CENTRAL CAROLINA COMMUNITY COLLEGE

Health Sciences

Program Planning Guide

Veterinary Medical Technology Associate in Applied Science Degree (A45780)

Program Length: 5 Semesters
Program Sites: Lee Main Campus, seated only

This curriculum is designed to prepare individuals to assist veterinarians in preparing animals, equipment, and medications for examination and surgery; collecting specimens; performing laboratory, radiographic, anesthetic, and dental procedures; assisting in surgery; and providing proper husbandry of animals and their environment.

Coursework includes instruction in veterinary anatomy, nutrition, parasitology, pathology, physiology, radiology, terminology, zoology, office practices, laboratory techniques, dentistry, and small and large animal clinical practices.

The Veterinary Medical Technology program is accredited by the Committee on Veterinary Technician Education and Activities (CVTEA). Graduates may be eligible to take state and national examinations administered by the North Carolina Veterinary Medical Board. Graduates may be employed in veterinary clinics; diagnostic, research, or pharmaceutical laboratories; zoos; academic institutions; or other areas associated with animal care.

Limited Enrollment Application Overview:

The Veterinary Medical Technology (VMT) program is a limited-enrollment program, which means that there are a limited number of seats in this program each year. Students must meet all requirements listed below to enter the VMT program. While they are completing these requirements, pre-VMT Students will be enrolled in the **Pre-Vet Med program (A55280VT)**. Acceptance will be reviewed from November 1 to May 15, and students will be notified of acceptance through email by May 15 each year. Provisional acceptance will be reviewed from May 15 to July 31, and students will be notified of acceptance through email by August 1 each year.

VMT Admission Requirements:

- Complete 21 credit hours of Pre-VMT general education courses (see page 2).
- Complete chemistry/biology classes with a B or better.
- Complete all other general education courses with a C or better.
- Have a minimum 2.5 GPA based on 20 credit hours of VMT general education courses.
- Submit documentation of completed rabies vaccination series.
- Submit documentation of 40 hours of observation at a local veterinary practice, shadowing an RVT or DVM.
- Attend a mandatory, in-person program orientation before beginning the program. The date will be provided in the admission acceptance letter.

Provisional Acceptance:

Provisional acceptance will be offered to a student if there are seats available after all fully accepted students have confirmed their acceptance by May 31 each year, ***and***:

- The student has a grade of C in chemistry/biology.
- All remaining general education coursework will be completed by the end of the summer term.
    - Can have up to two missing general education classes, excluding BIO/CHM.
- Documentation of completed vaccination series is provided to the department chair by July 31.
- No documentation of observation hours

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Pre-VMT General Education Requirements & Suggested Course Schedule:

		Class	Lab	Work	Credits	Notes:
1st Semester (fall)						
ACA 122	Transfer & Career Success	0	2	0	1	Seated or online
CHM 151	General Chemistry I	3	3	0	4	Seated
Elective	Humanities/Fine Arts	3	0	0	3	Seated or online
ENG 111	Writing & Inquiry	3	0	0	3	Seated or online
	Total Semester Hours	**9**	**6**	**0**	**11**	
2nd Semester (spring)						
Elective	Communications	3	0	0	3	Seated or online
Elective	Social/Behavioral Science	3	0	0	3	Seated or online
MAT 171	Precalculus Algebra	3	2	0	4	Seated or online
	Total Semester Hours	**9**	**2**	**0**	**10**	

Communication Elective Options: Select One: **COM 110***, COM 120, COM 231, ENG 112, ENG 114,

Humanities/Fine Arts Elective Options: Select One: ART 111, ART 114, ART 115, DRA 111, ENG 125, ENG 231, ENG 241, ENG 242, HUM 110, HUM 115, HUM 122, HUM 150, HUM 160, MUS 110, MUS 112, **PHI 240***, REL 110, REL 211, REL 212

Social/Behavioral Science Elective Options: Select One: ANT 210, ANT 220, ECO 151, ECO 251, ECO 252, HIS 111, HIS 112, HIS 131, HIS 132, HIS 222, HIS 223, HIS 226, HIS 236, POL 120, **PSY 150***, PSY 237, PSY 241, PSY 246, PSY 281, SOC 210, SOC 231, SOC 220, SOC 225, SOC 232, SOC 240

