Program Review Report

Yuba Community College District

YC - Veterinary Technician Program Recommendations

Program Description: Program Description and Current Status

Yuba College is located in Marysville, California in the northern Sacramento Valley. The Yuba College Veterinary Technology Program was established in 1971 and graduated its first class in 1972; the program then applied for and was granted probational accreditation by the American Veterinary Medical Association (AVMA) in 1978. Full accreditation status was granted in 1983 and again in 1988. The program has maintained full accreditation status since that time. In 2006 the building, including the Veterinary Technology facility underwent an extensive remodel modernizing both structure and equipment available to the students and staff.

The Yuba College Veterinary Technology Program strives to foster knowledge, to open the minds of students to that knowledge, and to enable students to take the best advantage of their educational opportunities by training entry-level veterinary technicians with the skills and concepts consistent with the AVMA Committee on Veterinary Technical Education (CVTEA) guidelines and provide companion animal practices with qualified veterinary technicians.

To meet the goals of the mission statement, the Yuba College Veterinary Technology Program encourages students to respect ideas, encourage free expression, rejoice in discovery and in critical thought; pursue excellence in the spirit of the team concept of veterinary medicine and assume responsibility for the consequences of personal actions. The support and resources of the Yuba Community College District provide a foundation upon which self-reliance and habits of scholarship and service are built.

The primary mission of the Yuba Community College District is to provide rigorous, high quality curricula in: Lower division arts and sciences, Vocational and Occupational fields and Business-focused training for economic development The Yuba College Veterinary Technology Program is well supported by the Yuba College District mission and its goals. The District also provides:

o Remedial/Basic Skills instruction
o English as a second language instruction
o Postsecondary Student Support Services
o Non-Credit Adult Instruction
o Community Education courses and programs
o Institutional Research

Current Program Status:

> The focus of the Yuba College Veterinary Technology academic program fits well with the institutional mission and strategic direction
> The Yuba College Veterinary Technology Program is evolving along national trends as determined by the American Veterinary Medical Association (AVMA) annual update and assessment.
> The Yuba College Veterinary Technology Program is fully accredited by the AVMA
> The adequacy of resources reflects the current status of education in California
> The learning environment and the extent to which learning outcomes are achieved have been assessed by the Self-Study Committee and found to be excellent.

> Potential areas for collaboration and interdisciplinary projects are always being designed and evaluated. Currently the Yuba College Veterinary Technology collaborates with UCDavis, the Northwest Society for the Prevention of Cruelty to Animals (NWSPCA), California Department of Food and Agriculture (CDFA), United States Food Safety Inspection Service (FSIS) and the United States Department of Agriculture (USDA).
> Program performance - the quality of the program including the breadth and depth of its capacity to fulfill its mission and goals (student learning outcomes and activities to measure achievement of these outcomes; student and faculty performance metrics; recruitment and retention of students; affirmative action; student persistence; honors and awards; academic honesty; research and scholarly activity; metrics for operational effectiveness) are all consistent with the mission statement of Yuba College

The curriculum in the last four years has changed to reflect the growing needs of the community and state and national educational and training requirements. We have increased the depth and capacity of our instructional materials to expand from 5 courses in 2006 to 29 today. Additionally to reflect information expansion and professional requirements the Program has expanded from four to five semesters in length. We currently offer three Certificate of Training programs.
Trends in instructional support have improved the teaching staff from one full time instructor in 2006 to one full time and nine adjunct faculty plus four lecturers today. Instruction is accomplished at both on and off campus facilities as well as our rigorously reviewed and maintained internship site program.
Currently the Yuba College Veterinary Technology academic program offers the A.S. degree as well as four Certificates of Training Programs. At this date we have ~ 172 students enrolled in our five programs.

The Yuba College Veterinary Technology Program has placed special instructional and training emphasis on laboratory animal medicine, research and development, shelter medicine, public health and food safety and security. In today?s competitive work environment these areas have the highest pay potential, excellent employee retention and improved work satisfaction.

Yuba College Veterinary Technology Program offers an Accreditated Veterinary Technology Program with several degree options. We have a Certificate of Completion in Veterinary Assisting, Public Health and Veterinary Food Safety, Large Animal Care and Management, and Shelter Medicine , as well as a Associate of Science degree in Veterinary Technology.

