

PURDUE UNIVERSITY
REQUEST FOR ADDITION, EXPIRATION,
OR REVISION OF AN UNDERGRADUATE COURSE
(10000-40000 LEVEL)

Print Form

AAE 25100

DEPARTMENT School of Aeronautics and Astronautics

EFFECTIVE SESSION Fall 2016

201710

INSTRUCTIONS: Please check the items below which describe the purpose of this request.

- | | |
|---|---|
| <input type="checkbox"/> 1. New course with supporting documents | <input type="checkbox"/> 7. Change in course attributes (department head signature only) |
| <input type="checkbox"/> 2. Add existing course offered at another campus | <input type="checkbox"/> 8. Change in instructional hours |
| <input type="checkbox"/> 3. Expiration of a course | <input type="checkbox"/> 9. Change in course description |
| <input type="checkbox"/> 4. Change in course number | <input checked="" type="checkbox"/> 10. Change in course requisites |
| <input type="checkbox"/> 5. Change in course title | <input type="checkbox"/> 11. Change in semesters offered (department head signature only) |
| <input type="checkbox"/> 6. Change in course credit/type | <input type="checkbox"/> 12. Transfer from one department to another |

PROPOSED:

Subject Abbreviation AAE

Course Number 25100

Long Title Introduction to Aerospace Design

Short Title

EXISTING:

Subject Abbreviation

Course Number

TERMS OFFERED

Check All That Apply:

Summer Fall Spring

CAMPUS(ES) INVOLVED

Calumet N. Central
 Cont Ed Tech Statewide
 Ft. Wayne W. Lafayette
 Indianapolis

Abbreviated title will be entered by the Office of the Registrar if omitted. (30 CHARACTERS ONLY)

CREDIT TYPE

1. Fixed Credit: Cr. Hrs.
2. Variable Credit Range:
 Minimum Cr. Hrs.
 (Check One) To Or
 Maximum Cr. Hrs.
3. Equivalent Credit: Yes No

COURSE ATTRIBUTES: Check All That Apply

1. Pass/Not Pass Only
2. Satisfactory/Unsatisfactory Only
3. Repeatable
 Maximum Repeatable Credit
4. Credit by Examination
5. Special Fees
6. Registration Approval Type
 Department Instructor
7. Variable Title
8. Honors
9. Full Time Privilege
10. Off Campus Experience

Schedule Type	Minutes Per Mtg	Meetings Per Week	Weeks Offered	% of Credit Allocated
Lecture	50	3	16	100
Recitation				
Presentation				
Laboratory				
Lab Prep				
Studio				
Distance				
Clinic				
Experiential				
Research				
Ind. Study				
Pract/Observ				

Cross-Listed Courses

RECEIVED

FEB 18 2016

OFFICE OF THE REGISTRAR

COURSE DESCRIPTION (INCLUDE REQUISITES/RESTRICTIONS):

Prerequisites: Undergraduate level ENGR 13200 Minimum Grade of D- or ENGR 14200 Minimum Grade of D- and Undergraduate level CGT 18300 Minimum Grade of C-, Undergraduate level CS 15900 Minimum Grade of C- (may be taken concurrently) and Undergraduate level AAE 20000 Minimum Grade of S (may be taken concurrently) The role of design in aerospace engineering. Introduction to aerodynamics, performance, propulsion, structures, stability and control, and weights. Layout and general arrangement of aerospace vehicles. Design concept generation and solution. Computational methods for design. Trade studies and graphical optimization. Conceptual design exercise involving aircraft, spacecraft, or both. Technical presentations and communication for aerospace engineering.

*COURSE LEARNING OUTCOMES:

1. Acquire and apply basic technical knowledge about aerospace engineering. 2. Develop intuition about aerospace engineering and aerospace vehicles. 3. Understand and implement the design process for aerospace systems. 4. Use computers in aerospace design. 5. Solve problems as part of a team. 6. Design an aerospace vehicle/system. 7. Give oral presentations and write technical reports required of design engineers.

Calumet Department Head	Date	Calumet School Dean	Date
Fort Wayne Department Head	Date	Fort Wayne School Dean	Date
Indianapolis Department Head	Date	Indianapolis School Dean	Date
North Central Department Head	Date	North Central Chancellor	Date
West Lafayette Department Head	Date	West Lafayette College/School Dean	Date

West Lafayette Registrar *[Signature]* 3-7-16

OFFICE OF THE REGISTRAR

2017101
10/28/15
2/17/16
3-7-16
bnl

TO: The Faculty of the College of Engineering
FROM: The School of Aeronautics and Astronautics
RE: Change to Existing AAE 25100 Introduction to Aerospace Design Prerequisite

The faculty of the School of Aeronautics and Astronautics have approved the following changes to an existing course. This action is now submitted to the Engineering Faculty with a recommendation for approval.


From: **AAE 25100 Introduction to Aerospace Design**
Sem. 1, 2, Cr 3; Lecture 3
Undergraduate level ENGR 13200 Minimum Grade of D- or ENGR 14200 Minimum Grade of D- or EPCS 12100 Minimum Grade of D- and Undergraduate level CGT 16300 Minimum Grade of D-, and Undergraduate level AAE 20000 Minimum Grade of S [may be taken concurrently]

The role of design in aerospace engineering. Introduction to aerodynamics, performance, propulsion, structures, stability and control, and weights. Layout and general arrangement of aerospace vehicles. Design concept generation and selection. Computational methods for design. Trade studies and graphical optimization. Conceptual design exercise involving aircraft, spacecraft, or both. Technical presentations and communication for aerospace engineering.

To: **AAE 25100 Introduction to Aerospace Design**
Sem. 1, 2; Lecture 3, cr. 3
Undergraduate level ENGR 13200 Minimum Grade of D- or ENGR 14200 Minimum Grade of D- or EPCS 12100 Minimum Grade of D- and Undergraduate level CGT 16300 Minimum Grade of C-, Undergraduate level CS 15900 Minimum Grade of C- [may be taken concurrently] and Undergraduate level AAE 20000 Minimum Grade of S [may be taken concurrently]

The role of design in aerospace engineering. Introduction to aerodynamics, performance, propulsion, structures, stability and control, and weights. Layout and general arrangement of aerospace vehicles. Design concept generation and selection. Computational methods for design. Trade studies and graphical optimization. Conceptual design exercise involving aircraft, spacecraft, or both. Technical presentations and communication for aerospace engineering.

Reason: In AAE 25100 students are expected to use MATLAB and C programming skills to develop aircraft and spacecraft design and analysis code. CS 15900 covers MATLAB, C, and basic engineering programming skills, which makes it a necessary concurrent prerequisite.



Tom I-P. Smith, Professor and Head
School of Aeronautics and Astronautics

Approved for the faculty of the Schools
of Engineering by the Engineering
Curriculum Committee

EGC Minutes 12 Date 2/9/16
Chairman EGC 