Approved Chemistry Substitutions: Can substitute BIO 180 for CHM 151

Approved Math Substitutions: Can substitute any higher course math for MAT 171

*Recommended for VMT students

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Upon acceptance into the Veterinary Medical Technology program, students will take the following courses:

Program Course Schedule		Class	Lab	Work	Credits	Notes:
1st Semester (fall)						
VET 113	Animal Breeds, Husbandry, & Nutrition	2	0	0	2	Seated
VET 120	Veterinary Anatomy & Physiology	3	3	0	4	Seated
VET 121	Veterinary Medical Terminology	3	3	0	4	Seated
	Total Semester Hours	**8**	**6**	**0**	**10**	
2nd Semester (spring)						
VET 127	Vet Infect & Parasitic Dis.	2	3	0	3	Seated
VET 137	Veterinary Office Practices	2	0	0	2	Online
VET 215	Veterinary Pharmacology I	2	0	0	2	Seated
	Total Semester Hours	**5**	**5**	**0**	**7**	
3rd Semester (summer)						
VET 132	Veterinary Diagnostics and Pathology I	2	3	0	3	Seated
VET 133	Veterinary Clinical Practices I	2	3	0	3	Seated
VET 216	Veterinary Pharmacology II	2	0	0	2	Seated
	Total Semester Hours	**6**	**6**	**0**	**8**	
4th Semester (fall)						
VET 134	Veterinary Clinical Concepts I	1	0	0	1	Seated/Online/Hybrid
VET 213	Veterinary Clinical Practices II	1	9	0	4	Seated
VET 217	Large Animal Clinical Practice I	2	3	0	3	Seated
VET 220	Veterinary Diagnostics and Pathology II	2	3	0	3	Seated
VET 241	Veterinary Clinical Practicum I	0	0	9	3	Seated
	Total Semester Hours	**6**	**15**	**9**	**14**	
5th Semester (spring)						
VET 214	Veterinary Clinical Practices III	1	9	0	4	Seated
VET 218	Large Animal Clinical Practice II	2	3	0	3	Seated
VET 221	Veterinary Diagnostics and Pathology III	2	3	0	3	Seated

VET 234	Veterinary Clinical Concepts II	1	0	0	1	Seated/Online/Hybrid
VET 242	Veterinary Clinical Practicum II	0	0	9	3	Seated
VET 250	Veterinary Capstone	1	0	0	1	Online
	Total Semester Hours	**7**	**15**	**9**	**15**	
*VET 240 requirement may be completed during a 6th semester versus splitting it over the 4th & 5th semesters.						
Total General Education Semester Hours Credit: 21						
Total Program Semester Hours Credit: 54						
Total Semester Hours Credit Required for Graduation: 75						

Course Descriptions

ACA 122 Transfer & Career Success
This course introduces students to career and transfer opportunities while building skills for academic success, career exploration, and transfer preparation, ensuring readiness for success in community college and beyond. Topics include transfer agreements with public and independent institutions, programs and processes that facilitate transfer, and transfer tools and resources; career topics include career exploration and information and skills such as resume writing, portfolio development, and professional communication. Upon completion, students will be able to identify the community college program that matches their transfer and career goals, navigate transfer policies and processes, use Transfer Guides, develop an academic plan for future success, and identify professional application materials. This course has been approved for transfer under the CAA/ICAA as a premajor and/or elective course requirement.

CHM 151 General Chemistry I
Requisites: Take MAT-045P - Must be taken either prior to or at the same time as this course.
This course covers fundamental principles and laws of chemistry. Topics include measurement, atomic and molecular structure, periodicity, chemical reactions, chemical bonding, stoichiometry, thermochemistry, gas laws, and solutions. Upon completion, students should be able to demonstrate an understanding of fundamental chemical laws and concepts as needed in CHM 152. This course has been approved for transfer under the CAA/ICAA as a general education course in Natural Science. This is a Universal General Education Transfer Component (UGETC) course.

