# AMERICAN VETERINARY MEDICAL ASSOCIATION
## COUNCIL ON EDUCATION
### (AVMA COE)

**Report of Evaluation**

North Carolina State University  
College of Veterinary Medicine  
4700 Hillsborough Street  
Raleigh, NC 27606

**Date of Evaluation**

April 1-5, 2007

**Evaluation Committee**

Dr. Mary Christopher, Chair, COE  
Dr. Gail Kunkle, COE  
Dr. René Carlson, COE  
Dr. L. Kirk Clark, COE  
Dr. Jack Wilson, Canadian VMA  
Dr. Mark Brigham, North Carolina VMA  
Dr. Daryl Buss, Observer  
Dr. Lance Perryman, Observer

**AVMA Staff**

Dr. Donald G. Simmons

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# PRINCIPAL ADMINISTRATIVE OFFICERS

<table>
<thead>
<tr>
<th>Position</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chancellor</td>
<td>James L. Oblinger</td>
</tr>
<tr>
<td>Provost and Executive Vice Chancellor</td>
<td>Larry A. Nielsen</td>
</tr>
<tr>
<td>Vice Chancellor for Finance and Business</td>
<td>Charles Leffler</td>
</tr>
<tr>
<td>Vice Chancellor for Research and Graduate Studies</td>
<td>John G. Gilligan</td>
</tr>
<tr>
<td>Vice Chancellor for Student Affairs</td>
<td>Thomas H. Stafford, Jr.</td>
</tr>
<tr>
<td>Dean</td>
<td>Dr. Warwick Arden</td>
</tr>
</tbody>
</table>
Introduction

In 1887, the North Carolina General Assembly created the North Carolina College of Agriculture and Mechanic Arts as the state’s land-grant institution. The College officially opened its doors to 72 students in 1889. By 1917 the College’s name was changed to the North Carolina State College of Agriculture and Engineering. During the 1930s, the College was combined administratively with the University of North Carolina at Chapel Hill and the Women’s College at Greensboro. Another name change also occurred, to North Carolina State College of Agriculture and Engineering of the University of North Carolina. A final name change took place in the 1960s to North Carolina State University (NCSU) at Raleigh.

The NCSU College of Veterinary Medicine (CVM) considers its strengths to be:

- its location,
- the faculty,
- the abundant teaching material,
- its training programs, and
- its research programs.

The CVM considers its challenges to be:

- lack of space and a facility that requires renovation,
- lack of diversity among the student population,
- heavy reliance on didactic curriculum, and
- difficulty in faculty recruitment and retention.
Organization

**Background:** The mission of the CVM is to enhance the career and life success of students, staff, faculty, and veterinary professionals through initiatives in curriculum and lifelong learning; development of leadership and entrepreneurial skills; and partnerships with the community.

The Commission on Colleges of the Southern Association of Colleges and Schools accredits NCSU. The University was reaccredited in December 2004 for a period of 10 years.

The CVM is one of 10 colleges that report to the Provost.

The College Cabinet is the central administrative body and is composed of the Dean, the Associate Deans, the Department Heads and the Assistant Dean for Business and Finance. The Assistant Deans of Academic Affairs and College Relations, the Executive Director of Development, the Director of the Center for Comparative Medicine and Translational Research, the Director of International Programs and the Senior CVM Faculty Senator are in regular attendance ex-officio. The Cabinet develops the CVM plan, reviews personnel decisions and appeals, reviews the budget, acts on behalf of the faculty and adopts policies for the operation of

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**STANDARD**

**1. Organization**

The school/college must develop and follow its mission statement.

An accredited college of veterinary medicine must be a part of an institution of higher learning accredited by an organization recognized for that purpose by its country’s government. A college may be accredited only when it is a major academic administrative division of the parent institution and is afforded the same recognition, status, and autonomy as other professional colleges in that institution.

The chief executive officer or dean must be a veterinarian, and the officer(s) responsible for the professional, ethical, and academic affairs of the veterinary medical teaching hospital must also be a veterinarian.

There must be sufficient administrative staff to adequately manage the affairs of the college as appropriate to the enrollment and operation. Administrative staff (Associate or Assistant Deans, Directors, Heads of Departments, etc.) must be identified and the specific duties of each provided.
the CVM consistent with the essentials for accreditation. A critical role is to disseminate information and to effect communication among and between the Office of the Dean, the faculty and staff in each of the respective departments, and other operational units of the CVM. The Cabinet meets monthly.

In addition to the Cabinet, the Dean’s Council (Dean, Associate Deans, Assistant Dean for Business and Finance) serves as an internal administrative unit in the development and implementation of fiscal and other operational procedures of the CVM.

The General Faculty establishes rules for the conduct of its business, elects the Secretary of the Faculty, and establishes the academic policy for the CVM falling within the scope of its programs, including the determination of its curricula. The faculty can also make recommendations on matters of educational policy relevant to the CVM that fall under the jurisdiction of faculty committees. The faculty establishes such committees, standing and special, as necessary to conduct its business. The faculty determines the composition of most faculty committees for the conduct of faculty business and assigns responsibilities to each committee. Regular meetings of the faculty are held at least four times a year.

The CVM also has a 15 member Hospital Board responsible for establishing and reviewing the practices and policies of the hospital. The Board is responsible for setting standard fees, reviewing professional performance and approving faculty hospital privileges.
The Dean of the CVM is a veterinarian, as is the Associate Dean and Director of Medical Services.

It appears that the CVM has appropriate regional accreditation; the relationship of the College within the university is appropriate, the Dean and hospital officer have proper credentials, and there is proper college governance. Administrative staff appears to be adequate.

**Commentary:**

**Finding:** The COE finds the College in compliance with the standard.
Finances

Background: Expenditures have increased 26% over the last five years, supported in part by increases in state appropriations, steady growth in Sponsored Programs and the Veterinary Teaching Hospital (VTH), as well as increases in other service areas and contractual student clinical instruction.

Despite several permanent budget cuts over the past five years, the College has seen a net increase of 11% in state appropriations during that time period. Fiscal year 2006 was the first year in several that did not require a budget cut or reversion. In addition, for the first time in many years, the College was granted carry forward of committed but unspent funds, allowing for more efficient forward planning and use of funds. Increasing revenues from the VTH, Ross University, St. George University, and research overhead have all spared state dollars and allowed growth of the overall program.

