

BLUEPRINT Course Instructor

Hiring Department: Engineering Outreach Office, Faculty of Applied Science & Engineering

Course: Mechatronics and Automation

Campus: St George Campus /Virtual

Rate of Pay: USW \$35.00/hour (+Benefits)

Date of Employment: May/June 2022 - August 2022

TA Support (est.): Mentors act as TAs for the course

Class Schedule: Monday – Thursday 9:00am-12:00pm, 12:30pm-3:30pm

Closing Date: 10 May, 2022

About the Program:

Blueprint is an academic enrichment program that was designed for highly motivated Black students in Grades 10 and 11 (as of the 2021-2022 school year) who are interested in careers in Science, Technology Engineering and Math with a strong interest in Engineering.

Position Description:

To provide high school students with a unique and challenging learning experience during the program, it is preferred that all Blueprint instructors are currently in pursuit of either a Master's or Ph.D. degree at the University of Toronto and have previous teaching experience. Instructors generally come from the Faculty of Applied Science & Engineering at the University of Toronto; however, previous instructors have also come from other professional faculties, including the Faculty of Pharmacy and the Faculty of Medicine, and other universities. Instructors of this calibre serve as an inspiration for high school students while providing them with a taste of the university experience. The Engineering Outreach Office also welcomes applications from recent alumni. This course will only run for one week.

- All instructors must attend training. One training week is tentatively scheduled for May. Full details will be shared with successful candidates.
- The instructor will be responsible for creating the course curriculum and submitting it for approval. The instructor acknowledges that the course content will conform to the description of the course on the Engineering Outreach Office website and any other publications.
- Instructor-created activities must be approved by the Outreach Coordinator and the department's Safety Officer. Forms (including detailed materials/equipment list) must be completed by the deadline (TBD) for all instructor-created activities.

- The instructor will always be present in class and will facilitate the entire course. This includes arriving at 9:00 am on the first day of the course, and 8:30 am on all other days. At the end of the day, instructors are dismissed after a daily debrief (3:30pm).
- The instructor is responsible for conducting lessons, facilitating class discussion and/or debate, conducting/demonstrating laboratory and design activities, and providing in-class assistance to the participants. Additionally, the instructor will lead any applicable course field trips. The instructor is responsible for setting up lab equipment and audiovisual equipment as required for their course.
- The instructor is required to meet with the course mentors before the specified date set by the Outreach Coordinator and remain in close communication with the staff until the delivery of the course.
- Each instructor is required to meet with Blueprint Team Leader and Materials Team (2 hours) at least once in May or June to review course logistics, materials, and facilities.
 - Blueprint course instructors are also required to help with Blueprint Summit in August.

Qualifications:

- M.Sc. or Ph.D. candidate preferred, ideally in Mechanical Engineering, Electrical Engineering or Computer Science.
- Applicants should have a strong record of teaching, particularly using engaging teaching methods.
- Applicants must be able to demonstrate a considerable depth of knowledge and experience in the subject area.
- Relevant skills, including 3D computer-aided design (CAD) software, programming languages (including C, MATLAB, and Python), circuit design, microcontroller theory.
- The applicant must speak to a group (50 students) in a clear voice and explain concepts clearly.
- Demonstrated leadership skills; adept at working independently and in a team environment.
- High-level time management and organization skills
- Familiarity with equity and social justice approaches to education.
- Aptitude for problem-solving and ability to think critically and creatively.
- Extensive knowledge of University of Toronto programs and services
- Proficiency with relevant computer applications (MS Office, Google Suite, Zoom etc.)

Other:

- If an offer of employment is extended, it will be conditional upon the submission of a police records check clearance letter AND proof of completion of mandatory online U of T training (AODA, WHMIS, Basic Health and Safety Awareness Training).

- There are no marking or evaluation assignments/duties for Blueprint; however, the instructor may choose to produce problem sets, non-marked mini-assignments, or reading for the class depending upon the nature of the particular course.
- Instructors are required to be part of the opening (9:00 am-9:30 am on the first day) ceremonies as directed by the Program Coordinator.
- Instructors are required to comply with any safety procedures outlined in training.
- Instructors must be able to work flexible hours, including some evenings and weekends.
- Instructors will contribute to maintaining a safe virtual environment (arriving to online sessions early, monitoring chat and breakout groups, upholding the Student Code of Conduct, etc.)
- Instructors are expected to communicate all concerns and incidents to the Program Coordinator immediately. Instructors will promptly complete documentation related to any incidents.
- Instructors are required to complete all course feedback forms in a timely fashion and submit them to the Program Coordinator at the completion of each course.
- Instructors are encouraged to offer support and guidance and demonstrate leadership to all program participants being mindful that they represent the Faculty of Applied Science & Engineering and the University of Toronto.

How to Apply:

Applicants submit:

1. Cover-letter
2. Résumé/CV

Qualified applicants should submit their cover letter and résumé/CV to the attention of Cassandra Abraham, Coordinator, Engineering Outreach Office at Cassandra.abraham@utoronto.ca

Please include the position you are applying for in the subject line.

The University of Toronto is strongly committed to diversity within its community and especially welcomes applications from racialized persons / persons of colour, women, Indigenous / Aboriginal People of North America, persons with disabilities, LGBTQ persons, and others who may contribute to the further diversification of ideas. The University of Toronto invites all qualified applicants to make application. Preference in hiring shall be given to Graduate Students enrolled in the School of Graduate Studies of the University of Toronto or those who have made application to be enrolled in the School of Graduate Studies of the University of Toronto. The University strives to be an equitable and inclusive community, and proactively seeks to increase diversity among its community members. Our values regarding equity and diversity are linked with our unwavering commitment to excellence in the pursuit of our academic mission. The University is committed to the principles of the Accessibility for Ontarians with Disabilities Act (AODA). As such, we strive to make our recruitment, assessment and selection processes as accessible as possible and provide accommodations as required for



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applicants with disabilities. If you require any accommodations at any point during the application and hiring process, please contact Cassandra.abraham@utoronto.ca.