

APSC-349 Applied Science Cooperative Education

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at Northrop Grumman Corporation

with Dmitry Kadnikov, Program Director of the B.S. in Applied Science at UW-Stout

Overview of the company/organization

- Northrop Corporation was founded in 1939 by Jack Northrop
- After several mergers Northrop Co. became the Northrop Grumman Co. it is today
- Northrop Grumman's main business is divided into four sectors, which total \$35 Billion in annual revenue
 - Aerospace Systems
 - Mission Systems
 - Defense Systems
 - Space Systems
- Some recent programs that made headlines were the James Webb Space Telescope and the B-21 Raider stealth bomber



Duties

- Analyzed Mission Assurance data and metrics with the goal of clearly communicating risk
- Helped draft and edit formal procedure and process documents to help streamline processes across programs
- Developed a tool to count Government Mandatory Inspections points to use as a method of cost estimation and negotiation
- Developed a complete understanding of product flow through NGC's Space Park campus, from microchip fabrication to space vehicle assembly, integration, and testing

Science at Work

- Northrop Grumman has worked with and continues to work in the civil space sector with customers like NASA and SpaceX. NGC was the lead contractor on the James Webb Space Telescope with the scientific mission of taking images of the earliest (furthest) galaxies only visible in the infrared spectrum.
- Northrop Grumman is part of the team working on NASA's Lunar Gateway, a space station that will orbit the Moon and serve as a staging point for crewed missions to the lunar surface. NGC is developing the Habitation and Logistics Outpost (HALO) module, which will provide living quarters and logistics support for astronauts.

UW-Stout Skills Utilized

- Statistics for engineering and Machine Learning courses were beneficial in my data analysis assignment
- Microsoft Office proficiency was necessary, and I developed these skills at Stout
- Communication skills
- Collaborating with fellow engineers/ scientists/ students at Stout

Acquired and Refined Skills

- Xcel formulas (Vlookup)
- Public speaking and presenting to high management
- Participating and contributing to meetings
- Attention to detail in reading and editing / requiring my work to reach for perfection
- Organization of multiple tasks assigned

Advice to the Next Class

- Work hard, pay attention, and do what is asked of you to the best of your ability and you will do great! The rest is out of your control
- Don't be afraid to get out of your comfort zone by setting your goals high and aiming for your highest potential. Don't underestimate yourself

Future Outlook

- I would love to continue working at Northrop Grumman. The work they do has major impacts to our country and makes you excited to show up to work. Management also is invested in you finding your passion and wants you to try many roles in the company
- I don't know if I'll return to Mission Assurance, I wouldn't call it an exact fit, but I would love to join their rotational program where you pick three jobs to work for a year each and in the end pick your favorite to return to.

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