

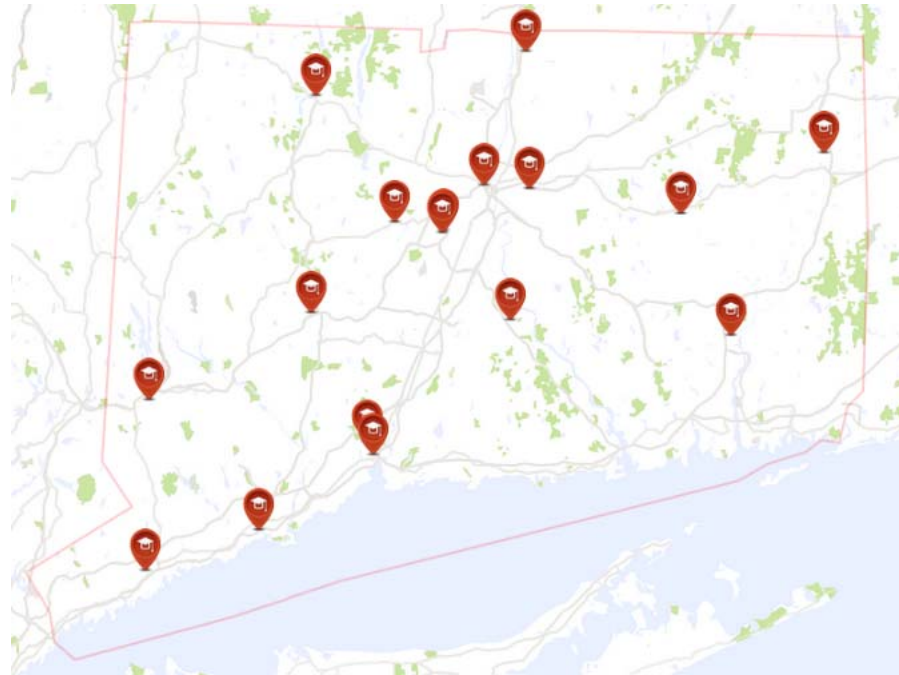


A Community College's Perspective on Participation in a Space Grant Consortium

*Northeast Regional Space Grant Meeting
October 7, 2016*

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Connecticut State Colleges & Universities (CSCU)



Institutions

- 12 Community Colleges
- 4 State Universities
- 1 Online College

Fall 2015 UG Headcount

- 52,761
- 28,434
- 1,735

Collaborations between the State Universities and Community Colleges:

- College of Technology – engineering and technology degree pathways
- Transfer Tickets – seamless degree pathways

Naugatuck Valley Community College Items of Interest



- Merger of Mattatuck Community College and Waterbury State Technical College
 - 50 year anniversary spanning 3 years (2014-2017)
- Hispanic Serving Institution since last year
- Just named “One of the Top 25 Colleges in the Nation to Advance Opportunities for Low-income Students” by the U.S. Dept of Education
- Over 1,000 awards conferred the last 5 years (only CT Community College to ever confer >1,000)



Naugatuck Valley Community College Student Body

FT/PT Status	Count	%
Full-time	2,231	33.5%
Part-time	4,431	66.5%
Total	6,662	100.0%

Gender	Count	%
Female	3,773	56.6%
Male	2,889	43.4%
Total	6,662	100.0%

Ethnicity/Race	Count	%
Hispanic	1,894	28.4%
American Indian or Alaska Native	16	0.2%
Asian	207	3.1%
Black or African-American	662	9.9%
Multiple Races	299	4.5%
Native Hawaiian or Pacific Islander	13	0.2%
Other	122	1.8%
White	3,273	49.1%
Choose not to respond	176	2.6%
Total	6,662	100.0%

Age Distribution	Count	%
<18	356	5.3%
18-19	1,602	24.0%
20-21	1,268	19.0%
22-24	1,043	15.7%
25-29	951	14.3%
30-34	488	7.3%
35-39	341	5.1%
40-44	205	3.1%
45-49	158	2.4%
50-59	194	2.9%
60-64	25	0.4%
65+	31	0.5%
Total	6,662	100.0%
Average age	25	



Evolution of CT Community College Participation in CT Space Grant

- Prior to 2014 – College of Technology
 - Scholarships only
- 2014-present – individual institutions
 - 2013-2014 CC student opportunities
 - Community College Scholarships (\$500)
 - Students could participate in other undergraduate programs
 - 2016-2017 CC student opportunities
 - Community College Scholarships (\$1,500)
 - Community College Transfer Scholarships (\$5,000)
 - Community College Technical Internship (\$6,000)
 - Undergraduate Student – Faculty Summer Research Grant (\$6,000 per student (1 4-year, 1 CC); \$1,000 per faculty)
 - Quadcopter Challenge (5 teams, award per team: \$1,000 per student, 5 students; \$2,000 for faculty advisor; \$1,000 for supplies)
 - Students can still participate in other undergraduate programs



NVCC Student Awards Earned

- NVCC has been a consortium member since Spring 2014
- In 5 semesters, students have earned
 - 13 Community College Scholarships (\$6,500 total)
 - 1 participant in the Aircraft Readiness Engineering Workshop (all expenses paid)
 - North Carolina Space Grant
 - 3 Community College Technical Internships (\$6,000 total)
 - 2 did not occur
 - 1 Undergraduate Student – Faculty Summer Research Grant (\$6,000)
 - Dr. Peter LeMaire, Physics, Central CT State University
 - 5 students in the Quadcopter Challenge (\$5,000 total)
 - Dr. Ren Sharma, Mechanical Engineering Technology, NVCC



Space Grant awards make a difference!