STANDARD

2. Finances
Finances must be adequate to sustain the educational programs and mission of the college.

Clinical services, field services and teaching hospitals must function primarily as instructional resources. These instructional resource operations are not intended to be self-sufficient financially, and need to be subsidized to ensure their instructional integrity.
Total Expenditures for Immediate Past 5 Fiscal Years – Direct and Indirect Expenses

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>Instruction</th>
<th>Academic Support</th>
<th>Student Support</th>
<th>Services of Educational Activity</th>
<th>Un-Sponsored Student Aid</th>
<th>Sponsored Student Aid</th>
<th>Sponsored Research†</th>
<th>Other Sponsored Activity</th>
<th>Ext. &amp; Public Service</th>
<th>Total Direct Expenditure</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Teaching Hospital</td>
<td>Diagnostic Lab</td>
<td>Other</td>
<td>Amount</td>
<td>Type</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2005</td>
<td>$17,022,598</td>
<td>$8,432,060</td>
<td>$266,053</td>
<td>$12,917,823</td>
<td>$717,514</td>
<td>$435,077</td>
<td>$139,001</td>
<td>$10,655,075</td>
<td>$2,498,105</td>
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<td>2004</td>
<td>$15,104,378</td>
<td>$7,977,246</td>
<td>$257,866</td>
<td>$10,490,171</td>
<td>$511,473</td>
<td>$508,448</td>
<td>$238,834</td>
<td>$11,053,629</td>
<td>$2,102,821</td>
<td>$261,976</td>
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<td>2003</td>
<td>$16,233,695</td>
<td>$5,799,403</td>
<td>$220,403</td>
<td>$9,270,986</td>
<td>$735,098</td>
<td>$437,381</td>
<td>$214,897</td>
<td>$11,202,927</td>
<td>$2,518,573</td>
<td>$163,698</td>
</tr>
</tbody>
</table>

% change: 7.04% 46.97% 45.76% 51.00% 33.70% 7.28% 48.14% 22.22% 3.91% 1467.25% 25.99%
### College Revenue (Source of Funds) from All Sources for Immediate Past 5 Fiscal Years

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>State Appropriations</th>
<th>Tuition &amp; Fees</th>
<th>Is Tuition Estimated Amount?</th>
<th>Endowment Income (current yr)</th>
<th>Gifts of Current Use</th>
<th>Sponsored Program Income/Cost Recovery</th>
<th>Other</th>
<th>Sales and Services</th>
<th>Reserves and Transfers</th>
<th>Total Revenue</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>$27,597,889</td>
<td></td>
<td></td>
<td>$536,857</td>
<td>$3,736,920</td>
<td>$12,441,541</td>
<td>$2,094,354</td>
<td>$13,339,818</td>
<td>$1,403,693</td>
<td>$64,255,693</td>
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<td>2005</td>
<td>$27,393,226</td>
<td></td>
<td></td>
<td>$475,047</td>
<td>$3,418,326</td>
<td>$11,099,559</td>
<td>$1,008,090</td>
<td>$11,212,242</td>
<td>$1,503,569</td>
<td>$60,124,386</td>
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<td>2004</td>
<td>$25,074,586</td>
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<td></td>
<td>$399,611</td>
<td>$1,903,239</td>
<td>$10,880,981</td>
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<td>$9,191,514</td>
<td>$1,638,326</td>
<td>$54,752,572</td>
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<tr>
<td>2003</td>
<td>$24,663,352</td>
<td></td>
<td></td>
<td>$263,246</td>
<td>$1,987,584</td>
<td>$11,002,246</td>
<td>$1,473,286</td>
<td>$8,513,439</td>
<td>$1,290,113</td>
<td>$52,371,163</td>
</tr>
<tr>
<td>2002</td>
<td>$24,785,305</td>
<td></td>
<td></td>
<td>($589,571)</td>
<td>$1,449,580</td>
<td>$9,948,898</td>
<td>$1,083,577</td>
<td>$8,379,331</td>
<td>$1,430,757</td>
<td>$48,270,701</td>
</tr>
<tr>
<td>% change</td>
<td>11.35%</td>
<td>-191.06%</td>
<td>157.79%</td>
<td>25.05%</td>
<td>93.28%</td>
<td>59.20%</td>
<td>-1.89%</td>
<td>74.14%</td>
<td>33.12%</td>
<td></td>
</tr>
</tbody>
</table>
The VTH continues to show growth and has been able to fund new staff support positions and clinical faculty positions.

It appears that financial resources are adequate and sustainable to deliver the professional program, retain faculty, and provide teaching and service resources.

Commentary:

**Finding:** The COE finds the College in compliance with the standard.
Physical Facilities and Equipment

Background: NCSU is divided into five campuses. The CVM is located on the Centennial Biomedical Campus, approximately two miles west of the Central Campus of the University.

The CVM campus is 181.5 acres, which includes a five-acre lake used for aquatic research, and 20 acres of woods; approximately 100 acres have been reserved for pasturing animals, and about 75 acres have been used or reserved for building sites.

Buildings located on the CVM campus include the main building, the research building, auxiliary office space (“Annex”), Teaching Animal Unit buildings, and the Equine Isolation Unit.

The main building houses the majority of the units involved in educational, clinical service, and research activities. These units include the administrative offices of the deans, department heads, and their staff; the business office of the College; the veterinary medical library; lecture rooms, conference rooms, and teaching laboratories; faculty, house officer, and graduate student offices;
research laboratories; the electron microscopy suite; the Biomedical Communications audiovisual production facility; the hospital and research computer facilities; the cafeteria; and the VTH.

Other facilities used by the CVM include:

- the Wake County Animal Care, Control and Adoption Center, located in eastern Raleigh, North Carolina, approximately 12 miles from campus;
- the Equine Health Center, located in Southern Pines, North Carolina, approximately 60 miles from campus;
- the Center for Marine Science and Technology, located in Morehead City, North Carolina, about 220 miles from campus; and
- research laboratory space leased in Pylon Industrial Park.

A specific break-down of facilities include:

- Laboratory B104 is used for teaching courses requiring microscopes. Additional microscopes were added when class size was increased from 72 to 76. Virtual microscopy and computing capabilities have also been added to this room.
- The anatomy dissection laboratory has a maximum capacity of 80 students. It includes a cadaver storage cooler and freezer; specimen preparation and storage rooms; and a live animal palpation room. Special air handling systems are provided.
- A modular laboratory D235 provides facilities for teaching physiology, pharmacology, small animal surgery, large animal surgery, and several elective courses. The laboratory
is partitioned into 14 bays, each equipped with a ceiling mounted surgery light, medical gas and vacuum lines, physiography distribution station, storage cabinets, a work surface, and a surgery table. Sound and closed circuit television systems are available. Surgical scrub sinks are in the center of the laboratory. In 1992, one-half of the laboratory was remodeled and an adjacent hallway was converted to animal housing quarters.

- Teaching labs for clinical pathology, immunology, parasitology, virology, microbiology, and clinical pharmacology are located in C265 and C267. The rooms accommodate 10 students.

- A small laboratory/amphitheater is adjacent to the necropsy laboratory and is used for gross pathology rounds with seniors, as well as house officers and clinicians.

- A computer laboratory C260 with 24 workstations is located in the VTH. Computers are on a three-year replacement cycle. There is currently no site with computer facilities that will seat half the veterinary class. The College has upgraded the wireless network to allow connectivity in teaching and common areas.

