

# THE DEGREE OF BACHELOR OF SCIENCE WITH A COMPREHENSIVE MAJOR IN HEALTH SCIENCES

This degree provides health professionals an opportunity to earn a bachelor's degree. This degree is not intended to replace a bachelor's degree in a specific health profession; therefore, consultation with the Records Office and the Health Professions Office at Chadron State College regarding the appropriateness of this degree for each student is important.

To be eligible for this degree, each student must have successfully completed one or more of the following in an appropriately accredited professional program:

1. A student with eighteen months or more of professional education in a field not listed above may earn this degree by requesting specific permission and approval of the Registrar and the Health Professions Office. Chadron State College will determine the appropriate application of credits for each professional program listed by each applicant.
2. The professional program(s) attended must require a high school diploma or equivalent as an entrance requirement and have at least 25% of the training program as academic work in the classroom. The remaining 75% can be clinical training. The professional program should also be at the upper division or graduate level, and not concurrently offer a baccalaureate degree. The student is responsible for proving these conditions exist.
3. To earn this degree the student must complete
  - at least 30 course credits of Chadron State College credit before or after the professional program of studies,
  - the comprehensive major as subsequently described,
  - 40 upper division course credits,
  - 120 college course credits, and
  - the Essential Studies requirements as subsequently listed.
  - Should the professional program component not total 30 course credits the student must earn additional Chadron State College credits at the upper division level to meet the 120 total credit minimum.

Admission requirements to a professional program and thus graduation requirements may change between the date a catalog is published and the date a student may expect to be graduated. Therefore, each student must consult with the Health Professions Office/Advisor and the Records Office at CSC as well as the professional school(s) of their choice at least once each calendar year for the latest requirements.

Each student must complete the core requirements, one option, and listed additional specified courses. Transfer students with an Associate's Degree can petition the Health Professions Advisory Board to waive the essential studies course requirements. The application can be obtained from the Health Professions Director.

Code	Title	Credits
	Essential Studies ( <a href="http://catalog.csc.edu/undergraduate/essential-studies-program">http://catalog.csc.edu/undergraduate/essential-studies-program</a> )	

Core Requirements		
Select one of the following:		4
BIOL 220 & 220L	COMPARATIVE ANATOMY AND PHYSIOLOGY and COMPARATIVE ANATOMY AND PHYSIOLOGY LABORATORY <sup>1</sup>	
BIOL 240 & 240L	ANATOMY AND PHYSIOLOGY I and GROSS HUMAN ANATOMY LABORATORY <sup>1</sup>	
BIOL 340 & 340L	HUMAN ANATOMY and GROSS HUMAN ANATOMY LABORATORY <sup>1</sup>	
Select one of the following options:		4-8
Option 1		
CHEM 131 & 131L	COLLEGE CHEMISTRY I and COLLEGE CHEMISTRY I LABORATORY <sup>2,3</sup>	
CHEM 132 & 132L	COLLEGE CHEMISTRY II and COLLEGE CHEMISTRY II LABORATORY <sup>2,3</sup>	
Option 2		
CHEM 140 & 140L	SURVEY OF CHEMISTRY and SURVEY OF CHEMISTRY LABORATORY <sup>2,3</sup>	
CHEM 231 & 231L	SURVEY OF ORGANIC CHEMISTRY and SURVEY OF ORGANIC CHEMISTRY LABORATORY <sup>3,4</sup>	4
CHEM 335 & 335L	BIOCHEMISTRY and BIOCHEMISTRY LABORATORY <sup>3,4</sup>	4
Select one of the following options:		
General Health Care (p. 2)		
Pre-Chiropractic Medicine (p. 2)		
Pre-Optometry (p. 3)		
Pre-Pharmacy (p. 3)		
Pre-Veterinary Medicine (p. 4)		
Radiologic Technology (p. 4)		
1	Pre-chiropractic medicine, pre-optometry, and pre-pharmacy must take BIOL 340 HUMAN ANATOMY/BIOL 340L GROSS HUMAN ANATOMY LABORATORY. Radiologic Technology must take BIOL 240 ANATOMY AND PHYSIOLOGY I/BIOL 240L GROSS HUMAN ANATOMY LABORATORY or BIOL 340 HUMAN ANATOMY/BIOL 340L GROSS HUMAN ANATOMY LABORATORY. Pre-veterinary medicine students must take BIOL 220 COMPARATIVE ANATOMY AND PHYSIOLOGY/ BIOL 220L COMPARATIVE ANATOMY AND PHYSIOLOGY LABORATORY. Students will select the course as needed to complete the option requirements.	
2	General health care, may replace the courses listed with CHEM 140 SURVEY OF CHEMISTRY/CHEM 140L SURVEY OF CHEMISTRY LABORATORY. Discuss this with your academic advisor to determine if the substitution is correct for the professional program you plan to attend.	
3	Pre-chiropractic medicine and pre-pharmacy must replace the courses listed with CHEM 333 ORGANIC CHEMISTRY I/CHEM 333L ORGANIC CHEMISTRY I LABORATORY and CHEM 334 ORGANIC CHEMISTRY II/CHEM 334L ORGANIC CHEMISTRY II LABORATORY. Pre-veterinary medicine students should check with their prospective professional schools, as many schools (i.e. Iowa State University) require CHEM 333 ORGANIC CHEMISTRY I/CHEM 333L ORGANIC CHEMISTRY I LABORATORY and CHEM 334 ORGANIC CHEMISTRY II/CHEM 334L ORGANIC CHEMISTRY II LABORATORY in place of CHEM 231 SURVEY OF ORGANIC CHEMISTRY/CHEM 231L SURVEY OF ORGANIC CHEMISTRY LABORATORY.	

