

Certificate of Skill Attainment

Aerospace Engineering

This certifies that

Alexander Oggerino

has successfully completed the high school program of study according to state standards to support advancement to postsecondary education and job training in a related career field.

This certificate issued in the year two thousand and seventeen.

Sue Conner

Superintendent of Public Instruction



Patricia Driscoll

Executive Director of the
Governor's Office of Economic Development

Elaine Wynn

President of the State Board of Education

B. H. Clark

Director of the
Department of Employment, Training & Rehabilitation

Aerospace Engineering



To qualify for this certificate, the student must (1) earn a 3.0 GPA or higher in the career and technical education (CTE) course sequence; (2) pass the state CTE assessment for Aerospace Engineering; and (3) pass the state CTE assessment for Employability Skills for Career Readiness.

PROGRAM DESCRIPTION:

The Aerospace Engineering program provides students the opportunity to learn various aspects of aerospace engineering. Areas of study include safety, construction documentation, the engineering design process, impacts of engineering on society, material properties, energy principles, physics of flight, propulsion systems, orbital mechanics, and remote systems. The appropriate use of technology and industry-standard equipment is an integral part of the program. The course content includes instruction in the state standards for the Employability Skills for Career Readiness.

EMPLOYABILITY SKILLS:

The Employability Skills for Career Readiness include the “soft skills” needed for success in all careers. Students must demonstrate proficiency in three primary areas: (1) Personal Qualities and People Skills; (2) Professional Knowledge and Skills; and (3) Technology Knowledge and Skills.

TECHNICAL SKILLS:

SAFETY PROCEDURES AND PROPER TOOLS

Safety Rules and Procedures, Proper Tool Identification and Usage

IMPACT OF ENGINEERING ON SOCIETY

History of Engineering, Careers in Engineering, Ethics

ENGINEERING DESIGN PROCESS

Apply the Design Process, Identify Constraints and Impacts, Product Lifecycles

ENGINEERING DOCUMENTATION

Sketching, Measuring and Scaling, Procedures, Technical Drawings, Modeling

MATERIAL PROPERTIES

Identify Material Properties, Analyze Strengths of Materials

POWER SYSTEMS AND ENERGY PRINCIPLES

Identify Power Systems, Basic Mechanical Systems, Energy Sources, Machine Control Systems, Basic Fluid Systems, Thermodynamics

STATISTICS AND KINEMATICS

Utilize Statistics, Utilize Kinematic Principles

AEROSPACE DESIGN PROCESS

Physics of Flight, Flight Planning, Materials and Structures, Propulsion Systems, Flight Physiology

SPACE AND REMOTE ENGINEERING SYSTEMS

Space, Space Issues, Orbital Mechanics, Satellite Motion, Remote Systems