Program Goals & Objectives
Mission: The Yuba College Veterinary Technology Program is devoted to providing the student with the education needed to enable immediate employability of graduates at an entry level, meeting the high demand for veterinary technicians in today?s workplace.

Goals:
> To enable the students to obtain a career in the field of veterinary medicine through rigorous vocational education.
> To provide the student maximum experience in the workplace in pursuit of this career.
> To show the student the relationship between the academic requirements and future employment.
> To provide opportunities for individuals to achieve their maximum potential and contribute to the well being of the veterinary community and the larger community as a whole.

Objectives:
To encourage student development in:
> The ability to think clearly, creatively and objectively.
> The ability to speak and write properly and with clarity of expression.
> The ability to use computational methods to analyze and solve problems using resource material and technology appropriately.
> The ability to carry out appropriate medical techniques based on the directions of the veterinarian and the characteristics of the patient in order to achieve maximum health benefits for the animal patient.
> Personal integrity and the powers of self-guidance and self-discipline.
> Attitudes of tolerance, respect and understanding for classmates, colleagues, clients and their animal patients.

Year of Review: 2012-2013
Type of Review: Annual Update
Executive Summary: Executive Summary:

Data Elements
The total weekly student contact hours for the program have stayed approximately the same over the past five years. But, the average WSCH per full-time equivalent faculty has risen dramatically. It was approximately 932.10 in 2007-2008, 2028.90 in 2011-2012. Much of this can be attributed to the success of the online courses. FTES have increased from 31.07 in 2007-2008 and during the 20011-2012 time period is 67.63. The data overall indicates that the weekly student contact hours per full-time equivalent faculty has increased and that the retention rate has stayed in an acceptable range. Both success and retention remain high: 70% and 90.7% respectively. There are currently 807 students enrolled in the program (2011-2012). Finally FTEF has expanded from 1.23 in 2007-2008 to the current 3.30 (2011-2012).

Goals of the Program
The Veterinary Technology Program provides training to meet a number of needs: transfer, vocational training, employment skills updating, and for licensing requirements. A number of the courses offered transfer to four-year colleges and universities. The courses, which meet general education requirements, are especially popular.

The majority of student growth in the program has come from the courses being offered online each semester. This has expanded the service area served and allowed courses to be available throughout the college district and beyond. A sizeable number of students come in for retraining or skills updating. The Certificate programs provide training hours for community individuals to meet the continuing education requirements for their licenses.

The program goals are generally equal in importance and most classes fulfill more than one need.

Strengths
The Yuba College Veterinary Technology Program is based on a practical, problem-based instructional approach. Expert full-time and part-time faculty from the veterinary health care community provides a blend of theory and experience. The department is fortunate to have a philosophically diverse and outstanding faculty. This diversity provides students with an unusually broad set of perspectives and tools for solving applied problems. Several faculty hold distinguished titles indicative of their internationally recognized contributions to their respective fields of interest. Of the fifteen instructors, adjunct instructors and lecturers eight are women seven are men. Four have specialist qualifications and one