<sup>4</sup> Radiologic Technology students must take PHYS 151 COLLEGE PHYSICS I/PHYS 151L COLLEGE PHYSICS I LABORATORY and PHYS 152 COLLEGE PHYSICS II/PHYS 152L COLLEGE PHYSICS II LABORATORY to replace CHEM 231 SURVEY OF ORGANIC CHEMISTRY/CHEM 231L SURVEY OF ORGANIC CHEMISTRY LABORATORY and CHEM 335 BIOCHEMISTRY/CHEM 335L BIOCHEMISTRY LABORATORY.

## General Health Care Option

The General Health Care Option of the Health Sciences Degree is available only to students pursuing a career choice for which an option is not described. The selected professional program must meet the standards as listed in the beginning information for the Health Sciences Degree. The elective courses for this option will be selected by the student and the student's advisor at Chadron State College, reviewed by the Health Professions Director and the Department Chair of the Physical and Life Sciences Department, and approved by the Dean of Curriculum, Assessment and Accreditation. The Program courses selected for this option must total 18-22 course credits. The courses selected will typically be in the science and mathematics areas but can be from other disciplines if it best serves the needs of the student. The program form is available from the Health Professions Office. The completed degree plan must be filed with the Record's Office, the Health Professions Office, and the student's advisor.

Code	Title	Credits
Core Requirements		16-20
BIOL 138 & 138L	GENERAL BIOLOGY: BOTANY and GENERAL BIOLOGY: BOTANY LABORATORY	4
BIOL 139 & 139L	GENERAL BIOLOGY: ZOOLOGY and GENERAL BIOLOGY: ZOOLOGY LABORATORY	4
BIOL 499	BIOLOGY CAPSTONE	3
Program Electives (see above paragraph)		18-22
Other Prerequisite Courses <sup>5</sup>		
ENG 136 or ENG 137	TOPICS IN WRITING or TECHNICAL WRITING	3
PSYC 131	INTRODUCTION TO PSYCHOLOGICAL SCIENCES	3
Total Credits		51-59

<sup>5</sup> Prerequisite courses vary between professional schools; please consult your advisor to determine which courses must be taken to meet the requirements at your chosen professional school.

