



// NSERC/Quanser Design Engineering Chair //

# Professor Alex Czekanski

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Engineering design is everywhere. Design is an intersection of ideas, principles, and skills that makes great engineering possible. From mechanical engineering to fine art. From how things to work to how things look. Design governs how we perceive, how we work and how we build. It's not just about looks. It's about collaboration, integration, passion, and partnership.

The NSERC/Quanser Chair in Design Engineering for Innovation is transforming engineering education at York University by bringing real world, hands-on design problems into the classroom and giving students a deeper understanding of the issues that drive engineering design and innovation.

At the core of Lassonde's Renaissance Engineering curriculum is a focus on thinking broadly, building with passion and learning from hands-on experience. The Chair in Design Engineering's goal is to equip all Lassonde students with knowledge of sound design principles, hands on experience and a breadth of design implications including law, business and art. Every Lassonde student is required to take Renaissance Engineering I and II. Renaissance II is designed by the Chair to inspire their engineering passion and give them a broad perspective.

With the support of Quanser, the Chair in Design Engineering has been created to build and promote a unique and interdisciplinary program that advances the knowledge of design principles and establishes a strong design base at Lassonde and the greater York University community. Promoting and encouraging design thinking in engineering is NSERC Design Chair Alex Czekanski's mission at Lassonde and York University.

**About Alex Czekanski:** Professor Czekanski is the NSERC/Quanser Chair in Design Engineering for Innovation at Lassonde. As the Chair of the program Prof. Czekanski oversees all design engineering initiatives including the promotion of design engineering at York and Lassonde, development of courses and collaboration with industry and experts. He comes to Lassonde from a senior position at Magna International Inc. Prof. Czekanski holds an MBA in Management Science and Strategic Management from York's Schulich School of Business and a PhD degree in Mechanical Engineering from the University of Toronto.

**Engineering Curriculum:** Professor Czekanski has developed an introductory course around design engineering, Renaissance Engineering II and is working on additional courses for engineering students at Lassonde. Courses developed for second-year students will include self-directed design projects, workshops and greater research autonomy. Professor Czekanski's education initiatives include hands-on learning through workshops, competitions and other flipped classroom activities.

In collaboration with Quanser, Professor Czekanski is building a design studio and a learning experience that will teach design as principles and practice.

**Industry Collaboration:** Industry collaboration and co-operation is central to the Chair's goals of bringing real-world design to engineering education. A cross-disciplinary and hands-on approach will ensure that Lassonde students receive an education in design engineering that includes experience in the industry through internships, consultation and workshops. The chair will work with industry leaders including Quanser to develop specialized projects that involve work by Lassonde students.

**Engineering Education Research:** Promoting design thinking and design engineering in the greater engineering curriculum means finding better ways to engage faculty and instruct student. The Chair is conducting research into how engineering education can improve, and what techniques and practices are of greater benefit to students.

**Next Four Year:** In the next four years, the Chair in Design Engineering will continue working to promote the importance of design for all engineering students and in the university at large. The Chair's mission will be to develop and implement engaging, hands-on courses that demonstrate design skills and principles to students of all levels within the university.