has a PhD. Additionally one Native American and one Hispanic instructors help broaden the diverse nature of our Program. Six of our faculty are regular lecture specialists at professional national and international meetings. The employment experience is quite diverse: three are employed by the University of California, one is employed by the California Department of Public Health, one by the U.S. Army and eight are in private practice settings. The Program Director during the last four years has published 7 scientific papers, one textbook, has been selected as a research Fellow at UCDavis, instructs courses at Michigan State University and the University of Illinois and has collaborated with the United States Agency for International Development (USAID) on five international agriculture projects and has received three awards for teaching and lecturing excellence. The Program RVT has been named RVT Student Advisor of the year in 2009 by the North American Veterinary Technician Association, is completing a baccalaureate degree in Veterinary Science and has become a Certified Safety Instructor by the University of California. Additionally seven of our adjunct faculty and staff are Yuba College graduates.
Solving applied problems in today's world requires the professional veterinary scientists to integrate knowledge from many disciplines. The Yuba College Veterinary Technology Program is fortunate to have a close working relationship with California State University, Chico, St. Petersburg College, California Agriculture Department as well as local non-profit organizations. Faculty are especially strong in laboratory animal medicine, shelter medicine, public health and food safety, small ruminant production and international veterinary medicine. Courses in these areas are excellent. Veterinary Technology faculty members also serve frequently on guidance committees, and have often collaborated closely with state university and the University of California faculty on research projects, especially in the international development area.
> The innovative, creative Program director with an impressive breadth and depth of experiences
> The Program registered veterinary technician (RVT) who is experienced, dedicated, competent, and passionate
> Program personnel epitomize veterinary health care team concepts
> Strong support from the local veterinary community and Program advisory committee
> Nationally recognized faculty dedicated to teaching excellence
> Closely supervised, on-campus clinical experience with real clients
> Off-campus experience
> Strong anatomy, laboratory animal medicine, shelter medicine, public health, and surgical foundations
> Principles of analysis: task performance
> Theory and practice of public health, large and small animal medicine, and research
> Extensive assistive technology labs
> Computer-based interactive video laboratory simulations
> Extensive use of Internet for information and communication
> Transferability of AS degree credits to baccalaureate degree institutions
> General education instructors who are well credentialed and focused on student learning
> Engaged, enthusiastic Program students who have made significant monetary contributions for Program acquisitions and for support for Heifer International
> The new Program admissions policy that is designed to admit students most likely to succeed
> Affordability of the Program
> The Program advisory committee is made up of local veterinarians, RVTs, a public member, and Program students. Committee members meet twice yearly and provides valuable input to the Program. This advisory committee, as well as the local veterinary community, provides steadfast support for the Program.

Current Yuba College Veterinary Technology Faculty:

Scott R.R. Haskell, DVM, PhD
Bonnie L. Loghry, RVT
Robert Runyan, DVM
Monica Kratochvil, RVT
Crystyn Chase, BS, RVT, LATg
Bob Glynn, DVM
Areas for Improvement
> AVMA request: The Program have additional RVT support to meet expanding needs. The Yuba College Veterinary Technology Program must have additional RVT support to meet expanding needs and improve academic success. 1.0 FTE Instructional Associate ? Labs currently have inadequate student to faculty ratios. Faculty with a primary assignment to provide an open lab to serve students is necessary. This proposal is to fund 1.0 FTE Instructional Associate within our Program. The additional lab time will help students acquire needed skills and reduce the attrition rate.
> AVMA request: The Program Director have sufficient time for the development and implementation of the significant Program improvements being considered.
> AVMA request: The Program requires additional clerical and secretarial support. The Program has great need of clerical support. Although there is shared secretarial support, it is inadequate leaving many tasks to be completed by Program staff and the Director. This is an inefficient use of expertise and time which requires correction.
> AVMA request: The Program as an institutional member of the Association of Veterinary Technician Educators (AVTE) should avail itself of its considerable resources. Program personnel should be financially supported in attendance at AVTE symposia. In order to maintain currency in veterinary technology educational topics and methodology the AVMA has required that the Program Director and RVT attend the Association of Veterinary Technician Educators Conference held every other year. The cost to attend this conference is approximately $2000 (including airfare, accommodations and registration); in-service money is currently insufficient to cover this cost therefore staff has not attended these mandated meetings.
> New faculty request has been made and denied 2006-2011. An additional full-time faculty person is needed to assist in teaching the courses offered on campus.
> Efforts continue to be made to improve program outcomes as assessed by graduate performance on the California RVT Examination and on the Veterinary Technician National Examination (VTNE).
> Advisory Board request: Hire a FTE Student Instructional Assistant for academic success. Need for Veterinary Technology Peer Tutors ? Peers are often more familiar with what a student does not know or why they do not know it because they are more closely tied to the learning process than the faculty. The peer tutors, as Vet Tech students, would be recruited, hired, and trained to fulfill their role by providing support to Vet Tech students in the laboratory. Peer tutors are expected to reduce the attrition rate. This proposal addresses these issues.
> The Advisory Committee identified the need for faculty to remain current in professional education and training. This will require faculty and staff to attend training seminars and conference. Through workshops or seminars, either off campus or on campus, faculty can learn to use technology and teaching strategies that incorporate active learning components into their courses. This proposal will address the need for this training.

