



River Valley School District
New Course Proposal

DRAFT

This form will be used by curricular areas as they propose new courses for the next school year. Please complete the form and attach the required documents. All course proposals should first be submitted to the building principal.

Staff Member / Department proposing the new course: TJ Wannicke

School: RV- ELC RVE RVMS RVHS

Title of Course: Launching Into Aviation

Credits and/or Semester or Full Year: 1 credit / 1 semester

Grade level(s) to whom the course will be offered: 10-12

How often will this course be offered: each semester

What need will this course fulfill?

Students have expressed interest in becoming pilots and using the AOPA curriculum

What impact would offering this course have on other grade levels/departments?

Minimal - offered only as an independent course

Please list courses being eliminated that the new course is replacing, if any:

none

Please attach the following:

- A brief course description for the student course handbook (on template)
- Materials needed and cost for initiation of course
- List of drafted units and topics that will be covered (Please use the RVSD Blank Curriculum Template) (included)
- Within the curriculum template, please include the academic standards that will be covered in the course.

Approvals:

Principal: _____ Approved / Not Approved Date: _____

District Administrator: _____ Approved / Not Approved Date: _____

School Board Representative: _____ Approved / Not Approved Date: _____

River Valley School District Curriculum Template

Course name: Launching Into Aviation and Flight
(Pilot year - 2023-2024)

Credit(s) or Grade Level: 9-12
(1 Elective Credit - Independent)

Academic Standards: AOPA (Aircraft Owners and Pilots Association) templates and curriculum in alignment with STEM standards
(<https://dpi.wi.gov/stem/goals>)

Prerequisite(s): none

Course Description:

This course provides the foundation for advanced exploration in flying, aerospace engineering, and unmanned aircraft systems. Students will learn about engineering practices, problem-solving, and the innovations and technological developments that have made today's aviation and aerospace industries possible.

Students will look at the problem-solving practices and innovative leaps that transformed space exploration from the unimaginable to the common in a single generation. Students will also gain a historical perspective, from the earliest flying machines to various modern aircraft.

Additionally, students pursuing the pilot and UAS tracks will take a closer look at the aircraft they may one day operate. Students will begin with an exploration of the types of aircraft in use today before going on to learn how aircraft are made and how they fly. Students will understand how aircraft are categorized, be able to identify their parts, and learn about aircraft construction techniques and materials. They will gain an in-depth understanding of the forces of flight—lift, weight, thrust, and drag—including how to make key calculations. They will then touch on aircraft design, looking at stability, aircraft controls, and maneuvering flight. The course will conclude with a focus on career skills related to these topics.

Units:

Duration:

Essential Learning/Outcomes:

Introduction to Aerospace

10-50 days

- Introduction
- Engineering Practices
- Types and History of Aviation
- Development of Powered Flight
- The Future of Aviation and Aerospace

Exploring Aviation and Aerospace	10-50 days	<ul style="list-style-type: none"> • Aviation Safety • The FAA • Accident Case Study • Aviation Weather
Getting to Know Aircrafts	5 days	<ul style="list-style-type: none"> • You Can Fly! • Categories and Classes of Aircraft • Design considerations
How Aircraft are Made	15 days	<ul style="list-style-type: none"> • Manned and Unmanned aircraft components • Structural Materials • Aircraft Safety
Understanding Air	5 days	<ul style="list-style-type: none"> • Fluid • Density • Altitude
Forces of Flight	20-35 days	<ul style="list-style-type: none"> • Understanding Force and Motion • Vectors of Flight • Theories of Lift, Weight, and Balance • Aircraft Weight and Balance • Stability in Design • Primary and Secondary Flight Controls