COM 110 Introduction to Communication
This course provides an overview of the basic concepts of communication and the skills necessary to communicate in various contexts. Emphasis is placed on communication theories and techniques used in interpersonal group, public, intercultural, and mass communication situations. Upon completion, students should be able to explain and illustrate the forms and purposes of human communication in a variety of contexts. This course has been approved for transfer under the CAA as a general education course in Communication.

ENG 111 Writing and Inquiry
Requisites: Take ENG-045 - Must be taken either prior to or at the same time as this course.
This course is designed to develop the ability to produce clear writing in a variety of genres and formats using a recursive process. Emphasis includes inquiry, analysis, effective use of rhetorical strategies, thesis development, audience awareness, and revision. Upon completion, students should be able to produce unified, coherent, well-developed essays using standard written English. This course has been approved for transfer under the CAA/ICAA as a general education course in English Composition.

MAT 171 Precalculus Algebra
Requisites: Take MAT-045P; - Must be taken either prior to or at the same time as this course.
This course is designed to develop topics which are fundamental to the study of Calculus. Emphasis is placed on solving equations and inequalities, solving systems of equations and inequalities, and analysis of functions (absolute value, radical, polynomial, rational, exponential, and logarithmic) in multiple representations. Upon completion, students should be able to select and use appropriate models and techniques for finding solutions to algebra-related problems with and without technology. This course has been approved for transfer under the CAA/ICAA as a general education course in Mathematics. This is a Universal General Education Transfer Component (UGETC) course.

PHI 240 Introduction to Ethics
Requisites: Take ENG-111 - Must be completed prior to taking this course.
This course introduces theories about the nature and foundations of moral judgments and applications to contemporary moral issues. Emphasis is placed on moral theories such as consequentialism, deontology, and virtue ethics. Upon completion, students should be able to apply various ethical theories to moral issues such as abortion, capital punishment, poverty, war, terrorism, the treatment of animals, and issues arising from new technologies. This course has been approved for transfer under the CAA/ICAA as a general education course in Humanities/Fine Arts.

PSY 150 General Psychology
This course provides an overview of the scientific study of human behavior. Topics include history, methodology, biopsychology, sensation, perception, learning, motivation, cognition, abnormal behavior, personality theory, social psychology, and other relevant topics. Upon completion, students should be able to demonstrate a basic knowledge of the science of psychology. This course has been approved for transfer under the CAA/ICAA as a general education course in Social/Behavioral Sciences.

VET 113 Vet Breeds, Husbandry & Nutrit
This course covers the breed characteristics, husbandry techniques, and nutritional needs of various animal species. Topics include physiological data, animal health management, basic care and husbandry, as well as the principles of nutrition. Upon completion students will learn to identify animal breeds, understand physiological data, discuss husbandry techniques, and formulate appropriate diets based on the nutritional needs of various species.

VET 120 Vet Anatomy & Physiology
This course covers the structure and function of the animal body with emphasis on the similarities and differences among domestic animals. Emphasis is placed on the structure and function of the major physiological systems. Upon completion, students should be able to identify relevant anatomical structure and describe basic physiological processes of the major body systems.

VET 121 Veterinary Medical Terminology
This course covers the basic medical terminology required for veterinary technicians. Topics include the pronunciation, spelling, and definition of word parts and vocabulary terms unique to the anatomy, clinical pathology, and treatment of animals. Upon completion, students should be able to demonstrate knowledge and understanding of basic medical terms as they relate to veterinary medicine.

VET 127 Vet Infect & Parasitic Dis.
This course covers the common internal and external parasites of various animal species, as well as basic immunology, fundamentals of disease processes, and common infectious diseases of animals and their prevention. Emphasis is placed on selected laboratory diagnosis of the most common forms of the parasite through fecal, blood, urine, and skin examination. Upon completion, students should be able to identify common parasites and discuss life-cycles, describe basic disease and immunological processes, recognize infections and zoonotic diseases, and discuss prevention strategies and parasite detection and disease diagnosis.