- There are two theater type classrooms—North and South—with a capacity of 96 and 117 persons, respectively. Each room is equipped with fixed writing surfaces and moveable seating. Electrical outlets are provided at each desk. Lighting is controlled from a master panel by the instructor and includes a variety of lighting options. The rooms are acoustically balanced and the public address system is seldom needed, even though one is provided with wired and wireless microphones. The North and South Theaters have networked Macintosh and PC computers linked to the projection systems. Large free-sliding chalkboards cover the front wall of each room. A ceiling mounted projection
television can be used for in-room productions with videotapes or cameras; the system is operable from a centrally controlled studio signal. Each room is equipped for individuals with disabilities. The College does not have a room that is large enough for a gathering of the entire student population.

- There are two additional classrooms in the main building: one is a large flat-floored room (D239) with a capacity of 80 individuals. This room can be divided into two equally sized classrooms using a central partition. The second flat floor classroom (D236) has a capacity of 40 persons. Both rooms have the same audiovisual features as the theater-type classrooms.

- An additional small classroom is located on the first floor of the Research building. It has a capacity of 45 individuals.

- There are 12 conference/seminar rooms throughout the main building (A231, B222, B224, C221, D214 and F253) and research building (R294, R394, R494, R256, R356 and R458). These provide a capacity range of 10-30 persons for small group teaching or individual discussions. In addition, the library has five rooms with 4-person capacity (A104, 105, 106, 107 and 108) and one with 15 seats (A103).

- Several of the rooms have been configured for interaction with students at distant locations. D239, D236 and A103 have cameras and screens for meeting participants to see and be seen by class or conference participants at other locations.
The College considers the VTH to be adequate in meeting its mission; however, the caseload has grown especially in companion animals and horses. To address this growth the CVM is planning a new companion animal medical center.

To address operational capacity issues for equine patients, the VTH has expanded its isolation facilities from three units to seven units, has converted a limited number of food animal stalls to equine stalls (as the demand for inpatient food animal services has declined), and is in the process of converting a small animal radiation room to an equine clinical area. In addition, some equine services (podiatry, theriogenology, and equine ophthalmology) have shifted a portion of their clinical activities to the Equine Health Center at Southern Pines.

The pharmacy is staffed by three full-time registered pharmacists, two part-time pharmacists, two full-time registered pharmacy technicians, and several part-time clerks. The pharmacy is fully licensed by the North Carolina Board of Pharmacy and the North Carolina Department of Human Resources Regulatory Drug Control and the Federal Drug Enforcement Authority. There is after-hours access, limited by proximity card assigned to the house officer on emergency duty, and monitored by security.

The imaging center consists of a front desk reception area, a transcription office, a radiology supervisor’s office, a conference/rounds room, a film/image viewing room, a darkroom, an ultrasound room, three radiography suites, one radiography/fluoroscopy suite, a digital catheterization laboratory, nuclear imaging, computed tomography, and radiation therapy. The
radiology service is digital thus allowing real time images to be viewed at any computer in the CVM; however, film is available if needed.

The necropsy laboratory contains one hydraulic and three stationary stainless steel tables. It also comprises a photography room; two offices with microscope, desks and computer; two connected walk-in coolers for holding animal carcasses and disposable refuse; an amphitheater; and adjacent locker rooms with showers and lavatories for men and women.

The small animal isolation unit is located between the ICU and small animal emergency service. Protocols for use of this room are displayed on the entry door. The CVM does not consider the layout of this unit as ideal. With the expansion of the new small animal hospital, plans have been made so that patients will be totally isolated from each other.

The large animal isolation unit is separate from the hospital, and consists of seven stalls each having its own anteroom for supplies, equipment, and changing. Protocols for use of these units are posted on each entry door.

Protocols regarding biocontainment and management of infectious disease are outlined in the *Infectious Disease Manual*, which is available online. An Infectious Disease Committee reviews these protocols and makes recommendations to the Hospital Board. The CVM safety program is a component of the University-wide safety program and is overseen by the College Safety Committee. The Program incorporates security, safety plans, safety equipment, radiation safety,
rules and procedures, accident/incident reporting, medical surveillance, waste disposal, and fire inspection.

The Teaching Animal Unit buildings are adjacent to the CVM and include barns for cattle, swine, horses, poultry, goats, and sheep; and a milking parlor.

It appears that the hospital and services, equipment, research facilities, and building infrastructure provide an adequate learning environment for professional students.

Commentary:

**Finding:** The COE finds the College in compliance with the standard.
Clinical Resources

**Background:** Canine, feline, and equine cases have steadily increased (13.6%, 13.9% and 22.2%, respectively) from 2001 to 2006. The number of hospitalized days has increased proportionately for these species. In-house food animal cases have decreased over the same time period (-26.6%) due to decreasing demand for individual food animal medical services and increasing urbanization of the Triangle region surrounding NCSU. Small ruminant cases have increased 13.6-57.5% (depending on species) over the past five years, reflecting a continued but modest demand for individual animal medical services in these species. The low number of pet bird accessions since 2004 are the result of closure of the in-house pet avian/reptile/exotics service in 2004. Ambulatory/field service bovine cases decreased in 2002-2003 and over the five-year reporting period as a result of closure of one of the area’s state dairies. The increase in porcine and “Other” (poultry) field service cases examined in 2005-2006 reflect more accurate record keeping on the part of swine and poultry faculty in documenting their field trips.

**STANDARD**

4. Clinical Resources

Normal and diseased animals of various domestic and exotic species must be available for instructional purposes, either as clinical patients or provided by the institution. While precise numbers are not specified, in-hospital patients and outpatients including field service/ambulatory and herd health/production medicine programs are required to provide the necessary quantity and quality of clinical instruction.

It is essential that a diverse and sufficient number of surgical and medical patients be available during an on-campus clinical activity for the students' clinical educational experience. Experience can include exposure to clinical education at off-campus sites provided the college has direct responsibility for carefully planning, closely supervising, and regularly monitoring such clinical experiences. Further, such clinical experiences should occur in a setting that provides access to subject matter experts, reference resources, modern and complete clinical laboratories, advanced diagnostic instrumentation and ready confirmation (including necropsy). Such examples could include a contractual arrangement with nearby practitioners who serve as adjunct faculty members and off-campus field practice centers. The teaching hospital(s) shall provide nursing care and instruction in nursing procedures. A supervised field service and/or ambulatory program must be maintained in which students are offered multiple opportunities to obtain clinical experience under field conditions. Under all situations students must be active participants in the workup of the patient, including physical diagnosis and diagnostic problem oriented decision making.

Medical records must be comprehensive and maintained in an effective retrieval system to efficiently support the teaching, research and service programs of the college.
The Community-Campus Partnership Program, created in 2000, has increased primary care opportunities for students to practice routine surgical procedures and to diagnose and treat common diseases of dogs and cats in the Wake County Animal Care, Control and Adoption Center. Additional opportunities are offered by the Mobile Surgery Hospital serving shelters in rural North Carolina counties and providing preventive care for service dogs in the North Carolina Department of Corrections.

The Teaching Animal Unit (TAU) is a teaching facility located on the CVM campus, which houses a wide variety of food and farm animals. It is operated as an on-site production farm and provides a wide range of opportunities for students to gain experience in management and preventive health care of beef and dairy cattle, swine, horses, turkeys, broiler chickens, goats, and sheep. It provides animals for teaching six required semester courses in the first three years; one hundred and fifty-five live-animal laboratories are taught annually at the TAU.