Future Goals and Program Direction: Future Direction
The Yuba College Veterinary Technology Program continues to meet the changing needs of a diverse career field. Changes within the profession require continual changes within our program. We continue to seek out professional partnerships with local industry and educational programs. To meet these needs new facilities are requested. The 1700

Building would be a perfect fit for the VT program. We would be off campus to reduce animal smells and sounds yet close to animal care taking opportunities. The following requests were made by the American Veterinary Medical Association in 2007 and will be re-appraised during their next site visit during the fall of 2013:

>AVMA request: The Program requires additional RVT support to meet expanding needs.
>AVMA request: The Program requires additional clerical and secretarial support. The Program has great need of clerical support. Although there is shared secretarial support, it is inadequate leaving many tasks to be completed by Program staff and the Director. This is an inefficient use of expertise and time which requires correction.
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>New faculty request has been made and denied 2006-2011. An additional full-time faculty person is needed to assist in teaching the courses offered on campus.
>Efforts continue to be made to improve program outcomes as assessed by graduate performance on the California RVT Examination and on the Veterinary Technician National Examination (VTNE).
>Advisory Board request: Hire a FTE Student Instructional Assistant for academic success

Equipment and Technology
Strengths
>Hands-on learning; students are able to work with live caseload in conjunctions with the NWSPCA that enhances their learning through equipment and technology
>Students are engaged in the process of saving lives of patients through the use of state-of-the-art equipment and technology
>Equipment is a major part of the Veterinary Technology Program, whether it is the traditional veterinary surgical equipment, electronics, x-ray and ultrasound equipment, laboratory and blood analysis equipment or computers in the classroom.
>Preparing the students for the challenges they will encounter in their lifetime will require the department to continue with the purchase of state of the art equipment.
>Significant new Program equipment and instrument acquisitions
>The Program has been the benefactor of considerable funding from grants and other sources for the purchase of new equipment, including several items purchased by Program students.
>Contingency funds are available for emergencies.
>The Program is well equipped with teaching technologies and clinical instrumentation, including 24 new high-quality microscopes.
>The Program has new state-of-the-art digital radiology and ultrasound equipment provided by Perkins Funding.
>Attention to safety issues is excellent throughout Program facilities.

Areas for Improvement/Future Direction
>AVMA request: Program budgets are sufficient for maintenance of Program equipment, including, but not limited to, regular maintenance and calibration of the anesthetic vaporizer.
>The Veterinary Technology Program is in need of augmenting the numbers of smaller, specialized pieces of equipment that are too expensive to be purchased in sufficient quantities from the program instructional budget
>New teaching aids, library textbooks, DVD?s, microscope slide sets, skeletons, models and equipment.
>Simulation models as well as improved equipment at industry standards are all required to improve current student retention and licensing examination passage rates.

Facilities
Strengths
>Newly renovated veterinary and instructional facility
>Livestock housing corral
>Multiple class room computers
>New plasma screen TV and VCR/DVD for student-education videos and DVD?s
>Laboratory diagnostic equipment (24 microscopes, 2 centrifuge, hematology diagnostic machine)
>Dental equipment (Schein scaler/ polisher, amalgamator)
>Surgical equipment (surgery table, electrosurgery unit, anesthetic machine, respirator, pulse oximeter, ECG monitor)
>Digital radiology suite with small animal, large animal and dental capacity
>Designed to meet Americans With Disabilities Act regulations for clients, students and employees
>Designed to meet OSHA Regulations

Areas for Improvement/Future Direction
>Improved facilities-utilization of space (including lecture rooms, workshops, labs, studio, offices, pastures, etc) is at full capacity; implementation time line 2013; budgetary impact minimal; responsibility: Yuba College
>Requested movement of program to the 1700 building.
>Improved computing and technology (accessibility of technology); implementation time line 2013; budgetary impact minimal; responsibility: Yuba College
>Improved DE Department on-line offerings; implementation time line 2013; budgetary impact minimal; responsibility: Yuba College
>Additional office space made available to Veterinary Technology Program within MESH Division; implementation time line 2013; budgetary impact minimal; responsibility: Yuba College
>Improved accessibility of technology and physical facilities; implementation time line 2013; budgetary impact minimal; responsibility: Yuba College
>Repair of leaking laboratory roof to reduce safety compliance issues during the rainy season; implementation time line 2013; budgetary impact minimal; responsibility: Yuba College
>Improved drainage in front and behind the facilities (MESH Building walkways) to prevent slips and falls and improve safety compliance during the rainy season.
>Upgrade electrical circuits in the kennel and back laboratory area in order to handle equipment load; implementation time line 2013; budgetary impact- requires bid; responsibility: Yuba College
>Replace laboratory countertops in Room 810; implementation time line 2013; budgetary impact minimal; responsibility: Yuba College
>Improved custodial services; implementation time line 2013; budgetary impact minimal; responsibility: Yuba College

