

21.9. Curriculum

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

The administration, faculty, and staff of the College of Veterinary Medicine at North Carolina State University have formulated a challenging and meaningful academic curriculum of professional study designed to prepare new Doctors of Veterinary Medicine for varied and broad careers in veterinary medicine.

The professional program calls for 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 2 weeks of selective courses. The objective of the core portion of the curriculum is to provide a broad-based knowledge base to the students. The objective of the selective portion of the curriculum is to provide in-depth exposure to specific areas of interest. Individual selectives are 1- to 2-weeks in length, each week corresponding to one academic credit. Selectives are designed as small group, short but intensive course experiences that emphasize both practical aspects of veterinary medicine and in-depth training in specialty areas. The focus of individual selectives range from bench-top laboratory research experience, anatomy and physiology of exotic species, physical therapy and rehabilitation, dentistry, surgical laboratories, public health policy, and client communications and grief counseling.

The format of the fourth year of the professional program is a 2-week rotation approach to clinical education. The academic calendar is divided into 24 2-week segments. Students are required to successfully complete a minimum of 20 rotation blocks for graduation. Off-campus experiences are possible in private practice, industry, government agencies, and/or other postdoctoral opportunities. Four 2-week vacation blocks are possible during the fourth year of the program. The clinical program provides a heavy emphasis on actual “hands-on” clinical practice and is demanding both physically and mentally.

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

Beginning with the class of 2006, students declare an intended “focus area” by September 15 of the third year consisting of one of the following: Epidemiology and Public Health, Equine Practice, Food Animal Practice, Laboratory Animal Practice, Mixed Animal Practice, Pathology, Small Animal Practice, or Zoological Medicine. These focus areas aid in concentrating clinical efforts in the student’s chosen career path. All students must successfully complete the following rotations: Radiology, Anesthesia, Necropsy, and Clinical Pathology as well as a rotation in medicine, surgery, emergency/critical care, and population medicine. Each focus area includes between 14-16 required rotations. The remaining 8-10 rotations are chosen under the supervision of the student’s focus area mentor and the focus area coordinator.

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

The Faculty Committee on Curriculum and Course Evaluation (FCCCE) routinely evaluates all courses on a 3-year cycle. In addition, courses are evaluated in any year in which the course leader changes or any action is taken that requires a course action form (i.e., change in course credit hours, change in course name or number, change in grading criteria). The FCCCE structure and responsibilities, as quoted from the CVM bylaws, follows:

The function of this committee will be confined to matters of the professional DVM curriculum and to the periodic review of those course offerings. The responsibilities of the committee are to recommend to the faculty curricular content and program development and to conduct ongoing reviews of all DVM courses. Faculty will decide courses of action in programmatic change based on committee review.

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. In the past year, we have transitioned from a written format in which individual faculty members of the committee summarize the evaluation results to an electronic format for ease of data compilation. Both the individual evaluations and the

summary of the course evaluations are returned to the course leaders. If a course evaluation reveals a particular concern, the chair of the FCCCE or the Associate Dean and Director of Academic Affairs will meet with the head of the department in which the course is taught. In addition, any course of concern to the FCCCE is reevaluated in the following year rather than waiting for the normal 3-year cycle. Evaluation returns less than 50% are reported in descriptive form to the course coordinators and their department head.

In addition to course evaluations, the students complete instructor evaluations. These are intended to separate evaluation of the course from evaluation of the instructor, although some cross-over occurs. All departments have established mechanisms for peer evaluation of instructors. Instructor and peer evaluations are returned directly to the faculty member's department chair and are not seen by the FCCCE.

Each year, the Dean of the College conducts exit interviews with the fourth-year students, gathering information on the overall education process, specific areas of perceived curricular strength and weakness, information on the education environment, and other relevant matters.

In addition to the above methods, the College periodically conducts surveys of its alumni to assess the perceived value of individual courses as well as the overall curriculum. Survey results are shared with the FCCCE and used in assessment of the curriculum. In 2005, the survey format was changed from periodic surveys of all alumni to surveys of alumni one and five years post graduation. Alumni are also asked to provide surveys to their employers (See Section 21.11.1.d).

The College recently implemented a clinical skills check-off book for veterinary students, which provides listings of which courses address specific skills. This mechanism ensures training in core skills is not omitted in the curriculum.

Each year, the Associate Dean and Director of Academic Affairs reviews the performance of NCSU students vs. national norms on the North American Veterinary Licensing Examination (NAVLE). Each subject area is reviewed to determine if NCSU students are below their peers in any particular area.