Decreasing food animal cases accessions have been mitigated by developing additional ambulatory/field service opportunities and developing relationships with state food animal practitioners and farms.
# Teaching Hospital Case Load 2005-2006

<table>
<thead>
<tr>
<th>Animal Species</th>
<th>Number of Patient Visits</th>
<th>Number Hospitalized</th>
<th>Number of Hospital Days</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bovine</td>
<td>88</td>
<td>32</td>
<td>127</td>
</tr>
<tr>
<td>Canine</td>
<td>13,635</td>
<td>2,969</td>
<td>11,962</td>
</tr>
<tr>
<td>Caprine</td>
<td>52</td>
<td>27</td>
<td>117</td>
</tr>
<tr>
<td>Equine</td>
<td>2,506</td>
<td>1,211</td>
<td>8,555</td>
</tr>
<tr>
<td>Feline</td>
<td>2,772</td>
<td>712</td>
<td>2,931</td>
</tr>
<tr>
<td>Feline</td>
<td>11</td>
<td>8</td>
<td>28</td>
</tr>
<tr>
<td>Porcine</td>
<td>14</td>
<td>5</td>
<td>43</td>
</tr>
<tr>
<td>Caged pet birds</td>
<td>7</td>
<td>3</td>
<td>12</td>
</tr>
<tr>
<td>Caged pet mammals</td>
<td>57</td>
<td>17</td>
<td>118</td>
</tr>
<tr>
<td>Avian wildlife</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Other</td>
<td>138</td>
<td>74</td>
<td>354</td>
</tr>
<tr>
<td>Total</td>
<td>19,280</td>
<td>5,058</td>
<td>24,247</td>
</tr>
</tbody>
</table>

**NOTE:** Number of patient visits is the total number of times the patient visits the hospital. Number hospitalized is the number of patients that were hospitalized. Number of hospital days is the cumulative days that the total number of patients were hospitalized.

# Ambulatory/Field Service Program 2005-2006

<table>
<thead>
<tr>
<th>Animal Species</th>
<th># of Farm (site) Calls</th>
<th># of Animals Examined/Treated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bovine</td>
<td>289</td>
<td>10,604</td>
</tr>
<tr>
<td>Caprine</td>
<td>65</td>
<td>814</td>
</tr>
<tr>
<td>Equine</td>
<td>86</td>
<td>435</td>
</tr>
<tr>
<td>Ovine</td>
<td>14</td>
<td>577</td>
</tr>
<tr>
<td>Porcine</td>
<td>19</td>
<td>102,879*</td>
</tr>
<tr>
<td>Other</td>
<td>240</td>
<td>1,822,355*</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>713</strong></td>
<td><strong>1,937,664</strong></td>
</tr>
</tbody>
</table>

* Number of “at risk” swine and poultry — this indicates number of animals in the production facility at the time of the visit rather than animals examined.
### Herd/Flock Health Program 2005-2006

<table>
<thead>
<tr>
<th></th>
<th>Herd/flock health programs provided within institution</th>
<th>Herd/flock health programs provided through off-campus programs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes or No</td>
<td># of sites</td>
</tr>
<tr>
<td>Dairy</td>
<td>Y</td>
<td>2</td>
</tr>
<tr>
<td>Beef Feedlots</td>
<td>N</td>
<td>0</td>
</tr>
<tr>
<td>Cow-Calf</td>
<td>Y</td>
<td>2</td>
</tr>
<tr>
<td>Small Ruminants</td>
<td>Y</td>
<td>3</td>
</tr>
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<td>Swine</td>
<td>Y</td>
<td>2</td>
</tr>
<tr>
<td>Poultry</td>
<td>Y</td>
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<td>Fish</td>
<td>N</td>
<td>NA</td>
</tr>
<tr>
<td>Equine</td>
<td>Y</td>
<td>1</td>
</tr>
<tr>
<td>Other</td>
<td>N</td>
<td>NA</td>
</tr>
</tbody>
</table>

The VTH utilizes a unit record concept (one number one patient) and the Problem Oriented Medical Record format for documenting clinical information concerning in-patients out patients and field service activity. The Teaching Hospital Information System billing application for medical record information was used from 1985-2003 and utilized Cognos’ PowerHouse. Universal Veterinary Information Systems (UVIS) was implemented in July 2003 and consists of an Oracle database and Oracle forms front-end. Patient/client demographic information and all ancillary lab report data are contained within UVIS.
The CVM appears to provide adequate numbers of diseased and normal animals for student instructional and heath care management. The expertise of the clinical faculty appears to be utilized. The medical record and retrieval systems appear to be adequate.

**Commentary:** The College is commended for its approach to using shelter resources to provide increased opportunities for primary care educational experiences for students.

The College has a unique resource in the TAU and uses the animals in the unit for education in management and preventive health care of many farm animal species.

**Finding:** The COE finds the College in compliance with the standard.
Library and Information Resources

Background: The Veterinary Medicine Library (VML) is one of four branch libraries of the NCSU Libraries. The library collection consists of over 63,000 print and electronic volumes and 400 current journal subscriptions in the areas of veterinary medicine, medicine, surgery, public health, toxicology, pathology, microbiology, anatomy, physiology, animal sciences, zoology, practice management, and animal welfare and ethics.

The University library system provides on-line access to database searches. Access to software for preparation of bibliographies is also available. Wireless Internet access is available throughout the library and study carrels provide electricity for laptops.

The library is open 103 hours per week during the academic semesters.

The head of the VML holds a Masters in Library and Information Studies from a university accredited by the American Library Association, and a BS in Biological Sciences.

The College provides access to the human and physical resources necessary for the development of instructional materials.
The use of the library by professional program students has increased since improvements to the lighting have been made.

It appears that the availability of print and electronic library materials, the credentials of the librarian, and the learning resources are adequate to support the teaching program of the CVM.

**Commentary:**

**Finding:** The COE finds the College in compliance with the standard.
Students

Background: Student numbers have remained constant over the past five years. The CVM is planning an increase in class size to 80 for the class of 2011. The number of interns and residents has gradually increased from 45 in 2001-2002 to 57 in 2005-2006.

Student services include recruitment, registration, testing, disability services, mentoring, counseling, tutoring, student clubs, drug and alcohol awareness programs, legal advice, medical, career placement, reduced cost veterinary care, education-related travel support, veterinary international programs, emergency loan support, computer support, and Biomedical Communications (audio-visual support for student clinical conference presentations). A full-time, on-site counselor was recently hired by the College.

STANDARD

6. Students
The number of professional degree students, DVM or equivalent, must be consistent with the resources and the mission of the college.

Colleges are encouraged to establish post-doctoral programs including internships, residencies and advanced degrees (MS, PhD).

Student support services must be available within the college or university.