>Improved yard sprinkler maintenance and auto watering devices and improved staff monitoring; implementation time line 2013; budgetary impact minimal; responsibility: Yuba College
>Improved plumbing and drainage of facility; implementation time line 2013; budgetary impact minimal; responsibility: Yuba College
>Eventually move Vet Tech Program into the 1700 Building complex; implementation time line 2014; budgetary impact minimal; responsibility: Yuba College
>Improve livestock handling equipment on campus; implementation time line 2013; budgetary impact minimal; responsibility: Yuba College
>Improve pasture fencing systems; implementation time line 2013; budgetary impact minimal; responsibility: Yuba College

Recommendations Equipment:
Recommendation #1: Purchase of cattle handling equipment to include a ?squeeze chute? and livestock panels.
Squeeze Chute and livestock panels
10 panels and Powder River Chute $7120.50

Recommendation #2: Update instructional equipment to industry standards.
Surgery Table
Surgery Table
$3946.80

Recommendation #3: AVMA requested additional educational instruction tools.
Disease Bacteria Slide Set + Fungi Slide Set + Advanced Bacteria Slide Set
Microbiology Slides $3030.23

Recommendation #4: Update instructional equipment to industry standards.
Anesthesia Machine replacement
Anesthesia Machine
$4946.70

DE requests: Improve the budget to allow an overall District wide increase in online course offerings. Additionally improve the staffing budget to allow improved DE course flow. Year(s) Requested: 2012-2015.

YC - Media Services Program requests- Outfit building 1100 during measure J remodel - Install equipment for ITV classroom. Ensure Mass Comm classrooms and labs are properly configured. Setup meeting rooms to allow tutoring activities. Year(s) Requested: 2012-2013

Curriculum & SLO Assessment Summary : Curriculum & SLO Assessment Summary:
Major findings of the Associate of Science in Veterinary Technology review reveal a vibrant program that has shown more than outstanding productivity, viability and quality with excellent potential for growth. The program was created in 1971 to meet the growing needs of the veterinary community in the north Sacramento Valley. Student assessment exams speak to the strength of the curriculum in their support of programmatic learning outcomes. The learning outcomes include the ability to analyze data, the ability to communicate effectively, and the capability of formulating

strategies in independent research projects are strong results of the curriculum. Assessment results during the past year have demonstrated the high quality of the current curriculum.
Program performance - the quality of the program including the breadth and depth of its capacity to fulfill its mission and goals (student learning outcomes and activities to measure achievement of these outcomes; student and faculty performance metrics; recruitment and retention of students; affirmative action; student persistence; honors and awards; academic honesty; research and scholarly activity; metrics for operational effectiveness) all reflect the mission of Yuba College. The Veterinary Technology Program historically has difficulty in recruiting nontraditional students. This difficulty is related to lingering stereotypes toward men in the Veterinary Technology profession. It is more likely that attrition is related to the need for student support with ongoing learning and remediation before starting and during the program, for professional development of instructional methods that progressively increase critical thinking skills, and for a contemporary curriculum that includes current clinical skills such as electronic medical record documentation and care management.
>Global goals: (a) enhance student success, (b) increase student retention, and (c) increase graduation rates.

Student Learning Objectives:
The following student learning outcomes have been identified:
Critical Thinking: analyze data/information in addressing and evaluating problems and issues in making decisions.
Scientific Awareness: understand the purpose of scientific inquiry and the implications and applications of basic scientific principles.

