 796.14	Swine Production Medicine	X	X			X		X		
VPM 796.15	Dairy Herd Records Analysis	X	X			X		X		
VPM 796.16	Topics in Dairy Production Medicine	X	X			X		X		
VPM 796.17	Bovine Reproductive Laboratory (Palpation)	X	X			X		X		
VPM 796.18	Bovine Reproduction	X	X			X		X		

VPM 798	Applied Avian Medicine	X	X			X		X		
VBS 855	Techniques in Veterinary Molecular Medicine	X								X

CLINICAL COMPETENCY AREAS: 1. Comprehensive patient diagnosis (problem solving skills), appropriate use of clinical laboratory testing, and record management; 2. Comprehensive treatment planning including patient referral when indicated; 3. Anesthesia and pain management, patient welfare; 4. Basic surgery skills, experience, and case management; 5. Basic medicine skills, experience, and case management; 6. Emergency and intensive care case management; 7. Health promotion, disease prevention/biosecurity, zoonosis, and food safety; 8. Client communications and ethical conduct; and, 9. Strong appreciation for the role of research in furthering the practice of veterinary medicine.

APPENDIX 11-9: EXAMPLES OF LEARNING OBJECTIVES FOR EACH OF THE 9 REQUESTED AREAS OF CLINICAL COMPETENCY

1. Comprehensive patient diagnosis (problem-solving skills), appropriate use of clinical laboratory testing, and record management:

- The student will be able to list differential diagnoses for common presenting complaints of major domestic species
- The student will be able to develop an informative history of the presenting client complaint
- The student will be able to evaluate commonly performed laboratory work including complete blood count, serum biochemical profile, and urinalysis
- The student will be able to interpret common radiographic abnormalities and will be familiar with the indications for advanced imaging modalities including ultrasonography, scintigraphy, computed tomography, and magnetic resonance imaging
- The student will understand the concept of the problem-oriented medical record (POMR) and how to systematically evaluate a patient problem according to the SOAP (subjective, objective, assessment, plan) acronym

2. Comprehensive treatment planning including patient referral when indicated:

- The student will be able to develop a treatment plan consisting of fluids and commonly used medications
- The student will understand the basis for referral including unknown diagnosis, treatment beyond practice capability, and desire of the client for second opinion

3. Anesthesia and pain management, patient welfare

- The student will be able to recognize behavioral and physiologic signs of acute and chronic pain in domestic animals
- The student will understand the physiology of pain transmission and the clinical pharmacology of drugs used to treat pain
- The student will be able to develop and implement a variety of anesthetic plans for the major domestic species including appropriate use of pre-anesthetic, induction, and maintenance drugs
- The student will understand the common risks associated with anesthetizing the major domestic species
- The student will understand the operation of and be able to interpret data from commonly used anesthetic delivery and monitoring devices

4. Basic surgery skills, experience, and case management

- The student will be familiar with appropriate surgical anatomy
- The student will understand and be able to handle commonly used surgical instruments
- The student will understand and be able to carry our aseptic technique
- The student will understand the principles of hemostasis
- The student will be familiar with commonly used suture materials and suture patterns
- The student will understand the principles of soft tissue handling and dissection
- The student will understand basic surgical procedures

5. Basic medicine skills, experience, and case management

- The student will understand and be able to perform restraint of major domestic species
- The student will be able to perform a complete physical examination (including oral exam, thoracic auscultation, palpation of peripheral lymph nodes, abdominal palpation, otoscopic exam, fundic exam, rectal exam, and vaginal exam) of major domestic species
- The student will be able to collect blood samples from the appropriate sites in the major domestic species
- The student will be able to place an intravenous catheter
- The student will be able to collect urine by cystocentesis or catheterization

- The student will be familiar with specialty examinations including neurologic, orthopedic and equine lameness examinations
- The student will be familiar with routine diagnostic procedures including skin scraping, skin biopsy, needle aspiration of masses or lymph nodes, bone marrow aspiration, cerebrospinal fluid tap, arthrocentesis, thoracocentesis, abdominocentesis, transtracheal washing, passage of a nasogastric tube, anal sac expression and cannulation in dogs, use of a balling gun in large animals, TB testing and examination of milk samples for mastitis

