PROPOSED PROGRAM SUMMARY

Institution: Morehead State University
Program Name: Systems Engineering
Degree Destination: Doctor of Engineering

CIP Code: 14.2701
Credit Hours: 60
Implementation Date: 8/3/2026

Program Description

Morehead State University is well known for its expertise in space science. The proposed Doctor of Engineering in Systems Engineering program will focus on process and product design for the aerospace, defense, and manufacturing industries, with a strong emphasis on space systems. Students will choose from one of two specializations: Space Systems Engineering or Integrated Systems Engineering. The program will leverage Morehead State University's unique resources, including specialized laboratories and experienced faculty, to offer students a hands-on, applied research-focused learning experience.

As a result of this program, graduates will be able to:

- demonstrate a deep understanding of systems engineering principles and methodologies, including system architecture, design, modeling, simulation, and project management;
- apply systems engineering knowledge to solve existing problems in the aerospace, defense, and manufacturing industries;
- conduct independent applied research, analyze data, and effectively communicate findings through written reports and presentations; and
- collaborate effectively with other engineers and professionals in a team-based environment.

Connection to Other Programs

Morehead State University's "program of distinction" is in space science and the institution has long been recognized for its unique contributions to the field of space systems. After receiving CPE approval for a master's degree in Space Systems Engineering Science in 2014, Morehead State University subsequently received approval for a baccalaureate program in Space Systems Engineering in 2020. The proposed program will create a natural progression for students seeking advanced education in the field of systems engineering.

Student Demand

Initial estimates of enrollment are:
Year 1 – 4
Year 2 – 6
Year 3 – 8
Year 4 – 10
Year 5 – 12

Employment Demand

The Bureau of Labor Statistics (BLS) projects 6% growth nationally for aerospace engineers from 2021 to 2031, indicating a steady demand for engineers in these fields. A Doctor of Engineering degree will position graduates for senior-level and leadership roles within these

growing sectors. Data from the BLS and from industry salary surveys show that professionals with doctoral degrees in engineering earn significantly higher salaries than those with bachelor's or master's degrees. Morehead State University provided letters of support from three Kentucky businesses that expressed the need for highly skilled individuals in this field, which will strengthen Kentucky's technological workforce.

Budget

The program is projected to be self-sustaining through a combination of internal reallocations, external grants and contracts, and tuition revenue. Morehead State University's Space Science Center has been consistently successful in attracting funding from government sources (NASA and the U.S. Department of Defense), private aerospace companies (Intuitive Machines, Radiance Corporation, Rajant) and via subcontracts from university partners (MIT, University of Maryland). One faculty member will be hired in the fifth year of the program when the program's annual costs are expected to be fully offset by the anticipated revenue.

Projected Revenue over Next Five Years ($):	$ 1,070,000
Projected Expenses over Next Five Years ($):	$ 1,450,000