

## Preprofessional Course Requirements

<b>BIOLOGICAL SCIENCES:</b>	Minimum Semester Credits
Laboratory associated with a biological sciences course	1
Genetics (upper division course preferred)	3
<b>PHYSICAL SCIENCES:</b>	
Laboratory associated with a chemistry class	1
Biochemistry (must require organic chemistry as prerequisite)	3
Physics with laboratory	4
<b>MATH:</b>	
Statistics (upper division course preferred - calculus is not a substitute)	3
<b>ARTS &amp; HUMANITIES/BEHAVIORAL &amp; SOCIAL SCIENCES:</b>	
English Composition	3
Art, dance, English, humanities, foreign language, music, philosophy, speech, theater, anthropology, economics, geography, history, political sciences, psychology, sociology	12
<b>OTHER:</b>	
Electives	30
<b>TOTAL</b>	<b>60</b>

**Additional courses which are not required, but are highly recommended** include: microbiology, cell biology, developmental biology, computer sciences, anatomy, physiology, histology, nutrition, and other advanced biomedical sciences. Courses taken at vocational and proprietary schools will not be accepted.

*For **Prerequisite Course Substitution Requests**, please see "Assessment Checklist" on the last page.*

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### SAMPLE COURSE DESCRIPTIONS AT COLORADO STATE UNIVERSITY

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#### **GENETICS - ONE OF THE FOLLOWING COURSES:**

To fulfill CSU's veterinary program genetics prerequisite, an equivalent course must be considered upper division at your institution, it must require biology as a

prerequisite, the title must indicate it is primarily a genetics course, and it must be the equivalent of 3 semester credits or more.

**SOCR330** - 3 semester credits - Principles of Genetics

Prerequisite: BZ110 or BZ120 or LIFE102

Transmission, population, and molecular genetics; practical applications.

**MIP450** - 3 semester credits - Microbial Genetics

Prerequisite: MIP300 (General Microbiology); BC351 or BC401 or concurrent registration.

Principles of genetics at molecular level: mutation, recombination, complementation, suppression, control of gene expression, & recombinant DNA.

**BZ350** - 4 semester credits - Molecular and General Genetics

Prerequisite: LIFE102; one course in statistics. Primarily for students in biological sciences.

Mendelian, molecular, and population genetics emphasizing the molecular basis of genetics.

**BZ455** - 3 semester credits - Human Heredity and Birth Defects

Prerequisites: BZ111 or LIFE103

Human heredity and its individual and social implications; causes of congenital defects.

**BC463** - 3 semester credits - Molecular Genetics

Prerequisites: BC401 or concurrent registration or BC351; LIFE201B. Credit not allowed for both BC463 and BC563.

Molecular basis of gene structure, replication, repair, recombination, and expression.

### **BIOCHEMISTRY - ONE OF THE FOLLOWING COURSES:**

To fulfill CSU's veterinary program biochemistry prerequisite, an equivalent course must be considered upper division at your institution, it must require organic chemistry (either one semester or two) as a prerequisite, the title must indicate it is primarily a biochemistry course, and it must be the equivalent of 3 semester credits or more.

**BC351** - 4 semester credits - Principles of Biochemistry

Prerequisite: BZ110 or BZ120 or LIFE102; CHEM245 or CHEM346 or concurrent registration in CHEM343 (Organic Chemistry). For majors in biological sciences, engineering, and preprofessional students in the health sciences.

Structure and function of biological molecules; biocatalysis; metabolism and energy transduction; gene expression.

**BC401** - 3 semester credits - Comprehensive Biochemistry I

Prerequisite: CHEM245 or CHEM345 or concurrent registration in CHEM345; MATH155 or MATH160.

Macromolecular structure and dynamics; membranes; enzymes; bioenergetics.

**PHYSICS - ONE OF THE FOLLOWING COURSES:**

**PH121** - 5 semester credits - General Physics I

Corequisite: MATH125 (Numerical Trigonometry)

Concepts of force, torque, energy, momentum, work used to cover fluids, waves, sound, temperature, heat; biological, physical examples (noncalculus).

**PH122** - 5 semester credits - General Physics II

Prerequisite: PH121. Credit not allowed for both PH122 and PH142.

Electricity including electrostatics and simple circuits; magnetism; optics; nuclear physics, radiation; biological, physical examples (noncalculus).

**PH141** - 5 semester credits - Physics for Scientists and Engineers I

Prerequisite: MATH126; MATH155 or MATH160. (Calculus). Students who have had high school physics may enroll in MATH155 or MATH160 concurrently.

Credit not allowed for both PH141 and PH121.

Forces, energy, momentum, angular momentum, oscillations, waves, heat, thermodynamics (calculus based).

**STATISTICS - ONE OF THE FOLLOWING COURSES:**

**STAT301** - 3 semester credits - Introduction to Statistical Methods

Prerequisite: MATH118 (College Algebra).

Techniques in statistical inference; confidence intervals, hypothesis tests, correlation and regression, analysis of variance, chi-square tests.

**STAT307/ERHS307** - 3 semester credits - Introduction to Biostatistics

Prerequisite: MCC118 (College Algebra). Credit allowed for only one course: STAT301, STAT307, ERHS307, STAT309, STAT311.

Biostatistical methods; confidence intervals, hypothesis tests, simple correlation and regression, one-way analysis of variance.

**If you are within one year of application to PVM or have specific admissions questions not answered on the web site, email questions to:**

**[DVMAdmissions@colostate.edu](mailto:DVMAdmissions@colostate.edu)**

**If you have general or preveterinary questions not answered on the web site, email questions to: [PreveterAdviser@colostate.edu](mailto:PreveterAdviser@colostate.edu)**

## **Assessment Checklist** for a “Prerequisite Substitute Course Request”

To submit a **substitute course request** for one of CSU’s veterinary prerequisite requirements, please provide the following information in an email message and send to [DVMAdmissions@colostate.edu](mailto:DVMAdmissions@colostate.edu):

- Institution name
- Course title and course number
- Prerequisite(s) required for the course
- Number of credits
- Indicate semester credits or Quarter credits
- Grade received
- Course level (FR, SO, JR, SR, GR)
- Course description

If your Prerequisite Substitute Course Request is for “**English Composition**”, please write a description of the writing requirement(s) at your Institution and how you fulfilled the requirement. “English Literature” does not qualify as an equivalent course.

**If your Prerequisite Substitute Course Request is approved**, please provide a one-sentence statement in the “Special Circumstances” section of the Colorado Supplemental Application.

Please note:

1. CSU does not grant waivers for veterinary prerequisite requirements, i.e. applicants must have an “approved” equivalent substitution.
2. If you would like to provide supporting documentation, please scan and attach to your email message. Please do NOT fax.
3. AP English Composition (not AP English Literature) will fulfill CSU’s veterinary prerequisite requirement of English Composition, if the course appears on an official transcript.