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

Strengths

- The development of focus areas. The focus area program involves basic and applied veterinary medical science courses which all students are required to take combined with opportunities for the individual student to focus on areas of particular interest. This program is a direct result of previous alumni surveys suggesting the need for an increased level of expertise in the new graduate's area of interest. This change allows students to graduate with increased knowledge and skill in their intended area of work.
- The use of outcome assessment in curricular revisions (see 21.9.3 above).
- The number of CVM students applying for and successfully obtaining post-graduate training in internship programs. The number of CVM students applying for internships was 17, 29, 33, and 42 in 2003, 2004, 2005, and 2006, respectively. Success rates in obtaining internships were 77.8% (national average, 63.6%), 66.7% (national average, 63.1%), and 73.2% (national average, 62.3%) in 2004, 2005, and 2006, respectively.

Weaknesses

- The ongoing challenge of teaching ever-increasing amounts of information without a corresponding increase in the duration of the program.
- Our processes for evaluating individual courses and instructors are very strong; however, evaluation of the curriculum as a whole is challenging. The return rate of alumni surveys and employers of our alumni is frustratingly low. In addition, the FCCCE does not have the power to implement significant changes to the curriculum. Instead, recommendations are sent to the faculty as a whole for voting, a process in which disagreement with single items can lead to disapproval of more global changes.

- Promoting progressive changes among faculty, including moving away from our currently heavily didactic curriculum to one that embraces teaching innovations and more active involvement of students in the learning experience, is an ongoing challenge.
- The increasing demands on faculty members' time, increased pressure to bring in research overhead dollars and hospital income, and increasing instruction of house officers, all compete with time demands of the curriculum.

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

In the past, preceptor and externships were largely overseen by the office of the Associate Dean and Director of Academic Affairs according to the following sequence: 1) student identifies desired experience, 2) student (or faculty, in some cases) obtains signed acknowledgement that outside individual is willing to accept a student and provide an evaluation, 3) student gets signature from faculty mentor that experience is approved and is reminded of the requirements to gain credit, 4) student participates in experience, 5) student turns in required information (including case log or research summary) and an evaluation of the experience, 6) faculty solicits evaluation of student from external supervising veterinarian/scientist, 7) faculty thanks outside person, seeks feedback, asks if willing to continue having students. Any problems with experiences are handled on a case by case basis. In the current year, this program is being revised with the new title of "Extramural Experiences." The oversight for outside experiences is being shifted to the focus areas, with the idea that faculty in a given focus area are best able to help choose and evaluate experiences in their area of interest. Courses have been designed and course coordinators assigned. Students will be able to obtain selective, elective or 4th year rotation credit, depending on the course selected. The course coordinators have met to agree on standardized forms and to assure consistency between the focus areas. Summary statistics for the experiences will be provided to the office of the Associate Dean and Director of Academic Affairs in order to monitor the scope of the program and to acknowledge the contribution of the outside veterinarians/scientists.

21.9.6. Curriculum Digest

See Appendix 9-1.

21.9.7. Audit of Selected Curricular Content

See Appendix 9-2.

21.9.8. Describe current plans for revisions.

Changes that are underway with anticipated ongoing revisions include further development and expansion of the focus areas and the Extramural Studies program. We are also modifying the VMC 962 course "Ethics, Professional Development and Practice Management." This course will be taught as two 2-credit courses, one of which will be taught during spring of the third year and the other of which will be offered during the 2-week selective period. Students will be allowed to participate in the 2-week selective part of the course in their first, second or third years. We also plan to implement an online evaluation system for all courses, instructors, and students, pending experience in the 2007-2008 academic year with the Clinical Rotation Evaluation and Scheduling System. To enhance diversity awareness among our students and optimize their abilities to relate to people of varying ethnic, racial, and socioeconomic backgrounds, beginning with the class of 2011, students will be required to participate in one diversity awareness seminar per year during each of the first three years of the curriculum. Ongoing discussions are looking at further integration of material within and between courses.

The last major revisions in the curriculum resulted in the institution of selectives, development of focus areas and their associated requirements, and restructuring of a few core courses. Subsequent to a recent administrative retreat, discussion has begun on how to more efficiently and effectively teach in years 1-3 of the program. This initiative was announced to faculty at the November 15, 2006 faculty meeting and will be the major charge of the Faculty Committee on Curriculum and Course Evaluation for the upcoming year.