Fond du Lac Tribal and Community College
COURSE OUTLINE FORM

Updated 01/21/16

Please return this form to the college vice president of academic affairs and the chairperson of the Academic Affairs and Standards Council (AASC)

1. Prepared by: ____________________________________________________________

2. Date submitted: ________________________________________________________

3. Date approved: __04/07/16_____ Date revised______________

4. Department/discipline: ___CSCI__________________________________________

5. Department(s) endorsement(s): __________________________________________
(Signatures of the person(s) providing the endorsement are required.)

6. Course Title: __Introduction to Engineering: Aerial platforms
Abbreviated course title (25 characters or less): __Intro to Eng: Aerial Platforms

7. Course Designator: __CSCI________ 8. Course Level: 1025

9. Number of Credits: Lecture ________ Lab ______

10. Control Number (on site) __25____ Control Number (online) ____________

11. Catalog/Course description:

Learn to design and build a high-powered rocket and high-altitude balloon payload in this hands-on course. Includes discussion of aerospace concepts, sensors and programming, and the ethics of flight. Requires travel to rocket launch event.

12. Course prerequisite(s) or co-requisite(s): Accuplacer scores/ Other courses
Prerequisite(s):
Co-requisite:

13. Course Materials (Recommended course materials and resources. List all that apply, e.g. textbooks, workbooks, study guides, lab manuals, videos, guest lecturers).

To be determined based on applicable and current resources available.

14. Course Content (Provide an outline of major topics covered in course)

What is aerospace?
Current activities in aerospace engineering
Physics of flight
Aerial systems – design and building techniques
Sensors and programming
High powered rocketry
High altitude ballooning
Ethics of aerial data acquisition

15. Learning Goals, Outcomes, and Assessment

At FDLTCC we have 4 Competencies Across the Curriculum (CAC) areas. They are as follows:
A. Information Literacy (the ability to use print and/or non-print tools effectively for the discovery, acquisition, and evaluation of information)
B. Ability to Communicate (the ability to listen, read, comprehend, and/or deliver information in a variety of formats.)
C. Problem Solving (the ability to conceptualize, apply, analyze, synthesize, and/or evaluate information to formulate and solve problems.)
D. Culture (knowledge of Anishinaabe traditions and culture, knowledge of one’s own traditions and culture, knowledge of others’ traditions and cultures, culture of work, culture of academic disciplines and/or respect for global diversity.)

Course Learning Outcomes will fulfill the identified competencies.

Course Learning Outcomes.

Upon completion of this course, the student will be able to:
1. Build a high-powered rocket suitable for launch. (C)
2. Build a balloon payload suitable for launch. (C)
3. Discuss the ethics of flight. (B, D)
4. Analyze data retrieved from flight of aerial platform. (A, C)

16. Minnesota Transfer Curriculum (MnTC): If this course fulfills an MnTC goal area, state the goal area and list the goals and outcomes below:

See www.mntransfer.org

Goal Area(s): __________

Does this course require additional material for specific program requirements? If yes, please provide.