SLO Long-Term Objectives:

1. Incorporating SLO on syllabus (course, program, and/or college)
2. Include SLO info in college catalog and brochures.
3. Publicize at fall Veterinary Technology Adjunct Faculty workshop
4. Publicize at student events (Program Orientation)
5. Coordinating efforts to collect information and evidence for the accreditation self-report regarding SLOs and Assessments.
6. Finally utilizing an assessment rubric is a starting place for a final assessment piece at the end of the Veterinary Technology learning experience. In classes throughout the major program, students will complete assignments that require use of information literacy, and/or thinking critically and/or communicating with unity of purpose. Each of these assignments will be assessed/evaluated with a formative assessment rubric focusing with greater detail on each separate SLO that is really a teaching aid to help students develop the ultimate level of skill. This summative rubric will be used at the end of the program, looking at all three SLOs to assess only whether the ultimate graduate skill level was reached. At this point, there is no more formative feedback given. This is a final read on a student?s skill. This form will then be maintained as the assessment evidence and will be maintained in the student?s E‐Portfolio as well. YCVTP utilizes eValue student learning and management software to keep track of SLO progress.

Areas for Improvement
>Incorporating SLO on syllabus (course, program, and/or college)
>Develop SLO?s on Program website to include: college SLO, definition of SLO, program/faculty SLOs, student focus
>Include SLO info in college catalog and brochures.

Future Direction and Recommendations
>Incorporating SLO on syllabus (course, program, and/or college); implementation time line 2011; budgetary impact none; responsibility: Program Director
>Develop SLO?s on Program website to include: college SLO, definition of SLO, program/faculty SLOs, student focus; implementation time line 2014; budgetary impact none; responsibility: Program Director
>Include SLO info in college catalog and brochures implementation time line 2014; budgetary impact <$1000; responsibility: Program Director
>Improve the quality and quantity of students, recruitment and retention procedures, and post-graduate placement through use of media resources and Program promotion; implementation time line 2012-2014; budgetary impact <$500; responsibility: Program Director
>Evaluate student selection options and subsequent retention; implementation time line 2014; budgetary impact none; responsibility: Program Director
>Increase the recruitment of nontraditional students through media resources; implementation time line 2014; budgetary impact <1000; responsibility: Program Director

Curriculum Summary
Strengths
>The innovative, creative Program director with an impressive breadth and depth of experiences
>The Program registered veterinary technician (RVT) who is experienced, dedicated, competent, and passionate
>Program personnel epitomize veterinary health care team concepts
>Strong support from the local veterinary community and Program advisory committee
>Nationally recognized faculty dedicated to teaching excellence
>Program recruitment and retention of students-demographic changes (success at attracting underrepresented groups); first-to-second year freshman persistence are all above normal.
>Student performance metrics-pass rates are high with the 2009 National Licensing Exam and California Licensing Exam rates of 100; failure/academic suspension rate is moderate
>Other evidence of student learning (internship performance; student self-assessment) are both exceptional
>Student involvement in research & internships; awards and honors
>Program viability, sustainability and success of the program are exceptional
>Program productivity as a measure of the results and benefits the programs offers reflect growth, transparency and the end result: highly trained professionals.
>Program quality is exceptional and reflects the excellence of the program.

Areas for Improvement/Future Direction
>Expand current enrollment numbers of Certificate and A.S. Program; implementation time line 2012-2014; budgetary impact minimal; responsibility: Program Director
>Continue with the maintenance of standards based education as mandated by the AVMA; implementation time line 2012-2014; budgetary impact none; responsibility: Program Director
>Explore alternative ways to offer programs that will provide options for students; implementation time line 2012-2014; budgetary impact minimal; responsibility: Program Director
>Utilize existing data to determine departmental coursework selection by students; implementation time line 2012-2014; budgetary impact minimal; responsibility: Program Director
>Capacity and student access to classes improved.