## Essential Studies Courses

Code	Title	Credits
Outcome 1		
FYI 169	FIRST-YEAR INQUIRY	
Select one 6 course credit or two 3 course credits		6
Outcome 2		
ENG 135	RHETORIC AND WRITING	3
Outcome 3		
Select one course		3
Outcome 4		
MATH 232	APPLIED STATISTICS	3
Outcome 6 (Covered in the core)		
Outcome 7		
Select one course		3

Outcome 8

Select one course	3	
Outcome 10 or 11		
Select one course	3	
Total Credits		24

- Minimum course credits through CSC - 90 credits
- Minimum course credits from professional program – Upper Division/ Graduate Course Credits - 30 credits
- Minimum total - 120 credits

## Pre-Chiropractic Medicine Option

Students must complete the core requirements as well as the courses listed below; and one year of an appropriately accredited professional program in Chiropractic Medicine.

### Professional Program Prerequisites <sup>6</sup>

Code	Title	Credits
Core Requirements		24
BIOL 138 & 138L	GENERAL BIOLOGY: BOTANY and GENERAL BIOLOGY: BOTANY LABORATORY	4
BIOL 139 & 139L	GENERAL BIOLOGY: ZOOLOGY and GENERAL BIOLOGY: ZOOLOGY LABORATORY	4
ENG 136 or ENG 137	TOPICS IN WRITING or TECHNICAL WRITING	3
PHYS 151 & 151L	COLLEGE PHYSICS I and COLLEGE PHYSICS I LABORATORY	4
PHYS 152 & 152L	COLLEGE PHYSICS II and COLLEGE PHYS II LABORATORY	4
MATH 135	PRE-CALCULUS MATHEMATICS	3
BIOL 332 & 332L	GENETICS and GENETICS LABORATORY	4
BIOL 342 & 342L	HUMAN PHYSIOLOGY and HUMAN PHYSIOLOGY LABORATORY	4
BIOL 499	BIOLOGY CAPSTONE	3
PSYC 131	INTRODUCTION TO PSYCHOLOGICAL SCIENCES	3
PSYC 243	ABNORMAL PSYCHOLOGY	3
Electives		3
Total Credits		66

<sup>6</sup> Prerequisite courses vary between professional schools; please consult your advisor to determine which courses must be taken to meet the requirements at your chosen professional school.

## Essential Studies Courses

Code	Title	Credits
Outcome 1		
FYI 169	FIRST-YEAR INQUIRY	
Select one 6 course credit or two 3 course credits		6
Outcome 2		
ENG 135	RHETORIC AND WRITING	3
Outcome 3		
CA 125	FUNDAMENTALS OF ORAL COMMUNICATION	3
Outcome 4		
MATH 232	APPLIED STATISTICS	3

Outcome 6 (Covered in the core)	
Outcome 7	
Select one course	3
Outcome 8	
Select one course	3
Outcome 10 or 11	
Select one course	3
<b>Total Credits</b>	<b>24</b>

- Minimum course credits through CSC - 90 credits
- One year of a professional program in Chiropractic Medicine – Upper Division/Graduate Course Credits - 30 credits
- Minimum total - 120 credits

## Pre-Optometry Option

Students must complete the core requirements as well as the courses listed below; and one year of an appropriately accredited professional program in Optometry.

### Professional Program Prerequisites <sup>7</sup>

Code	Title	Credits
Core Requirements		16
BIOL 138 & 138L	GENERAL BIOLOGY: BOTANY and GENERAL BIOLOGY: BOTANY LABORATORY	4
BIOL 139 & 139L	GENERAL BIOLOGY: ZOOLOGY and GENERAL BIOLOGY: ZOOLOGY LABORATORY	4
ENG 136 or ENG 137	TOPICS IN WRITING TECHNICAL WRITING	3
PHYS 151 & 151L	COLLEGE PHYSICS I and COLLEGE PHYSICS I LABORATORY	4
PHYS 152 & 152L	COLLEGE PHYSICS II and COLLEGE PHYS II LABORATORY	4
MATH 151	CALCULUS I	5
PSYC 131	INTRODUCTION TO PSYCHOLOGICAL SCIENCES	3
BIOL 241 & 241L	MICROBIOLOGY and MICROBIOLOGY LABORATORY	4
BIOL 342 & 342L	HUMAN PHYSIOLOGY and HUMAN PHYSIOLOGY LABORATORY	4
BIOL 499	BIOLOGY CAPSTONE	3
PSYC 243	ABNORMAL PSYCHOLOGY	3
Math/Social Science Electives		5
<b>Total Credits</b>		<b>62</b>

<sup>7</sup> Prerequisite courses vary between professional schools; please consult your advisor to determine which courses must be taken to meet the requirements at your chosen professional school.