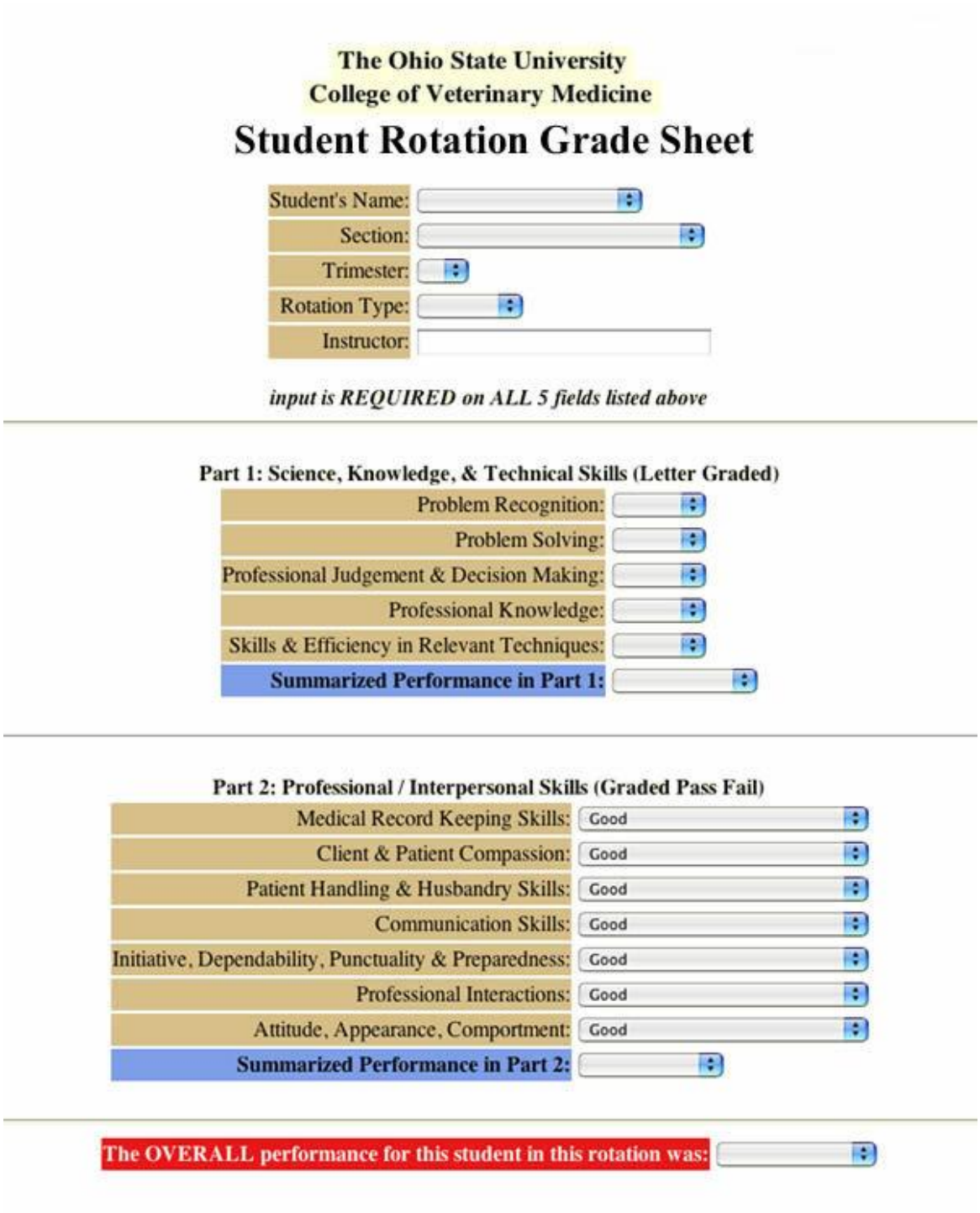
6. Emergency and intensive care case management
   - The student will understand the principles of administration of crystalloids, colloids, and blood products
   - The student will understand the assessment of life-threatening injuries and the principles of patient triage
   - The student will understand how to evaluate and stabilize acutely ill patients
   - The student will understand how to evaluate and manage acutely intoxicated patients
   - The student will understand the principles and practice of cardiopulmonary resuscitation
   - The student will understand the nutritional support of critically ill patients

7. Health promotion, disease prevention/biosecurity, zoonosis, and food safety
   - The student will be able to explain the relationships among population types and sizes, husbandry factors and environmental conditions as they impact the relative health and well being of individuals and the population as a whole
   - The student will be able to critique management practices for their impact on public health risk issues such as food safety, zoonotic diseases, and emerging infectious diseases and evaluate ways to minimize these risks
   - The student will be able to prepare health certificates, diagnostic sample submission forms, and know reportable disease procedures and current eradication programs.
   - The student will be able to design vaccination programs for different population situations

8. Client communications and ethical conduct
   - The student will learn to employ a cluster of skills (including open-ended questions, reflective listening, empathizing, bridging, and negotiating) to obtain the client's "story" and negotiate an agenda for the client/patient visit.
   - The student will understand the relationship between shared decision-making, client satisfaction and patient health outcomes
   - The student will learn to employ a cluster of skills and techniques that are effective in "breaking bad news" and initiating discussions about quality of life and euthanasia
   - The student will be able to identify the particular meaning of individual animal loss to a specific client

9. Strong appreciation for the role of research in furthering the practice of veterinary medicine
   - The student will have an opportunity to participate in basic biomedical research
   - The student will have an opportunity to present research data for scientific peer review and evaluation

APPENDIX 11-10: SENIOR STUDENT ROTATION GRADE SHEET



The Ohio State University
College of Veterinary Medicine

Student Rotation Grade Sheet

Student's Name:
Section:
Trimester:
Rotation Type:
Instructor:

input is REQUIRED on ALL 5 fields listed above

Part 1: Science, Knowledge, & Technical Skills (Letter Graded)

Problem Recognition:
Problem Solving:
Professional Judgement & Decision Making:
Professional Knowledge:
Skills & Efficiency in Relevant Techniques:
Summarized Performance in Part 1:

Part 2: Professional / Interpersonal Skills (Graded Pass Fail)

Medical Record Keeping Skills:	Good
Client & Patient Compassion:	Good
Patient Handling & Husbandry Skills:	Good
Communication Skills:	Good
Initiative, Dependability, Punctuality & Preparedness:	Good
Professional Interactions:	Good
Attitude, Appearance, Comportment:	Good
Summarized Performance in Part 2:	

The OVERALL performance for this student in this rotation was:

This grading form is used to assess student competency in core clinical rotations: VM 700.01 through VM 700.22 (see Appendix 11-7 for descriptions of rotations and specific clinical competencies developed in these rotations).