VET 132 Vet Diagnostics & Pathology I
Requisites: Take VET-127 and VET 133 - Must be taken either prior to or at the same time as this course.
This course includes the fundamental study of hematology, hemostasis, and urinalysis. Emphasis is placed on basic hematology and urinalysis technique, manual skill development, instrumentation, quality control, and applications to veterinary science. Upon completion, students should be able to perform manual and automated CBCs, hemostatic assays, urinalyses, and maintain laboratory equipment and quality control.

VET 133 Vet Clinical Practice I
Requisites: Take VET-120 and VET 132 - Must be taken either prior to or at the same time as this course.
This course introduces basic practices and techniques of the veterinary clinic and biomedical research fields for laboratory species. Topics include physical exam, husbandry, housing, sanitation, restraint and handling, administration of medications, and grooming. Upon completion, students should be able to properly restrain, medicate, examine, groom, and maintain each of the species studied.

VET 134 Veterinary Clinical Concepts I
This course expands upon the knowledge base covered in the Clinical Practices sequence. Topics may include basic radiography, injectable and gas anesthesia, dentistry, instrument identification and care, sterile surgical technique, specimen collection and processing, and maintenance of patient records. Upon completion, students should demonstrate greater understanding of the foundational skills introduced in the Clinical Practices series.

VET 137 Vet Office Practices
This course is designed to teach basic administrative techniques, client communication skills, veterinary professional support services, and regulations pertaining to veterinary medicine. Topics include record keeping, telephone techniques, professional liability, office procedures, state and national regulatory laws, human relations, and animal welfare. Upon completion, students should be able to demonstrate effective communication techniques, office procedures, and knowledge of regulatory laws and issues relating to animal welfare.

VET 213 Vet Clinical Practice II
Requisites: Take VET-133 and VET-220 - Must be taken either prior to or at the same time as this course.
This course covers basic anesthetic techniques, sample collection, surgical assistance instrumentation and sterile techniques, patient record keeping, and introduces emergency care, cardiopulmonary resuscitation, radiology and dentistry skills. Topics include injectable and gas anesthesia, instrument identification and care, sterile surgical technique, specimen collection and processing, basic radiology and dentistry techniques and maintenance of patient records. Upon completion, students should be able to administer and monitor anesthesia, assist in surgical procedures, collect specimens, and maintain surgical records.

VET 214 Vet Clinical Practice III
Requisites: Take VET-213 and VET 221 - Must be taken either prior to or at the same time as this course.
This course covers advanced anesthetic techniques, special radiographic techniques, advanced dentistry, sample collection and processing, bandaging, and emergency and critical care procedures. Topics include induction and maintenance of anesthesia, radiographic contrast studies, advanced dentistry, external coaptation, intensive care procedures, and advanced sample collection techniques. Upon completion, students should be able to demonstrate proficiency in sample collection, radiology, anesthesia, critical care and emergency procedures, and dentistry.

VET 215 Veterinary Pharmacology I
Requisites: Take One Set: Set 1: CHM-130 and CHM-130A Set 2: CHM-151 - Must be completed prior to taking this course. Take VET-213 - Must be taken either prior to or at the same time as this course.
This course covers drugs used in veterinary medicine, focusing on drug classification, methods of action, administration, effects, side effects, storage, and handling. Topics include medical math, pharmacokinetics, drug classes, dosage

calculations, routes of medication administration, recognition of adverse reactions, and how to maintain pharmaceutical records and inventory. Upon completion, students should be able to accurately calculate medications and properly handle and document pharmaceutical materials.

VET 216 Veterinary Pharmacology II
Requisites: Take VET-215 - Must be taken either prior to this course.
This course covers drugs used in veterinary medicine, focusing on drug classification, methods of action, administration, effects, side effects, storage, and handling. Topics include medical math, pharmacokinetics, drug classes, dosage calculations, routes of medication administration, recognition of adverse reactions, and how to maintain pharmaceutical records and inventory. Upon completion, students should be able to accurately calculate medications and properly handle and document pharmaceutical materials.

VET 217 Large Animal Clin Prac I
Requisites: Take VET-120 - Must be completed prior to taking this course.
This course covers topics relevant to the medical and surgical techniques for the common domestic large animal species. Topics include physical exam, restraint, sample collection, bandaging, emergency treatment, surgical and obstetrical procedures and instruments, herd health, and lameness topics. Upon completion, students should be able to safely perform restraint, examination, and sample collection; assist surgical, obstetrical, and emergency procedures; and discuss herd health.

