

2014 NORTH CAROLINA/CONNECTICUT SPACE GRANT CONSORTIUM

AIRCRAFT READINESS ENGINEERING WORKSHOP

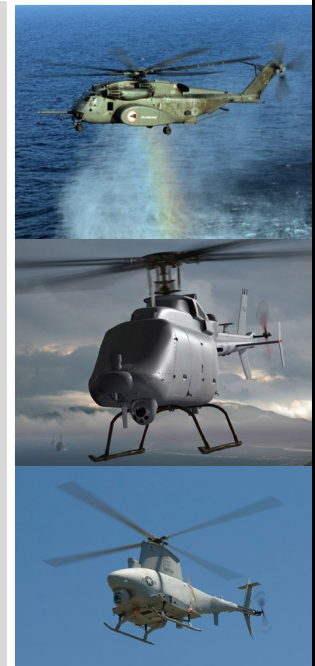
AT CRAVEN COMMUNITY COLLEGE IN HAVELOCK, NC JUNE 22-27, 2014

IN COLLABORATION WITH NC STATE UNIVERSITY, UNITED STATES MARINE CORPS, AND
FLEET READINESS CENTER-EAST



Participants will experience:

- Mechanical & Aerospace Engineering
- Systems Engineering
- Helicopter principles and Simulation
- Interactive tour of military VTOL aircraft
- Flight in a military aircraft and/or simulator
- UAV theory & flight demonstrations
- RC VTOL Flight Build & Competition
- Working directly with DOD engineers at the Navy's Fleet Readiness Center East Facility.
- The latest Navy/Marine Corps Aircraft such as, V-22 Osprey, H-53 Heavy Lift Helo, AV-8 Harrier Jump Jet, MQ-8 Firescout UAV



Selected Participants Will Receive:

- Flight in military aircraft and/or simulator
- Tour of Military VTOL Aircraft Squadron
- Practical knowledge of fixed and rotary wing engineering and design, and UAV Technology
- Room, meals, and transportation to/from New Bern airport
- Classroom instruction from university professors and DOD Engineers on aerodynamics, rotorcraft principles, control theory, VTOL RC aircraft, etc.
- Hands on Lab experience

Application Requirements:

- Must be age 18 or over
- Must have completed two semester of an engineering program (ME and AE majors preferred)
- Must be interested in aerospace
- Must be a US Citizen
- Must complete application at:
<http://www.engr.ncsu.edu/mes/workshop> by April 1, 2014

Workshop cost is \$1300

Tuition and transportation assistance may be available through your local Space Grant Consortium.



NC STATE UNIVERSITY

For more information please go to <http://www.engr.ncsu.edu/mes/workshop> or email us at slprice@ncsu.edu

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Sunday

Arrival Day, Meet and Greet, RC Helicopter Flight, RC Aircraft Flight
(Students will fly RC aircraft, indoors/outdoors)

Monday

Principles of Helicopter Flight I, UAV Demos and Lecture, Systems Engineering
Overview, VTOL Aircraft Design Construction Techniques, Research Design
(Student teams will be instructed on the design and building of RC VTOL aircraft)

Tuesday

Airframe Testing Methods, Aircraft Avionics, Aircraft Structures, UAV
Technology Over View
(Students will build a VTOL Remote Control Aircraft)

Wednesday

Travel to Air Station, Air Vehicle Performance and Maintenance, Vertical Take
Off and Landing, *VTOL Squadron/Flight Line Tour* (Interactive tour with DOD
Engineers of military VTOL aircraft), Pilot Q&A, RC VTOL Design and
Construction

Students will fly in a military aircraft and/or simulator

Thursday

Power/ Propulsion
Operations Sustainment
(RC VTOL Construction and testing)
UAV Flight Demonstration (Multi-copters)

Friday

Mishap Investigation
Student RC VTOL Flight Competition (Student built aircraft will be flown),
Awards and Celebration

Example Schedule, subject to change.

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