### Essential Studies Courses

Code	Title	Credits
Outcome 1		
FYI 169	FIRST-YEAR INQUIRY	
Select one 6 course credit or two 3 course credits		6
Outcome 2		
ENG 135	RHETORIC AND WRITING	3
Outcome 3		

Select one course		3
Outcome 4		
MATH 232	APPLIED STATISTICS	3
Outcome 6 (Covered in the core)		
Outcome 7		
Select one course		3
Outcome 8		
Select one course		3
Outcome 10 or 11		
Select one course		3
<b>Total Credits</b>		<b>24</b>

- Minimum course credits through CSC - 90 credits
- One year of a professional program in Optometry – Upper Division/ Graduate Course Credits - 30 credits
- Minimum total - 120 credits

## Pre-Pharmacy Option

Students must complete the core requirements as well as the courses listed below; and one year of an appropriately accredited professional Doctor of Pharmacy program.

### Professional Program Prerequisites <sup>8</sup>

Code	Title	Credits
Core Requirements		20
BIOL 138 & 138L	GENERAL BIOLOGY: BOTANY and GENERAL BIOLOGY: BOTANY LABORATORY	4
BIOL 139 & 139L	GENERAL BIOLOGY: ZOOLOGY and GENERAL BIOLOGY: ZOOLOGY LABORATORY	4
ENG 136 or ENG 137	TOPICS IN WRITING TECHNICAL WRITING	3
PHYS 151 & 151L	COLLEGE PHYSICS I and COLLEGE PHYSICS I LABORATORY	4
PHYS 152 & 152L	COLLEGE PHYSICS II and COLLEGE PHYS II LABORATORY	4
MATH 151	CALCULUS I	5
ECON 231	MACROECONOMICS	3
ACTG 241	ACCOUNTING PRINCIPLES I	3
BIOL 332 & 332L	GENETICS and GENETICS LABORATORY	4
CHEM 341 & 341L	QUANTITATIVE ANALYSIS and QUANTITATIVE ANALYSIS LABORATORY	4
BIOL 342 & 342L	HUMAN PHYSIOLOGY and HUMAN PHYSIOLOGY LABORATORY	4
BIOL 449	MOLECULAR BIOLOGY OF THE CELL	3
BIOL 499	BIOLOGY CAPSTONE	3
PSYC 131	INTRODUCTION TO PSYCHOLOGICAL SCIENCES	3
PSYC 243	ABNORMAL PSYCHOLOGY	3
<b>Total Credits</b>		<b>74</b>

<sup>8</sup> Prerequisite courses vary between professional schools; please consult your advisor to determine which courses must be taken to meet the requirements at your chosen professional school.

## Essential Studies Courses

Code	Title	Credits
Outcome 1		
FYI 169	FIRST-YEAR INQUIRY	
Select one 6 course credit or two 3 course credits		6
Outcome 2		
ENG 135	RHETORIC AND WRITING	3
Outcome 3		
CA 125	FUNDAMENTALS OF ORAL COMMUNICATION	3
Outcome 4		
MATH 232	APPLIED STATISTICS	3
Outcome 6 (Covered in the core)		
Outcome 7		
Select one course		3
Outcome 8		
Select one course		3
Outcome 10 or 11		
Select one course		3
Total Credits		24

- Minimum course credits through CSC - 98 credits
- One year of a professional program in Pharmacy – Upper Division/ Graduate Course Credits - 30 credits
- Minimum total - 128 credits

## Pre-Veterinary Medicine Option

Students interested in earning this degree from Chadron State College must complete the core requirements; the courses listed below and one year of an accredited professional program in veterinary medicine. Students interested in earning this degree should consult with their advisor as soon as possible as prerequisite courses vary widely between professional programs and some graduate programs require a completed bachelor's degree prior to admission (Biology Comprehensive major and an option recommended).