Technical Internship

The internship **helped my confidence grow**, because the engineers would give me advice and **encouragement toward pursuing my bachelors degree**.

The internship allowed me to narrow down which field of engineering I would like to pursue a career in.

During my me at Tier One I learned how pay attention to all the details in the blueprints, as well as, properly interpreting various symbols.

At Tier One the engineers would constantly make sure I understood the various manufacturing process and **how to pick the most efficient and cost effective process**.

I became better at SolidWorks, because of the various jobs that had intricate geometry and the assemblies had various parts.

The final project given to me was to design a holding fixture for a CMM. This project **forced me to get out my comfort zone**, talk to various machinist, choose the material, and take into account the various factors involved in designing the fixture. [sic]

-Jason A.

Summer 2016 Technical Intern

Tier One Machining, Newtown, CT



Space Grant awards make a difference!

Undergraduate Student – Faculty Summer Research Grant

The Space Grant summer program has *inspired me to pursue a career in chemical engineering field.*

As a result of this program I can say that *I have obtained different skills.*

I also learned how to *use different equipment, materials and methods in preparation of the lithium ion battery.*

Because of this program I can say that I have obtained much knowledge and understanding of techniques to *continue my education as a chemical engineer.*

...

I will treasure this opportunity for the rest of my life.

-Cristaly M.

*2016 Student Summer Researcher at CCSU
Lithium Ion Cathode Preparation and
Characterization*



Space Grant awards make a difference! *Quadcopter Challenge*

I learned a tremendous amount; and from it, **took a specific interest in flight/aerodynamics**. I look forward to later taking the more involved classes consisting of flight engineering.

I plan to eventually **transfer and complete my bachelors degree** to have as greater understanding of how things work.

I have become **more confident in my abilities**, thanks to the quadcopter challenge, and now have a **great asset to my resume**.

-Maari L.

Spring 2016 Quadcopter Challenge



Space Grant awards make a difference! *Quadcopter Challenge*

The Quadcopter Challenge was a good experience **working with a group** on a project that involved multiple components.

The project showed an aspect of **what it is like in the field** – you're **given a task** then you **have to solve it**.

The project was hard because we didn't know what we were working with. We **had to use what each of us knew and bring it together to make it work** because of the short time frame.

I learned that mechanical engineering now includes a large electronics side. That is not my thing. I enjoy the design aspect more and am thinking of moving to civil engineering. **You can't do something you are not motivated to do.**

-Bibi R.

Spring 2016 Quadcopter Challenge

NVCC Quadcopter Challenge Team – Spring 2016



From left to right: Joe D., John B., Khoa N., Bibi R., Dr. Ren Sharma (Maari L. not pictured)

Quadcopter Challenge Spring 2016





Space Grant awards make a difference!

Aircraft Readiness Workshop

When I was awarded the grant to attend the '14 Aircraft Readiness Workshop, it was **really the first time I've ever been acknowledged academically for my hard work.** At the time, I was dead set to simply graduate NVCC with my A.S. and getting a technician position to base the rest of my life off of. The year 2014 was the 7th year I've attended college and the seemingly endless grind of working full time a while managing my education (7-5p @ work and then 5:30-10:30p some nights at NVCC) simply broke my spirit.

That being said, **receiving the honor to attend alongside some of the top engineering students in the country truly saved me from myself and has been one of my most important personal achievements.** While I know what I'm saying sounds embellished, the reason it saved my life is because in just a few short part-time semesters I will graduate from CCSU with my B.S. That Bachelor's Degree will build upon the foundation I've received from NVCC to be able to achieve my goals. ... Also in the near future I'll be able to **give back to my community by helping other aspiring engineers,** such as my recent amazing experience as a volunteer at a FIRST Robotics Competition.

I've already been able to achieve more than I thought was possible in 2014 and I will continue to move forward all due to the CT Space Grant Consortium and NVCC.

