

Case study: University of Waterloo – Innovative from the start

The University of Waterloo is a leading tertiary education provider located in Ontario, Canada playing a central role in the region's ICT cluster.

Through its ground-breaking co-op programme the University of Waterloo connects students with real-world experiences in the local and international innovation system.

The co-op programme has been a resounding success and is now the largest of its kind in the world. This year, it will connect over 18,000 students with its more than 6000 participating employers through a programme that sees students alternate between 4-month school terms and 4-month paid work terms.

As a result, several hundred commercial and social enterprise start-up companies have been launched by our students and graduates – including companies such as BlackBerry, Pebble Watch, Vidyard, BufferBox, Antara Global Health, and Clearpath Robotics in the last few years.

Nello Angerilli, Associate Vice-President International at the University of Waterloo explains the secrets to university's success.

What is the university's co-op programme and how does it link with the ICT cluster?

Waterloo started as a co-op university; it's embedded in everything we do. The co-op programme encourages collaboration between our students and the ICT industry to meet skills demands of the labour market.

In this co-op environment, students alternate between study and work to get their degree. This connection provides our students with rich, real-world learning experiences, which make them business-ready upon graduation. For employers, we're connecting them with some of the best and brightest young entrepreneurs out there, allowing them to shape that student's academic direction.

This connection with industry is central to our operations. To have students working while also gaining qualifications is hugely important to us as a university; it allows industry to provide us feedback on the quality and relevance of the education and research Waterloo is producing.

What is key to ensuring that collaborative university-industry partnerships are sustainable?

Successful co-ops return equal benefits to both sides. To do this there needs to be a business platform, a high degree of experiential learning for students and an opportunity for them to work on real world problems.

Because we're constantly engaging with industry – industry sees us to be a friend. We encourage faculty to work with industry. We reward people who do. We celebrate them. It's about creating an ethos of collaboration. How we engage with industry is one ingredient of the 'magic pixie dust' that makes us successful.

What activities and initiatives connect educators, researchers and students with industry?

At an under-grad level, we have our paid internship-like work placements, programme which are key to co-op education. Waterloo's intellectual property policy is also a unique driver of collaboration. Unlike most universities, our IP policy gives ownership rights to the inventor, not the university. This attracts the kind of entrepreneurial faculty that can understand and engage with industry and means that students can take ideas and make them their own.

We also match entrepreneurial students with some of the IP we develop in the university which they can then develop and spinout to market. Our students are looking for a career, so they're looking for something that they can develop.

One of the great examples of how we connect students with business is our Masters in Business, Entrepreneurship and Technology (MBET). Situated within our Faculty of Engineering, the fundamental idea of the programme is to immerse students, many of whom come from ICT backgrounds, into an environment that provides a mix of business skills, entrepreneurial challenges and contacts with business. The outcome is a group of students who are either ready to launch their own start-up or bring their tested commercialization skills to organizations looking for an innovative advantage.

How does the MBET programme work?

The three-term MBET combines nine interdisciplinary courses with an eight month commercialisation practicum. The programme is flexible enough that we offer a wide range of practicums; from working with ideas that students bring to the programme through to ideas that have been provided by start-ups, SMEs, faculty members or even large publically listed companies.

We tend to have far more ideas presented to us than we have students to complete them. So, we set aside an entire day for presenters to pitch their idea to the class. . Students then indicate which practicums they want to participate in - they must give a first, second and third choice; our MBET practicum convener takes these choices, assesses the students skills and backgrounds, and creates the teams to take the ideas forward.

What are the benefits of this model?

The practicum is viewed by all stakeholders as fundamentally important. It is real life – it transforms students and provides important insights for companies. For the student, it may lead to a new start-up, a job as an entrepreneurial employee or an equity position with a practicum sponsor.

A successful practicum output is great but it is not the real goal. The overriding goal is to use the practicum for students to create a network and develop skills on what it takes to move ideas forward either as a new venture creator or as an entrepreneurial employee inside an existing company. Our objective is to imbed these students with an unfair advantage over other graduates by providing them with a strong academic foundation that is put into practice with the practicum.