### Professional Program Prerequisites<sup>9</sup>

Code	Title	Credits
Core Requirements		16
AGRI 132	INTRODUCTION TO ANIMAL SCIENCE	3
BIOL 138 & 138L	GENERAL BIOLOGY: BOTANY and GENERAL BIOLOGY: BOTANY LABORATORY	4
BIOL 139 & 139L	GENERAL BIOLOGY: ZOOLOGY and GENERAL BIOLOGY: ZOOLOGY LABORATORY	4
ENG 136 or ENG 137	TOPICS IN WRITING or TECHNICAL WRITING	3
PHYS 151 & 151L	COLLEGE PHYSICS I and COLLEGE PHYSICS I LABORATORY	4
AGRI 234	PRINCIPLES OF ANIMAL NUTRITION	3
BIOL 332 & 332L	GENETICS and GENETICS LABORATORY	4
BIOL 241 & 241L	MICROBIOLOGY and MICROBIOLOGY LABORATORY	4
AGRI 337	APPLIED ANIMAL NUTRITION	3
BIOL 431 & 431L	ENTOMOLOGY and ENTOMOLOGY LABORATORY	3

BIOL 432 & 432L	DEVELOPMENTAL BIOLOGY and DEVELOPMENTAL BIOL LABORATORY	3
AGRI 447	ANIMAL BREEDING AND GENETICS	3
BIOL 449	MOLECULAR BIOLOGY OF THE CELL	3
BIOL 499	BIOLOGY CAPSTONE	3
Total Credits		63

<sup>9</sup> Prerequisite courses vary between professional schools; please consult your advisor to determine which courses must be taken to meet the requirements at your chosen professional school.

## Essential Studies Courses

Code	Title	Credits
Outcome 1		
FYI 169	FIRST-YEAR INQUIRY	
Select one 6 course credit or two 3 course credits		6
Outcome 2		
ENG 135	RHETORIC AND WRITING	3
Outcome 3		
Select one CA course		3
Outcome 4		
MATH 135	PRE-CALCULUS MATHEMATICS	3
Outcome 6 (Covered in the core)		
Outcome 7		
Select one course		3
Outcome 8		
Select one course		3
Outcome 10 or 11		
Select one course		3
Total Credits		24

- Minimum course credits through CSC - 92 credits
- One year at an accredited Veterinary School - 30 credits
- Minimum total - 120 credits

## Radiologic Technology Option<sup>10</sup>

Code	Title	Credits
Core Requirements		16
BIOL 121 & 121L	HUMAN BIOLOGY and HUMAN BIOLOGY LABORATORY	3
BIOL 137 & 137L	PRINCIPLES OF CELLULAR SYSTEMS and PRINCIPLES OF CELL SYSTEMS LABORATORY	4
Select one of the following:		4
BIOL 242 & 242L	ANATOMY AND PHYSIOLOGY II and HUMAN PHYSIOLOGY LABORATORY	
BIOL 342 & 342L	HUMAN PHYSIOLOGY and HUMAN PHYSIOLOGY LABORATORY	
ENG 136 or ENG 137	TOPICS IN WRITING or TECHNICAL WRITING	3
BIOL 132	MEDICAL TERMINOLOGY	2
MATH 232	APPLIED STATISTICS	3
PSYC 131	INTRODUCTION TO PSYCHOLOGICAL SCIENCES	3

BIS 200	INTRODUCTION TO COMPUTER APPLICATIONS	3
Total Credits		41

<sup>10</sup> Prerequisite courses vary between professional schools; please consult your advisor to determine which courses must be taken to meet the requirements at your chosen professional school.

## Essential Studies Courses

Code	Title	Credits
Outcome 1		
FYI 169	FIRST-YEAR INQUIRY	
Select one 6 course credit or two 3 course credits		6
Outcome 2		
ENG 135	RHETORIC AND WRITING	3
Outcome 3		
Select one CA course		3
Outcome 4		
MATH 135	PRE-CALCULUS MATHEMATICS	3
Outcome 6 (Covered in the core)		
Outcome 7		
Select one humanities course		3
Outcome 8		
Select one course		3
Outcome 10 or 11		
Select one course		3
Total Credits		24

- Minimum course credits through CSC - 69 credits
- Two years at an accredited Radiological Technologist Program - 51 credits
- Minimum total - 120 credits