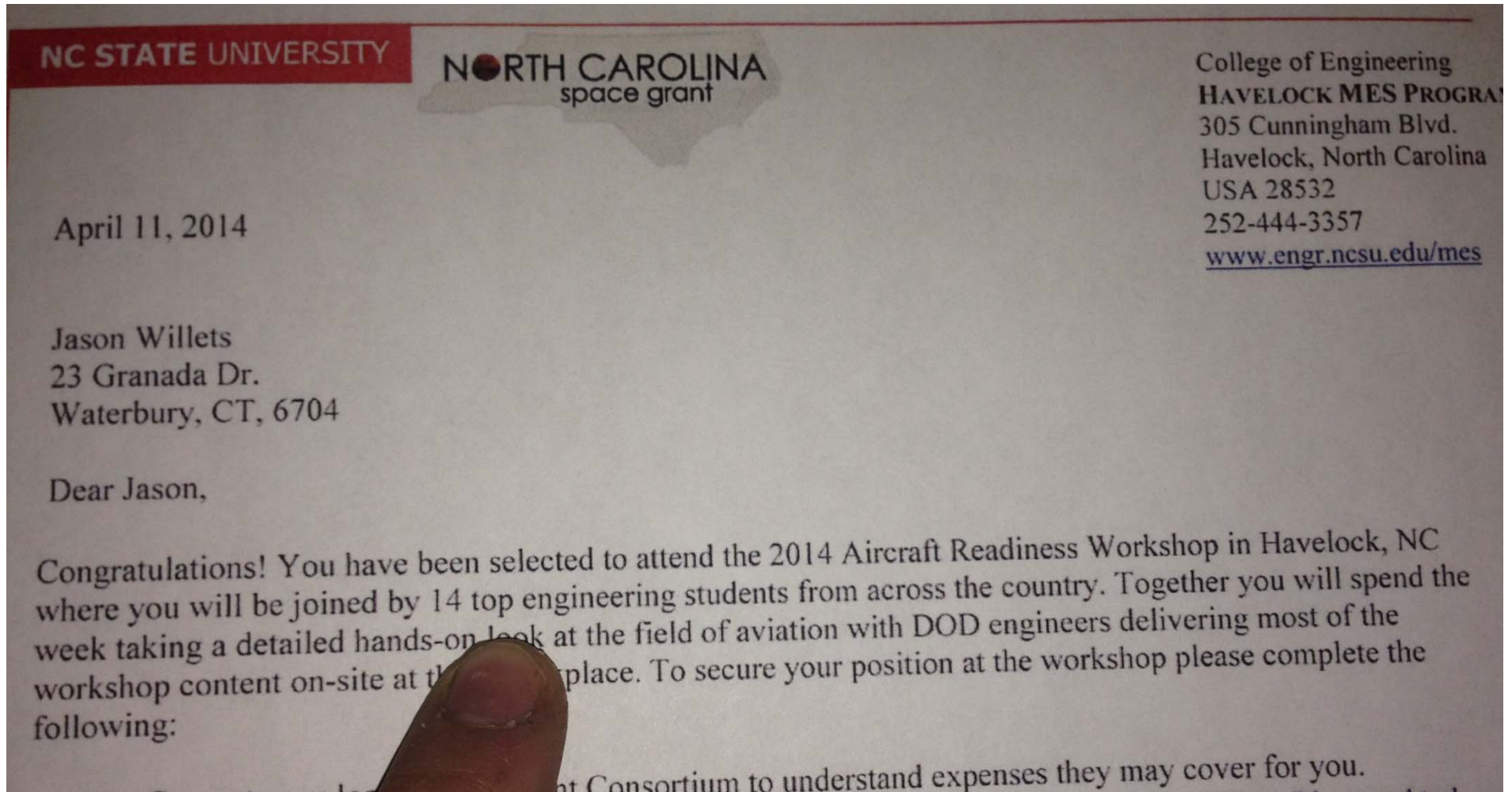
-Jason W.

2014 Aircraft Readiness Engineering Workshop



Space Grant awards make a difference!

Aircraft Readiness Workshop



"... the award letter that nearly brought me to tears."

-Jason W.

Aircraft Readiness Workshop Team, Summer 2014





Community College issues with participation in a Space Grant Consortium

- Making students aware
- Getting interested students to complete the application
- Placing students in internships
- How to get students and faculty paid
 - CT CCs have no history or protocols for paying stipends
- Scholarships go through financial aid
- CC faculty buy-in and participation
- Longitudinal tracking
- Community College - University disconnect



Community College student barriers to access of Space Grant opportunities

- Students must be full-time
 - Students in CT Community Colleges:
 - FT: 17,375 (32.9%)
 - PT: 35,386 (67.1%)
 - Students in CT State Universities:
 - FT: 23,149 (81.4%)
 - PT: 5,285 (18.6%)
- Students must be U.S. citizens
- Travel

Special Thanks



- CT Space Grant staff
 - Janet Spatcher, Program Coordinator
 - Dr. Cater Arico, Associate Director
 - Dr. Hisham Alnajjar, Program Director
- NVCC staff
 - Lisa Palen, Director of Finance
 - Gina Marcantonio, *former* Director of Development
- Student and faculty participants
 - Jason W., Maari L., Bibi R., Jason A., Cristaly M. and many more
 - Dr. Ren Sharma, NVCC, Quadcopter Challenge Advisor
 - Dr. Peter LeMaire, CCSU, Undergraduate Student – Faculty Summer Research Grant Advisor



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