In relationship to enrollment, the colleges must provide accurate information for all advertisements regarding the educational program by providing clear and current information for prospective students. Further, printed catalog or electronic information, must state the purpose and goals of the program, provide admission requirements and procedures, state degree requirements, present faculty descriptions, clearly state information on tuition and fees along with procedures for withdrawal, give necessary information for financial aid programs, and provide an accurate academic calendar. The information provided will contain details regarding licensure. The grading system for the college must be relevant and applied to all students in a fair and uniform manner.

Each accredited college must provide a mechanism for students, anonymously if they wish, to offer suggestions, comments, and complaints for the college related to the Standards for accreditation. These materials shall be made available to the Council annually.
### Student Numbers

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
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<td>76</td>
<td>76</td>
<td>80</td>
<td>76</td>
<td>78</td>
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<tr>
<td>Year 2</td>
<td>76</td>
<td>77</td>
<td>78</td>
<td>75</td>
<td>77</td>
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<tr>
<td>Year 3</td>
<td>73</td>
<td>77</td>
<td>73</td>
<td>75</td>
<td>74</td>
</tr>
<tr>
<td>Year 4</td>
<td>75</td>
<td>73</td>
<td>76</td>
<td>73</td>
<td>75</td>
</tr>
<tr>
<td># Graduated</td>
<td>75</td>
<td>73</td>
<td>76</td>
<td>73</td>
<td>75</td>
</tr>
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</table>

### Interns and Residents and Combined Residency-Graduate Programs

<table>
<thead>
<tr>
<th>Academic Year</th>
<th>Interns</th>
<th>Residents</th>
<th>Resident-MS*</th>
<th>Resident-PhD*</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001-2002</td>
<td>8</td>
<td>12</td>
<td>20</td>
<td>5</td>
</tr>
<tr>
<td>2002-2003</td>
<td>8</td>
<td>21</td>
<td>11</td>
<td>5</td>
</tr>
<tr>
<td>2003-2004</td>
<td>8</td>
<td>30</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>2004-2005</td>
<td>8</td>
<td>32</td>
<td>5</td>
<td>7</td>
</tr>
<tr>
<td>2005-2006</td>
<td>9</td>
<td>37</td>
<td>4</td>
<td>7</td>
</tr>
</tbody>
</table>

*Combined residency-graduate students are also counted in the Graduate Students Table on page 27.
Graduate Students

<table>
<thead>
<tr>
<th>Academic Year</th>
<th>Total</th>
<th>Min.</th>
<th>Min.%</th>
<th>Degrees awarded</th>
<th>Total</th>
<th>Min.</th>
<th>Min.%</th>
<th>Degrees awarded</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001-2002</td>
<td>36</td>
<td>11</td>
<td>31%</td>
<td>10</td>
<td>73</td>
<td>30</td>
<td>41%</td>
<td>15</td>
</tr>
<tr>
<td>2002-2003</td>
<td>24</td>
<td>5</td>
<td>21%</td>
<td>9</td>
<td>70</td>
<td>33</td>
<td>47%</td>
<td>14</td>
</tr>
<tr>
<td>2003-2004</td>
<td>14</td>
<td>3</td>
<td>21%</td>
<td>8</td>
<td>72</td>
<td>34</td>
<td>47%</td>
<td>11</td>
</tr>
<tr>
<td>2004-2005</td>
<td>15</td>
<td>4</td>
<td>27%</td>
<td>1</td>
<td>72</td>
<td>29</td>
<td>40%</td>
<td>5</td>
</tr>
<tr>
<td>2005-2006</td>
<td>16</td>
<td>6</td>
<td>38%</td>
<td>6</td>
<td>63</td>
<td>29</td>
<td>46%</td>
<td>15</td>
</tr>
</tbody>
</table>

Other Educational Programs

<table>
<thead>
<tr>
<th>Number Enrolled September of Academic Year</th>
<th>ECFVG Clinical Year</th>
<th>Foreign Seniors</th>
<th>Veterinary Technician Program</th>
<th>Undergraduate Programs</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001-2002</td>
<td>0</td>
<td>14</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2002-2003</td>
<td>0</td>
<td>12</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2003-2004</td>
<td>0</td>
<td>11</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2004-2005</td>
<td>0</td>
<td>18</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2005-2006</td>
<td>0</td>
<td>15</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
The NCSU Course Catalog and the CVM Student/Faculty handbook are both available on the College’s website.

Students are reminded yearly of a suggestion box where they can anonymously place suggestions, comments, and complaints related to the standards of accreditation. None have been received for the past 10 years.

It appears that current enrollment is appropriate for student resources; student services are available and appear to be adequate; grading and testing systems appear to be fairly applied and understood by students; the catalog information appears to be accurate; and a system is in place to collect student comments on accreditation standards.

Commentary:

Finding: The COE finds the College in compliance with the standard.
Admissions

Background: Applicants are evaluated on academic performance, understanding of the veterinary medical profession, achievements, and professional potential. The University complies with all Federal and State statutes regarding non-discrimination.

Undergraduate candidates should be pursuing a baccalaureate degree and meeting all requirements of that program; however, an undergraduate degree is not required for admission. Applicants must only complete prerequisite courses to fulfill academic requirements. Candidates are required to have a minimum of 400 hours of clinical, agribusiness/farm, health science or research experience.

Candidate’s Minimum Academic Qualifications

<table>
<thead>
<tr>
<th>Standard</th>
<th>N.C. Residents</th>
<th>Non-Residents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cumulative GPA</td>
<td>3.0</td>
<td>3.4</td>
</tr>
<tr>
<td>Required Course GPA</td>
<td>3.3</td>
<td>3.4</td>
</tr>
<tr>
<td>Last 45 Credit Hours GPA</td>
<td>3.3</td>
<td>3.4</td>
</tr>
<tr>
<td>GRE</td>
<td>General Test*</td>
<td>General Test*</td>
</tr>
</tbody>
</table>

* The CVM does not require a minimum GRE score.

It is recognized that some applicants may not meet the minimum academic standards. Consideration under “Alternative Eligibility” applies only to GPA requirements and not to other admissions requirements. A subcommittee consisting of four members of the Admissions
Committee reviews alternative eligibility requests. If the subcommittee feels the applicant would significantly improve the composition of the class then the applicant’s folder is forwarded for review.

The College uses the Veterinary Medical Common Application Service (VMCAS) with an October 1 deadline date for all application materials. In addition to the VMCAS application form, the College uses an online supplemental application form to provide an opportunity for the applicant to express relevant background information and qualifications that are not included in the VMCAS application.

In addition to academic criteria, the Admissions Committee also assess an applicant’s veterinary experience, animal experience, educational experience, evaluation forms/recommendations, personal statement, diversity, and extracurricular/community activities.

It appears the College provides easily accessible and understood admission requirements and that the admission process is fair and unbiased.

Commentary:

**Finding:** The COE finds the College in compliance with the standard.
Faculty

**Background:** Faculty numbers have increased in number in the companion animal and equine services. Experienced clinical faculty members have been retained in most services.

