ENGL-1010	English Composition I	3
MATH-1150	College Algebra	4
PRDV-1010	Achieving College Success	3
	Total Credits	**18**

2nd Semester		**Credits**
BIOS-1380	General Zoology (and lab)	4
CHEM-1100	General Chemistry II (and lab)	4
ENGL-1020	English Composition II	3
MATH-1210	Trigonometry	3
	Humanities GE Elective	3
	Total Credits	**17**

3rd Semester		**Credits**
BIOS-2250	Human Anatomy & Physiology I (and lab)	4
CHEM-2510	Organic Chemistry I (with lab)	4
PSYC-1810	Introduction to Psychology	3
	Oral Communications GE elective	3
	Total Credits	**14**

4th Semester		**Credits**
BIOS-2260	Human Physiology & Anatomy II (and lab)	4
CHEM-2520	Organic Chemistry II (with lab)	4
	Social Sciences GE elective	3
	Electives	3
	Total Credits	**14**
	Total AS Credits	**63**

Physics

AS.4008 (62-64 Credits)
Associate of Science
Scottsbluff

This field of study provides students with comprehensive knowledge of the principles and skills related to physical science. The field of study is designed to meet the needs of students entering related technical or professional fields, as well as those seeking a general understanding of the physical world providing understanding of physical principles and interrelationships of all branches of science and mathematics.

Objectives

- Show how all phenomena is the logical result of the laws of nature.
- Stimulate interest in physics and fields related to physics.
- Develop skills in the use of the scientific method and the use of tools for measuring and collecting data.
- Provide the student with the background needed to increase the chances for success in the technical or professional fields.

Notes

- Students who plan to transfer to a four-year college or university should consult their faculty and transfer advisors early in their WNCC career to determine a curriculum best suited to their transfer goals.
- In addition to the general education requirements for the AS degree, 28 credits of core courses and 14 credits of electives are required for the degree in physics
- Depending on the choice of electives, it is possible that the total credits earned for the AS degree will exceed 60 credit credits.
- Students should understand that the courses included in the lists of core requirements and recommended electives will be required by receiving institutions at some point in their journey to the bachelor's degree.

Core Requirements (28 credits)

- A minimum of 15-16 credits of combined science and math credits are required for the AS degree. This must include a minimum of three (3) credits of math and four (4) credits of science from BIOS, CHEM or PHYS options.

Class		**Credits**
ENGR-1020	Programming and Problem Solving	3
MATH-1600	Analytic Geometry and Calculus I	5
MATH-2150	Calculus II	5
MATH-2200	Calculus III	5
PHYS-1300	Physics I (with lab and recitation)	5
	or	
PHYS-2400	Physics I with Calculus (with lab and recitation)	5
PHYS-1350	Physics II (with lab and recitation)	5
	or	
PHYS-2450	Physics II with Calculus (with lab and recitation)	5

Recommended electives or courses required for transfer (14 credits)

Class		**Credits**
ENGR-2020	Statics	3
PHYS-1070	Astronomy	4
	Total Credits	**7**

It is recommended that the remainder of the seven (7) credits be selected from any of the technical electives below:

BIOS-1010	General Biology (and lab)	4
BIOS-2250	Human Anatomy & Physiology I (and lab)	4
BIOS-2260	Human Anatomy & Physiology II (and lab)	4
BIOS-2120	Genetics (and lab)	4
BIOS-2460	Microbiology (and lab)	4
CHEM-1090	General Chemistry I (and lab)	4
CHEM-1100	General Chemistry II (and lab)	4
ENGR-1070	Graphics for Engineers	3
ENGR-2010	Intro to Circuits and Electronics	3
INFO-1200	Introduction to Computer Science	3
MATH-2170	Applied Statistics	3
MATH-2210	Applied Differential Equations	3

Recommended Plan of Study

1st Semester		**Credits**
ENGL-1010	English Composition I	3
MATH-1600	Analytic Geometry and Calculus I	5
PHYS-1070	Astronomy	4
PRDV-1010	Achieving College Success	3
	Total Credits	**15**
2nd Semester		**Credits**
ENGL-1020	English Composition II	3
ENGR-1020	Programming and Problem Solving	3
MATH-2150	Calculus II	5
	Technical elective	3-4
	Humanities GE elective	3
	Total Credits	**17-18**
3rd Semester		**Credits**
MATH-2200	Calculus III	5
PHYS-2400	Physics I with Calculus	5
	Oral Communications GE elective	3
	Elective	3
	Total Credits	**16**
4th Semester		**Credits**
ENGR-2020	Statics	3
PHYS-2450	Physics II with Calculus	5
	Technical elective	3-4
	Social Sciences GE elective	3
	Total Credits	**14-15**
	Total AS Credits	**62-64**

Powerline Construction & Maintenance Technology

Associate of Occupational Studies
Diploma
Certificate
Alliance

This program provides students with the training to apply technical knowledge and skills to install, operate, maintain, and repair distribution, transmission, and rural electric power lines and cables. The student also learns to construct power lines according to Rural Utility Standards (RUS). Upon completion of this program, students have the skills required of an apprentice power line technician for utility providers.

All electives used to fulfill graduation requirements for this degree require pre-approval of the faculty advisor. The final plan for each student must be approved by his or her faculty advisor and the interim chair of the Applied Technology Division.

Objectives

- Promote and help students develop proficiency in climbing skills.
- Provide a basis for students understanding of basic electrical principles.
- Provide students with skills in overhead/underground line construction according to RUS standards.
- Provide students with the skills necessary to develop safe work habits and an understanding of power line safety guidelines and principles in accordance with the American Public Power Association.
- Promote and assist the understanding of students regarding Occupational Safety and Health (OSHA) rules and regulations for power line workers.

Technical Standards

- Apply information and instruction delivered in a classroom setting to the successful performance of lab tasks to simulate actual workplace settings
- Demonstrate a functional working knowledge of electrical theory and concepts as a baseline for efficient and safe work environment conditions
- Follow safety procedures described in the American Public Power Association Safety Handbook
- Identify, select, and utilize the appropriate tools, materials, and equipment for the installation, maintenance, and repair of Rural Utilities Service (RUS) lines, following specifications and drawings for construction units