Aerospace Engineering

Graduate students in the Aerospace Engineering program focus on aircraft and space systems design, analysis, and manufacturing. Students can select course offerings and research programs in aerodynamics and applied aerodynamics; aerospace propulsion; computational fluid dynamics; dynamics and design of spacecraft and space systems; flight dynamics and control; and multifunctional materials and smart structures. Sub-areas include acoustics, sprays, composite materials, reactive and multiphase flows, stability, and transition to turbulence.

Admission Requirements

An applicant to the master's program must be a graduate of an accredited undergraduate program with a B.S. degree in either mechanical or aerospace engineering. Graduates of other accredited programs in engineering, physical sciences and mathematics may be considered but may be required to make up undergraduate deficiencies without graduate credit. Provisional admissions, as well as exceptions, are sometimes granted under special circumstances. The most qualified applicants are accepted first. Applicants to the Ph.D. program must have met the M.S. admission requirements and additionally must satisfy the Ph.D. admissions requirements. Applicants to the online, distance education M.S. program in mechanical or aerospace engineering are not required to take the GRE exam.

Master's Degree Requirements

The thesis-option M.S. degree programs in mechanical engineering and aerospace engineering require 21 hours of course credit and nine hours of thesis research. The non-thesis M.S. degree programs in mechanical engineering and aerospace engineering require 27 hours of course credit and a three credit-hour project. The non-thesis M.S. degree programs in mechanical engineering and aerospace engineering are offered on campus and off campus through distance education.

Ph.D. Degree Requirements

A minimum of 72 hours of credit are required to obtain the Ph.D. degree. A direct path to the Ph.D. from the B.S. is also available with which the student is granted the M.S. degree “enroute” to the Ph.D. The enroute Ph.D. (direct to Ph.D. path) requires a minimum of 3.5 undergraduate GPA.

Student Financial Support

Various types of assistantships and fellowships are available. Awards are made to the most qualified applicants first and generally are not available for all students.

Other Relevant Information

Each new student chooses an area of specialty, selects an advisor and committee, customizes a program of study and begins research in the first semester of residence. The Director of Graduate Programs acts as a temporary advisor initially and should be contacted with questions.

Degrees

- Aerospace Engineering (MS) (http://catalog.ncsu.edu/graduate/engineering/aerospace-engineering/aerospace-engineering-ms/)
- Aerospace Engineering (PhD) (http://catalog.ncsu.edu/graduate/engineering/aerospace-engineering/aerospace-engineering-phd/)
- Aerospace Engineering (Minor) (http://catalog.ncsu.edu/graduate/engineering/aerospace-engineering/aerospace-engineering-minor/)

Faculty

Full Professors

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Srinath Varadarajan Ekkad
Tiegang Fang
Ashok Gopalarathnam
Richard David Gould
Xiaoning Jiang
Richard F. Keltie
Clement Kleinstreuer
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James Woodrow Leach
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