Faculty members are given the option to take periodic sabbatical leaves. Departmental funds are available for professional meeting attendance, although they are largely dependent on hospital and grant funding and may vary from year-to-year. Junior faculty can attend a monthly writers group to help them organize their time, write grants, and publish their results. Additional faculty development opportunities include grant writing workshops, teaching workshops, internal research grants, and teaching innovation grants.
Veterinarians – Current Number of Academic Faculty

<table>
<thead>
<tr>
<th>Title</th>
<th>DVM (only)</th>
<th>MS</th>
<th>PhD</th>
<th>Board Certified (DVM only)</th>
<th>Board Certified &amp; MS</th>
<th>Board Certified &amp; PhD</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administrator</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>Professor</td>
<td>0</td>
<td>2</td>
<td>7</td>
<td>5</td>
<td>7</td>
<td>15</td>
<td>36</td>
</tr>
<tr>
<td>Associate Professor</td>
<td>0</td>
<td>2</td>
<td>6</td>
<td>4</td>
<td>7</td>
<td>14</td>
<td>33</td>
</tr>
<tr>
<td>Assistant Professor</td>
<td>6</td>
<td>1</td>
<td>0</td>
<td>9</td>
<td>6</td>
<td>12</td>
<td>34</td>
</tr>
<tr>
<td>Total</td>
<td>6</td>
<td>5</td>
<td>13</td>
<td>20</td>
<td>21</td>
<td>44</td>
<td>109</td>
</tr>
</tbody>
</table>

Non-Veterinarians - Current Number of Academic Faculty

<table>
<thead>
<tr>
<th>Title</th>
<th>MS</th>
<th>PhD</th>
<th>Board Certified</th>
<th>Board Certified &amp; MS</th>
<th>Board Certified &amp; PhD</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administrator</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Professor</td>
<td>0</td>
<td>11</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>11</td>
</tr>
<tr>
<td>Associate Professor</td>
<td>0</td>
<td>7</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>7</td>
</tr>
<tr>
<td>Assistant Professor</td>
<td>1</td>
<td>10</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>11</td>
</tr>
<tr>
<td>Total</td>
<td>3</td>
<td>29</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>32</td>
</tr>
</tbody>
</table>

It appears that faculty numbers and qualifications are satisfactory to support student enrollment and the mission of the College. It also appears that the College provides employment security and professional development opportunities to the faculty.

Commentary:

Finding: The COE finds the College in compliance with the standard.
Curriculum

Background: The professional program has two phases of education. A preclinical 3-year phase is followed by a 1-year clinical phase. The first through third years of the program consist of a gradual progression from understanding the basic sciences and workings of the body in health, to an understanding of the mechanisms of disease, to the clinical application of veterinary science.

Each of the first six semesters in the curriculum is divided into a 13-week core course period followed by two weeks of elective courses (selectives). Individual selectives are 1 to 2 weeks in length, each week corresponding to one academic credit. The focus of individual selectives range from bench-top laboratory research

9. Curriculum

STANDARD

The curriculum shall extend over a period equivalent to a minimum of four academic years, including a minimum of one academic year of hands-on clinical education. The curriculum and educational process should initiate and promote lifelong learning in each professional degree candidate.

The curriculum in veterinary medicine is the purview of the faculty of each college, but must be managed centrally based upon the mission and resources of the college. There must be sufficient flexibility in curriculum planning and management to facilitate timely revisions in response to emerging issues, and advancements in knowledge and technology. The curriculum must be regularly reviewed and managed by a college curriculum committee. Curriculum evaluations should include the gathering of sufficient qualitative and quantitative information to assure the curriculum content provides current concepts and principles as well as instructional quality and effectiveness. Diversity in delivery of the curriculum is encouraged.

The curriculum shall provide:

a. an understanding of the central biological principles and mechanisms that underlie animal health and disease from the molecular and cellular level to organismal and population manifestations.

b. scientific, discipline-based instruction in an orderly and concise manner so that students gain an understanding of normal function, homeostasis, pathophysiology, mechanisms of health/disease, and the natural history and manifestations of important animal diseases, both domestic and foreign.

c. instruction in both the theory and practice of medicine and surgery applicable to a broad range of species. The instruction must include principles and hands-on experiences in physical and laboratory diagnostic methods and interpretation (including diagnostic imaging, diagnostic pathology, and necropsy), disease prevention, therapeutic intervention (including surgery), and patient management and care (including intensive care, emergency medicine and isolation procedures) involving clinical diseases of individual animals and populations. Instruction should emphasize problem solving that results in making and applying medical judgments.

d. instruction in the principles of epidemiology, zoonoses, food safety, the interrelationship of animals and the environment, and the contribution of the veterinarian to the overall public and professional healthcare teams.

e. opportunities for students to learn how to acquire information from (diagnostic history) and about (archival documents) patients, to obtain, store and retrieve such information, and to communicate effectively with clients and colleagues.
experience, anatomy and physiology of exotic species, physical therapy and rehabilitation, dentistry, surgical laboratories, public health policy, client communications, and grief counseling.

Beginning with the class of 2006, students declare an intended “focus area” by fall of their third year to allow student to increase their depth of learning in specific areas (such as small animal practice, pathology, clinical-scientist, food animal practice).

The format of the fourth year is a two-week rotation approach to clinical education. The academic calendar is divided into 24 two-week segments. Students in all focus areas must complete a minimum of 20 rotation blocks for graduation including radiology, anesthesiology, necropsy, and clinical pathology rotations, one small animal or equine medicine rotation, and, one population medicine rotation (options in several species). For each declared focus area there are additional required core rotations but the curriculum still allows for considerable flexibility.

Off-campus experiences are possible in private practice, industry, and government agencies. In the past, preceptorships and externships were overseen by the Office of the Associate Dean and Director of Academic Affairs. However, oversight has been shifted to the focus area
coordinators, with the idea that the faculty in a given focus area are best able to help choose and evaluate extramural experiences in the areas of interest.

The clinical program provides a heavy emphasis on actual hands-on clinical practice. The College recently implemented a clinical skills check-off book for veterinary students (Class of 2010). Students are expected to complete skills and have faculty who have observed them sign off in order to ensure that all essential core skills are included in the curriculum.

The curriculum committee—Faculty Committee on Curriculum and Course Evaluation (FCCCE)—meets twice monthly and both faculty and students are actively engaged in evaluating and improving the curriculum. The Committee routinely evaluates all courses on a three-year cycle. The student members of the FCCCE are responsible for distributing course evaluation forms to their classmates and encouraging a high response rate. A return rate of 50% is required for FCCCE evaluations.

The curriculum appears to provide the basic biological principles and applied clinical applications of veterinary medicine with scope and rigor of content.

**Commentary:** The CVM is encouraged to continue to review and assess the focus areas and the value of the clinical skills check-off list and to make changes as deemed necessary.
The CVM is encouraged to pursue their plan to evaluate the first three years of the curriculum including course sequencing, various student-learning styles, innovative methods of delivery, and mapping of instructional unit content.

