Requirements for a Concentration in Aerospace Engineering

A concentration in Aerospace Engineering can be earned with the framework of the Mechanical Engineering program through the completion of a sequence of courses itemized on the front (Application) and back (Requirements) of this form.

The concentration in Aerospace Engineering can be earned by any student within the Department of Mechanical Engineering by fulfilling the following requirements:

1. **Core Elective**

   ENG EK 102 – 2 cr
   ENG EK 156 – 2 cr
   ENG BE 200 – 2 cr
   CAS MA 142 – 2 cr

   Other acceptable Core Elective courses:

   Engineering courses at the 100 level or higher, except ENG EK 280

   Natural Science courses listed under the Natural Science requirement that exceed the minimum requirements for the student's degree program.

   Mathematics courses not used to satisfy the mathematics requirement that have CAS MA 123 as a prerequisite.

   The following **Navy ROTC courses**: OTP NS 102, OTP NS 201, OTP NS 301, and OTP NS 302

2. A sequence of five courses (16 cr) consisting of 3 required (8 cr) and two elective (8 cr) courses.

Required Courses:	**Notes:**
ENG ME 201 * – Introduction to Aircraft – 2 cr	Offered fall only; should be taken sophomore 1
ENG ME 202 * – Introduction to Spacecraft – 2 cr	Offered spring only; should be taken sophomore 2
ENG ME 425 – Compressible Flow and Propulsion – 4 cr	Offered fall only; ME 304 pre-requisite

[* ENG ME 201 (2 cr) + ENG ME 202 (2 cr) satisfies 1 Advanced Elective (4 cr)]

Elective Courses: (Choose two)	**Notes:**
ENG ME 307 – Flight Structures (4 cr)	Offered spring only; ME 201 pre-requisite
ENG ME 421 – Aerodynamics (4 cr)	Offered spring only; should be taken junior 2
ENG ME 403 – Flight Mechanics and Control (4 cr)	Offered fall only; ME 421 pre-requisite
ENG ME 406 –Dynamics of Spaceflight – 4 cr	Offered fall only
CAS AS 414 – Solar and Space Physics – 4 cr	Offered spring only
ENG ME 451 – Directed Study in Aerospace – 4 cr	
ENG ME 456 – Engineering Projects in Aerospace – 4 cr	

3. **Experiential Project Requirement**: Completion of a well-defined project in the aircraft or spacecraft area. A senior design project, laboratory research, industrial internship or a directed study can satisfy this requirement. This requirement must be approved by submitting the appropriate approval form to the Undergraduate Records Office. After completion of the proposed project, a written summary of the project must also be submitted for approval (see Project Approval form for more information).

4. Students must have a major of Mechanical Engineering with a Concentration of Aerospace Engineering officially declared with the Undergraduate Records Office no later than October 1st of the first semester of the senior year.