Current Yuba College Veterinary Technology Courses

VT 1 Introduction to Veterinary Technology (3 units) CSU
This course introduces the first year Veterinary Technology student to the diverse field of veterinary technology. Emphasis on careers and career paths, legal applications, ethical responsibilities, professional attitudes, animal breeds, physical restraint, medical terminology, and occupational safety issues. Prerequisite: Admission to the Veterinary Technology Program. (L)

VT 2 Veterinary Physiology and Anatomy (3 units) CSU
Gross anatomy and physiology of domestic animals. Includes the study of body systems such as skeletal, muscular, integumentary, special sense organs, circulatory and digestive. Also includes principles of certain pathological problems and surgical conditions. Prerequisite: VETT 1 or equivalent. (LM)

VT 2L Veterinary Anatomy Laboratory (2 units) CSU
Gross anatomy laboratory of domestic animals. Includes the study of body systems such as skeletal, muscular, integumentary, special sense organs, circulatory and digestive. The structure and function of the animal body with emphasis on the similarities and differences among domestic animals. Prerequisite: Concurrent enrollment in VETT 2. (L)

VT 3 Veterinary Pharmacology (3 units) CSU
Concepts of veterinary pharmacology. Appropriate pharmacological agents are discussed including classification, dosage, method of action, method of administration, dispensing procedures, legal requirements and pharmacy management. Prerequisite: VETT 1 or equivalent. (LM)

VT 4 Veterinary Clinical Laboratory Techniques (3 units) CSU
Studies of the techniques and procedures employed in evaluating clinical diagnostic samples. Emphasis will be on procedures common to veterinary medicine including hematology, serum chemistry, urinalysis, cytology, immunology and microbiology. Topics include: the safe and proper collection of diverse samples, microbial culturing, methods of sample analysis, and the significance of normal and abnormal results. Prerequisite: VETT 1 or equivalent. (LM)

VT 5 Veterinary Technology Internship (2 units) CSU
Formal, structured off-campus clinical experience in a veterinary hospital, animal research facility, zoo, laboratory or other animal facility. The student works independently with a supervisor, while mastering the appropriate "essential" and "recommended" skills required by the American Veterinary Medical Association. Rotation through various facilities is required. (LM) Grades are CR/NC.

VT 6 Veterinary Workplace Safety (3 units) CSU
Introduces veterinary hospital staff to occupational health and safety unique to veterinary medicine. Topics include: risk assessment, protective safety measures, current OSHA standards, safe use of hazardous materials, and preventive medicine for personnel engaged in the care and use of animals.

VT 7 Veterinary Business Applications (3 units) CSU
Introduction for the first year Veterinary Technology student to veterinary practice management. Standard office procedures with an emphasis in client relations, education, practice management and computer skills. Ethics in

veterinary medicine as well as state and federal regulations governing veterinary practice. (LM)

VT 8 Large Animal Medicine and Nursing (3 units) CSU
Emphasis on the physical exam, restraint, sample collection, bandaging, emergency treatment, surgical and obstetrical procedures and instruments, herd health, and lameness topics for farm animals.

VT 9 Laboratory Animal Medicine (2 units) CSU
Introduction to laboratory animal medicine. Appropriate methods of animal handling, restraint, management practices, husbandry, nursing, care and observation of laboratory species will be emphasized. This course will provide information and handling skills which will help the student prepare for AALAS certification.
VT 10 Exotic and Wildlife Medicine (3 units) CSU
An overview of fundamentals of avian, exotic and wildlife husbandry, physiology, management, and medicine; includes appropriate methods of animal handling, restraint, husbandry, care and observation of exotic and wild species.

VT 11 Veterinary Emergency and Critical Care (3 units) CSU
This lecture course emphasizes the theoretical and practical aspects of assisting the veterinarian in the management of medical and traumatic emergencies. Recognition and assessment of cardiovascular shock, respiratory crisis, gastrointestinal emergency and musculoskeletal trauma. (LM)
VT 12 Introduction to Veterinary Medical Math (2 unit) CSU
Essential mathematical concepts and calculations, conversions, and proper articulation of fractions/decimals in healthcare applications, measurements, drug orders, and dose calculations. (LM)
VT 14 Veterinary Management of Equine Reproduction (3 units) CSU
Veterinary medical management of equine reproduction. Includes anatomy and physiology of the mare and stallion, control of the estrous cycle, gestation and foaling, feeding the broodmare and young horse and estrous cycle manipulation of the mare.
VT 15 Advanced Laboratory Animal Medicine (3 units) CSU
This advanced course includes clinical medicine, surgical nursing, regulatory compliance, biosecurity, IACUC, occupational health and safety, facilities and personnel management, management of fiscal resources and research topics associated with laboratory animals. Students will become familiar with local, state and federal regulations governing research animal care and use. This course will provide information and materials to help the student prepare for AALAS certification.
VT 16 Veterinary Professional Development Seminar (1 unit) CSU
Introduction to the various skills necessary for biomedical research and veterinary practice. This seminar course combines independent study, selected clinical experiences and seminar discussions to enhance critical thinking in the veterinary technology field. Prerequisite: VETT 1 or equivalent. (L)
VT 18 Food Safety and Security (3 units) CSU
An introduction to the essentials of veterinary food safety issues, food microbiology, procedures for cleaning and disinfection, optimal design principles for equipment and facilities, worker hygiene practices, food defense and security to maintain a food-safe environment. The fundamentals of assessing and managing the risk associated with intentional contamination in food manufacturing facilities are also included. (L)
VT 52 Human Animal Bond (3 units)
Special focus on human-companion animal interactions. Students will relate to animal-assisted therapy/activity, service animal and humane education programs. Students explore sociological, historical, economic, philosophical, and public