**Finding:** The COE finds the College in compliance with the standard.


Research

Background: The CVM has five programs of research emphasis:

Center for Comparative Medicine and Translational Research (CCMTR)—The CCMTR has over 80 tenure-track faculty members in 14 academic departments and across four colleges engaging in collaborative approaches for the study of comparative molecular medicine. Veterinary medicine comprises more than 60% of the total membership. The mission of the CCMTR is to enhance collaborative, translational, and interdisciplinary approaches for the comparative study of animal/human diseases and to facilitate the movement of discoveries from the bench to the clinics. An integral part of the Center’s mission is to provide clinical and translational research opportunities to veterinary students, graduate students, clinical residents and postdoctoral fellows.

Center for Chemical Toxicology Research and Pharmacokinetics (CCTRP)—The CCTRP develops mechanistic-based approaches to assess the risk to human and animal health from exposure to occupational chemicals, environmental contaminants, animal drugs and nanomaterials. The Center has eight faculty members, two post-doctoral fellows, seven technical staff and eight graduate students supported by over six million dollars of extramural support (government and industry). Research is focused on probing the mechanism of dermal exposure to occupational and environmental chemicals, targeted to the effects of complex chemical mixtures. In addition, the Center’s strength in mathematical model development and pharmacokinetics is also applied to the problem of preventing chemical and drug residues in the edible tissues derived from food producing animals. Part of the federally mandated Food Animal Residue
Avoidance Databank (FARAD) is housed in the Center. A third strength of the Center is the pharmacokinetic program, which focuses on veterinary clinical pharmacology research and is part of the College’s clinical pharmacology resident training program. The CCTRP interacts with NCSU veterinary student education through a selective on skin toxicology; didactic lectures in pharmacokinetics and antiparasitics to second year veterinary students; individual veterinary student employment in Center labs; as well as contact with all fourth years students through a FARAD rotation in the senior large animal medicine rotation.

**Program in Pulmonary Pathobiology Research**—The NCSU CVM maintains a high quality research program in pulmonary pathobiology that involves internationally-recognized investigators who are elucidating basic pathogenetic mechanisms associated with a range of pulmonary diseases, many of which are also prevalent in animal populations. The pulmonary research program involves four PhD scientists who have substantial extramurally-funded individual programs and, have substantial interactive research programs (and publications) with other members of the faculty. This group has active grant awards of over $8 million, with the current year portion being $1.8 million.

**Genomic Sciences**—Genomic sciences include three areas of research. In the first area research is concentrated on the development of high throughput technologies for the analysis of gene expression profiles in swine for the understanding of normal and diseased states. In addition, genetically modified swine are developed that can be used to understand disease processes in relation to both animal and human health. As part of the program, graduate and veterinary students are provided with opportunities to participate in ongoing research through laboratory
internships. The second area of research involves matters of canine health. Faculty members in this area have developed an elective course on canine genomics and cancer. The third area of research involves functional and biochemical analysis of transcription factors, and their comparative genomic organization, transcription patterns and functions in development and tumor genesis in humans, mice and zebra fish. These comparative functional and genomic studies have impacted DVM students directly via the lab’s participation in an elective course on transgenic animals. Additionally, the Horowitz research laboratory is open to DVM students who wish to do summer research projects or obtain DVM/PhD degrees. These and other CVM laboratories that are engaged in research using genomics technologies provide opportunities for DVM students to gain experience through lab based electives, summer research projects and the Clinician Scientist Focus area. In addition, these labs are open to hosting DVM students on an ad-hoc basis to allow them to gain experience in genomics research.

**Infectious Disease and Immunology**—This program involves over 30 faculty members with primary interests in virology, bacteriology, parasitology, and immunology. Faculty members train graduate students participating in the Immunology Graduate Program and the Infectious Disease Concentration of the Comparative Biomedical Sciences Graduate Program. Many of these faculty members also participate in the Genomics Graduate Program and Biotechnology Training Program. Twenty-one of the faculty within the Emerging and Zoonotic Research Core in the Center for Comparative Medicine and Translational Research come from the CVM. The emphasis of this Core is to develop molecular diagnostic tools for bacterial and rickettsial organisms, study the molecular basis of virulence among bacterial pathogens, improve biosecurity against infectious diseases in production animals, advance molecular epidemiology
for the detection and spread of pathogens, study the basis and spread of antimicrobial resistance in bacteria, and develop novel vaccines.

Evolving research programs include:

- **Pain Research**—The long-term mission of the Comparative Pain Research Laboratory (CPRL) is to improve the ability to manage pain in non-human species. Faculty members in the CPRL investigate valid ways to assess acute and chronic pain; work to gain a greater understanding of the neurobiological signature of pain in naturally occurring chronic diseases in animals; and evaluate novel analgesic treatments in surgical patients and patients with naturally occurring painful diseases. To date, 11 veterinary students have worked in the CPRL and 19 research presentations have been made.

- **Clinical Trials**—This area of research is currently under development. The Clinical Studies Core will consist of two interrelated areas: the Clinical Trials Center and the Clinical Genetics Resource Laboratory. The Clinical Trials Center will serve to facilitate clinical trials by providing organizational and technical support, as well as dedicated space to process samples in proximity to the VTH. The Clinical Genetics Resource Laboratory will provide oversight for a biospecimen repository of samples that will support ongoing and developing veterinary and translational research of CVM faculty.

Veterinary students participate in basic and clinical research through summer internships, funded in part by Merck-Merial (17-23 students/year), the Clinician-Scientist Focus Area of the
curriculum (currently four students), and research selectives. All veterinary students are required to complete at least one research-related educational experience before graduation to gain an appreciation for the role of research in furthering the practice of veterinary medicine. A DVM/PhD program is in its initial stages.

The College appears to maintain substantial research activities of high quality that integrate with and strengthen the professional program.

**Commentary:**

**Finding:** The COE finds the College in compliance with the standard.
Outcomes Assessment

Background: Senior student exit surveys are conducted every year to assess the student’s satisfaction with their education and to obtain data on their immediate plans after graduation. A survey of all graduates was conducted in 1999. As of 2005, the CVM began annual sampling of graduates at one year and five years post-graduation.

NAVLE Results

<table>
<thead>
<tr>
<th>Year</th>
<th>Students Taking Exam(s)</th>
<th>Students Passing Exam(s)</th>
<th>Average Score</th>
<th>Criterion Group Average</th>
<th>Percent Passing</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>73</td>
<td>72</td>
<td>501</td>
<td>500</td>
<td>98.6%</td>
</tr>
<tr>
<td>2005</td>
<td>73</td>
<td>68</td>
<td>508</td>
<td>503</td>
<td>93.2%</td>
</tr>
<tr>
<td>2004</td>
<td>76</td>
<td>73</td>
<td>535</td>
<td>529</td>
<td>96.1%</td>
</tr>
<tr>
<td>2003</td>
<td>73</td>
<td>68</td>
<td>536</td>
<td>521</td>
<td>93.2%</td>
</tr>
<tr>
<td>2002</td>
<td>75</td>
<td>70</td>
<td>511</td>
<td>519</td>
<td>93.3%</td>
</tr>
</tbody>
</table>
Student Attrition Rates

<table>
<thead>
<tr>
<th>Class</th>
<th>Attrition</th>
<th>Reason for Relative Attrition</th>
<th>Absolute Attrition</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>% Academic</td>
<td>% Personal</td>
</tr>
<tr>
<td>2006</td>
<td>6*†</td>
<td>50%</td>
<td>50%</td>
</tr>
<tr>
<td>2005</td>
<td>7</td>
<td>57.1%</td>
<td>42.9%</td>
</tr>
<tr>
<td>2004</td>
<td>3*‡</td>
<td>33%</td>
<td>67%</td>
</tr>
<tr>
<td>2003</td>
<td>1</td>
<td>100%</td>
<td></td>
</tr>
<tr>
<td>2002</td>
<td>4</td>
<td>100%</td>
<td></td>
</tr>
</tbody>
</table>

* Student conduct suspensions (one each in the classes of 2004 and 2006) are included in the academic category.
† One personal attrition is a student who took a planned one year period to work on his PhD and then joined the class of 2007.
‡ Includes a student who dropped out in first week of first year.