VET 218 Large Animal Clin Prac II
Requisites: Take VET-217 - Must be completed prior to taking this course.
This course expands on topics relevant to the medical and surgical techniques for the common domestic large animal species. Topics include physical exam, restraint, sample collection, bandaging, emergency treatment, surgical and obstetrical procedures and instruments, herd health, and lameness. Upon completion, students should be able to safely perform restraint, examination, and sample collection; assist surgical, obstetrical, and emergency procedures; and discuss herd health.

VET 220 Vet Diagnostics & Pathology II
Requisites: Take VET-132 and VET 213 - Must be taken either prior to or at the same time as this course.
This course covers hematology, serology, clinical chemistry, microbiology, histology, and cytology, focusing on sample collection and preparation for histological and cytological analysis. Emphasis is placed on the study of disease processes, pathology fundamentals, and pathologic changes in common animal diseases. Upon completion, students will be able to collect, prepare, and analyze samples; follow quality control and safety procedures; perform microbiological tests; identify histopathologic changes; and properly collect and submit specimens.

VET 221 Vet Diagnostics & Pathology III
Requisites: Take VET-220 and VET 214 - Must be taken either prior to or at the same time as this course.
This course covers advanced hematology, serology, clinical chemistry, microbiology, histology, and cytology, focusing on sample collection and preparation for histological and cytological analysis. Emphasis is placed on the study of disease processes, pathology fundamentals, and pathologic changes in common animal diseases. Upon completion, students will be able to collect, prepare, and analyze samples; follow quality control and safety procedures; perform microbiological tests; identify histopathologic changes; and properly collect and submit specimens.

VET 234 Vet Clinical Concepts II
Requisites: Take VET-134 - Must be taken prior to this course.
This course expands upon the knowledge base covered in the Clinical Concepts I and Clinical Practices courses. Topics may include basic radiography, injectable and gas anesthesia, dentistry, instrument identification and care, sterile surgical technique, specimen collection and processing, and maintenance of patient records. Upon completion, students should demonstrate greater understanding of the foundational skills introduced in the Clinical Practices series.

VET 240 Veterinary Clinical Practicum
Requisites: Take VET-213 - Must be taken prior to this course.
This course provides students with hands-on, practical veterinary experience to expand their knowledge and develop proficiency in essential clinical skills. Emphasis is placed on completing a minimum of 240 cumulative contact hours in an approved clinical setting under the mentorship of a credentialed veterinary technician or licensed veterinarian. Upon completion, students will reinforce competency in assigned clinical tasks, adherence to professional standards, and completion of performance evaluations.

VET 241 Vet Clinical Prac I
Requisites: Take VET-133 - Must be taken prior to this course.
This course provides students with hands-on, practical veterinary experience to expand their knowledge and develop proficiency in essential clinical skills. Emphasis is placed on completing a minimum of 120 cumulative contact hours in an approved clinical setting under the mentorship of a credentialed veterinary technician or licensed veterinarian. Upon completion, students will reinforce competency in assigned clinical tasks, adherence to professional standards, and completion of performance evaluations.

VET 242 Vet Clinical Prac II
Requisites: Take VET-241 - Must be taken prior to this course.
This course provides students with hands-on, practical veterinary experience to expand their knowledge and develop proficiency in essential clinical skills. Emphasis is placed on completing a minimum of 120 cumulative contact hours in an approved clinical setting under the mentorship of a credentialed veterinary technician or licensed veterinarian. Upon completion, students will reinforce competency in assigned clinical tasks, adherence to professional standards, and completion of performance evaluations.

VET 250 Veterinary Capstone
This course is designed to integrate and reinforce knowledge and skills acquired throughout the Veterinary Medical Technology program in preparation for the Veterinary Technician National Examination (VTNE). Emphasis is placed on comprehensive review, case studies, and critical thinking in accordance with AVMA CVTEA essential competencies. Upon completion, students should be able to apply critical reasoning to clinical scenarios and exhibit readiness for the VTNE.