Job Title	ATLAS Program Lead
Reports to Position Title	Executive Director, SuperNOVA
Research Project Title	SuperNOVA
Faculty/ Department	Engineering
FTE (based on 35 paid hr work week)	1.0
Duration	May 10 th – August 25 th 2023
Date Created/Updated	Jan 16 th 2023
Salary	\$17.00 per hour + 4% in lieu of vacation

About the Research

SuperNOVA is a not for profit initiative of Dalhousie University that provides experiential learning for school aged youth in Science, Technology, Engineering and Mathematics (STEM). SuperNOVA offers innovative workshops, summer camps, clubs, and community events throughout Atlantic Canada that provide youth with fun and rewarding experiences in STEM and nurture a life-long love of exploration, creativity, and academic achievement.

Job purpose

As the ATLAS Program Lead, you will work with the Executive Director and Assistant Director to oversee and lead the development and delivery of the ATLAS program (www.atlascubesat.ca). You will be responsible for development and delivery of ATLAS space engineering and AI curriculum to high school students from across Atlantic Canada. You will work individually, or alongside one or more other SuperNOVA instructors to deliver the programs and provide supervision and care to youth participants. From time to time you may be required to perform additional tasks. You will work under the supervision of the Executive Director of SuperNOVA and will report directly to the Executive Director on any employment matters.

Duties and responsibilities

ATLAS Program Development

- Work closely with the ATLAS team to develop curriculum and design satellite components.
- Gain skills and experience in systems engineering.
- Participate in weekly and monthly technical meetings to discuss progress of project.
- Work with subsystems and develop understanding of electrical, mechanical, control aspects of work.
- Develop technical systems documentation for each subsystem.

• Aid in the creation of social media and graphic design content.

Development of space research and engineering curriculum for outreach purposes.

- Developing exciting and educational curriculum for high school students.
- Integration of tech hardware and software into curriculum programming.

- Identifying and coordinating mentoring events, tours, and site-visits with professionals from the industry and research sectors.
- Working with team members to procure and manage curriculum materials and resources.
- You will be responsible for creating and maintaining a list of materials for purchasing, as well as maintaining a budget of supplies.

Act as a Program Instructor

- Adherence to SuperNOVA's policies and procedures at all times.
- You may be required to teach camps outside of your field of study, and outside of your field of curriculum creation.
- Participating in SuperNOVA training during the course of your employment.
- Developing and delivering exciting and educational workshop and camp curriculum for youth in grades 1 12 related to Science, Technology, Engineering and Math (STEM).
- Learning and practicing the delivery of all SuperNOVA-delivered activities prior to delivery.
- Advance preparation of materials prior to the start of the programs.
- You may be required to travel within Atlantic Canada for STEM workshop and camp delivery.
- Providing supervision for program participants and acting as a positive role model.
- Delivering presentations at community events and other STEM outreach opportunities.
- Communicating with and supporting positive relationships with campers, parents, media, and other stakeholders.
- Ensuring that program facilities are tidy, secure, and facility policies are being followed.
- Creating hazard assessment documents for each activity developed to ensure that safety protocol is accessible at all times.
- Reconcile expenses charged to SuperNOVA as per SuperNOVA procedure.
- Aiding in maintaining a healthy relationship with Dalhousie, which includes ensuring that all instructors and participants are respectful of Dalhousie University staff, property and facilities

Qualifications

- Electrical Engineering Students:
 - Circuit design and schematic capture
 - FPGA Design and Verification
 - Embedded firmware development
 - Execute hardware verification plans and debug prototype hardware using test equipment such as oscilloscopes, protocol/network analyzers, etc.
 - Automotive Experience desired.
 - Understand hardware embedded environments such as Freescale, Renesas, MicroChip, Atmel
 - o Knowledge of Vehicle Bus Communication software such as CAN, LAN, LIN
- Mechanical Engineering Students:
 - In-depth knowledge and experience with SolidWorks
 - Designing and manufacturing of solid mechanics components CNC / Laser / Waterjet
 - Experience with commercial mesh generation software to create finite element geometry
 - Ability to perform analyses to assess the quality of finite element meshes
 - Have had some experience in doing FEA in this or other packages to be considered for the position.
 - Have a good understanding of the mechanical behavior of materials
- The successful candidate will possess:
 - Excellent communication skills, with the ability to present technical material to nontechnical audiences. You will represent the organization in front of our partners, contractors, and others.
 - Independence and teamwork skills. You will be entrusted with your own responsibilities, but don't be afraid to ask questions our team supports each other.
 - Creativity. Don't be afraid to think outside the box and challenge the status quo.

- Good interpersonal and team-work skills
- Good written and verbal presentation skills
- Strong documentation skills with attention to detail
- **Required**:
- Current student or graduate of Bachelor's Degree in Electrical, Computer, or Mechanical Engineering.
- Additional Asset: valid unrestricted driver's license.

Working conditions

On campus role: Due to operational requirements, the successful applicant is required to work in-person on campus.

Dalhousie's vaccine mandate has been suspended at this time, and employees no longer need to provide proof of full vaccination. However, health and safety risks to our community will continue to be monitored and a vaccine mandate may be reinstated if necessary.

Supervisory/managerial

SUPERNOVA INSTRUCTOR EXPERIENCE

As a SuperNOVA Instructor, you will have access to a unique work experience that offers personal and professional development, education and career support, skills and competencies development, extensive high-quality training, and unique community outreach and engagement opportunities.

Training

SuperNOVA's robust training and certification program equip Instructors with foundational skills, knowledge and practice that are essential for developing and delivering impactful youth STEM programming and supporting future academic and professional careers.

- Gender Equity
- Indigenous Worldviews and Cultural Competency training
- Mental Health in the Workplace
- Anti-Racism in STEM
- Inclusive & Accessible Teaching Practices
- Conflict Resolution
- Effective Communication Certifications
- Emergency First Aid and CPR/AED Level A (valid for 3 years)
- Workplace Hazardous Materials Information System (WHMIS)
- Criminal Record Check w/ Vulnerable Sector

Competencies & Benefits

Science Communication

- Across all industries and sectors, it is critical to have the skills and confidence to communicate your work, research, or knowledge to people outside of your area of expertise.
- You may be required to represent your field of work or your company in a variety of settings (media, conferences, networking events) and it is essential that you are able to understand your audience and explain your work while serving as a representative of your company.
- SuperNOVA will offer you the opportunity to build the skills necessary for synthesizing complex scientific concepts and tailoring the information for a wide variety of audiences

Leadership

- Team management
- Teamwork, collaboration, communication

Community Involvement

- Support your community
- Mentor and serve as role models for youth
- · Impact youth with positive experiences in STEM

Networking

• Engage with STEM professionals and SuperNOVA's industry, government and corporate partners

Personal Development

- Peer-to-peer mentorship
- · Work with and learn from others with varying academic backgrounds
- Learn about yourself what matters most to you, how you show up during difficult situations
- · Flexibility to explore and teach subjects of interest

Additional Career Development Opportunities<u>-</u> Offered in partnership with Actua

- Micro-credentials
- Micro-internships
- Work-integrated Learning