An annual employer survey was initiated in 2005. For the class of 2004, the response rate was low (10 responses). Each employer indicated that the diagnostic capabilities, medical knowledge and surgical skills of the alumnus were average or above average. All employers indicted that they would hire another NCSU graduate. When asked what areas of weakness the CVM might have addressed, no suggestion appeared more than once. Individual suggestions included providing more business management, communication skills, surgery skills, and practical clinical expertise.

In 2006, faculty members and house officers were surveyed. There were 82 respondents for a response rate of 44%. The majority of respondents (approximately three quarters) considered the overall preparedness of students to be adequate, and 95% of the faculty rated the facilities and equipment as adequate or excellent.
The overall curriculum content is monitored by the Assistant Dean of Academic Affairs and the Faculty Committee on Curriculum and Course Evaluation. Results of course evaluations are used to modify the curriculum (for example, the Perfect Pet program was added to enhance student surgical skills). The clinical skills checklist has been developed to document clinical competencies. Extramural learning opportunities are monitored through both the student’s evaluation of the experience and the mentor’s evaluation of the student and the experience. Faculty teaching ability is monitored by reviewing student instructor evaluations and peer evaluation of teaching.

The Hospital Board tracks the hospital caseload, hospital revenue, client satisfaction, and referring veterinarian satisfaction.

The university planning process involves input from the faculty and the departments. Each department submits a three-year plan to the Dean and the Cabinet. The College then submits a three-year plan (called the Compact Plan) to the University. The latest plan was developed for the 2005-2007 period. This plan is reviewed annually, to assess progress and determine priorities. In addition to the formal Compact Plan, the College held an administrative planning retreat in October 2006 to help determine the College goals for the next 10 years.

The CVM appears to have developed and implemented assessment measures that address the College’s mission and are used to improve the curriculum.
Commentary:

**Finding:** The COE finds the College in compliance with the standard.
Strengths:

1. Organization
   - The Dean of the College appears to enjoy strong support by the College and the university administration.

2. Finances
   - The CVM is commended for its success in increasing research funding, building strong financial partnerships, and expanding donations from private sources.
   - The exclusive use of off-shore education tuition funds for the DVM educational program is commendable.

3. Physical Facilities and Equipment
   - The CVM is clean and well maintained.
   - The new research facility offers state-of-the-art facilities and expanded opportunities for basic and clinical research activities and collaborative interactions.

4. Clinical Resources
   - The Teaching Animal Unit provides teaching resources for the DVM students to learn about animal agriculture and to develop hands-on veterinary skills throughout the four-year program.
   - The CVM has developed a number of opportunities for the DVM students to obtain hands-on clinical experiences at diverse locations (for example, Wake County Animal Control and Adoption Center and Mobile Unit).
   - The "open door" policy for students in the pharmacy provides unique learning opportunities in the management of pharmaceuticals, compounding, and vaccine products; and opportunities for DVM students to partner with pharmacy students expand the understanding between the professions.

5. Library and Information Resources

6. Students
   - The two-tiered formal mentoring system provides both general and focused assistance to DVM students as they develop career goals.
   - The students are enthusiastic, motivated, articulate, pleased with the faculty, and supportive of the CVM.
   - The CVM is commended for hiring an on-site counselor.

7. Admission
   - The food animal scholars program could assist in partially addressing the shortage of practitioners needed to safeguard the nation’s dietary animal protein sources.
8. Faculty
   - The “cluster hire” concept used to attract faculty in focused areas of interest and research has the potential to provide the “critical mass” of faculty necessary to quickly address disease issues and to provide added and unique learning opportunities for the DVM students.
   - The faculty members of the CVM are dedicated to teaching the veterinary students and to other assigned endeavors.
   - The CVM mentoring system(s) used to assist junior faculty (tenure track and clinical track) is commendable.

9. Curriculum
   - The Selective Program provides students the opportunity to explore a variety of veterinary subjects in a focused environment as career plans evolve.
   - Databases developed by the CVM (for example, modifications to UVIS, the Radiological Information System) provide exceptional learning tools for the DVM students.

10. Research Programs
    - Expanding the Centennial Biomedical Campus to the CVM and initiating the centers provides opportunities for expanded collaborative research.
    - There appear to be numerous opportunities for DVM students to explore research as a career in a number of highly regarded research centers and core facilities at the CVM with funding from the Veterinary Scholars Program.

11. Outcomes Assessment
    - The CVM has developed outcomes assessment tools to measure student learning outcomes and institutional outcomes, and uses the results to improve the curriculum.
    - The alumni are pleased with the education they received, pleased with the qualification of NCSU graduates to practice veterinary medicine, and supportive of the CVM.
Recommendations:

Non-compliance for a standard will be indicated by *

Substantial compliance for a standard will be indicated by †

No designation indicates a recommendation for improvement of the quality of the program

1. Organization

2. Finances

3. Physical Facilities and Equipment
   - The CVM should place instructions on the cattle chutes to ensure that students are aware of safe operation procedures.
   - The CVM should review its operation procedures for large animal/equine isolation facilities to ensure that the animals are isolated from the environment (for example close the Dutch doors when animals are housed in the facilities).
   - The CVM is encouraged to move forward with its building and renovation plans.
   - Ambulatory vehicles are outdated and consideration should be given to replacement.

4. Clinical Resources
   - The CVM should continue to expand its primary caseload for the DVM educational program.

5. Library and Information Resource
   - The CVM is encouraged to complete its plans for renovation to develop the learning commons in the library.

6. Students

7. Admission

8. Faculty

9. Curriculum
   - The CVM is encouraged to continue to review and assess the focus areas and the value of the clinical skills check-off list and to make changes as deemed necessary.
The CVM is encouraged to pursue their plan to evaluate the first three years of the curriculum including course sequencing, innovative delivery methods, and mapping the curriculum.

10. Research Programs

11. Outcomes Assessment
CLASSIFICATION OF ACCREDITATION

The North Carolina State University College of Veterinary Medicine is granted Full Accreditation for a period of up to seven years.