policy issues regarding animals in world societies. (L)
VT 53A Veterinary Surgical Nursing and Anesthesiology (4 units)
Principles and techniques involving surgery and anesthesia. Includes preparation and identification of surgical instruments and equipment, routine surgical procedures, anesthesia induction and monitoring, post surgical care, clean up and surgical record keeping. Prerequisite: VETT 1 or equivalent. (LM)
VT 53B Veterinary Diagnostic Imaging (2 units)
Principles and techniques of radiographic imaging. Includes the production of X-rays, radiographic equipment, safety measurement, and radiographic quality. Also includes diagnostic radiographs, positioning of patients, darkroom techniques and X-ray processing. Prerequisite: VETT 1 or equivalent. (LM)
VT 53C Advanced Veterinary Nursing Techniques (4 units)
Principles and techniques involving veterinary nursing. Emphasis on venipuncture, catheterization, fluid therapy preparation, nursing care and behavior of large and small animals, preventive medicine, nutrition, and medical procedures. Also includes mentoring techniques, teamwork, communications and health problem assessment involving kennel management. Prerequisite: VETT 1 or equivalent. (LM)
VT 53D Veterinary Dentistry Principles (2 units)
Principles and techniques involving veterinary dentistry. Includes preparation and identification of dental instruments and equipment, routine dental procedures, dental charting, the oral examination, oral radiography, orthodontics, pathophysiology and dental emergencies. Prerequisite: VETT 1 or equivalent. (LM)
VT 54 Public Health and Infectious Disease (3 units)
An introduction to infectious and non-infectious diseases and conditions of domestic animals. Material covered includes the etiology, pathogenesis, pathophysiology, zoonotic potential and clinical signs of animal disease. Mechanisms of disease as well as the host-parasite relationship and host response. Principles of vaccination, disease prevention, and zoonosis. (L)
VT 55 Veterinary Medical Terminology (3 units)
A guided self-study of veterinary medical terminology. Students will employ a systematic, word building approach to master the terminology of the veterinary medical field. (L)
VT 56 Shelter Medicine (3 units)
Overview of animal shelter medicine and issues. Includes: behavioral assessment, infectious disease prevention and control, population perspective on disease management, emergency care and triage. Pet and shelter population dynamics will be discussed.
VT 57 Veterinary Technology Special Projects (2 units)
Directed independent work in animal husbandry, veterinary practice, animal research or other special projects which will provide the student with individual experiences in animal care and management. Research paper or service project in the student's focus or career interest.
VT 59 Veterinary Technology Board Review (2 units)
Review of pertinent subject matter in preparation for the California State Veterinary Technician and National Board Examinations. Also includes test taking skills, test anxiety reduction techniques and practice board exams. Advisory: Pass/No Pass. (L)
VT 91 Veterinary Assisting (3 units)
Concepts of veterinary medicine needed to function effectively as a veterinary assistant, veterinary receptionist, kennel staff or animal shelter worker. This course does not lead to the AS Degree in Veterinary Technology but can be used as a step towards entry into that program. VETT 91 partially fulfills the requirements of the Veterinary Receptionist/Assisting Certificate program. (L)

Recommendations	Plans of Action & Budgetary Impact / Tasks	Status	Feedback & Follow-Up
YC - Veterinary Technician Program Recommendations - ** - **			