

Professional forestry education in Canada

Studying forestry in Canada could be a life-changing experience, reports **Edward Wilson**.

Taking the opportunity to study overseas is one way to stand out from the crowd and gain a fresh perspective on the world of forestry.

This article considers educational opportunities in Canada, home of not only a vast forestry sector, but also some of the most exciting, academically challenging and prestigious forestry schools. With a good number of graduates of Canadian forestry schools professional members of the Institute of Chartered Foresters, it is clearly possible to 'go west' and then make a successful return to full-time practice in the UK.

Overview

A wide variety of forestry courses are offered, both undergraduate and postgraduate, at universities across Canada. The forestry schools at the University of Toronto, University of British Columbia (Vancouver) and the University of Alberta (Edmonton) form unitary faculties, or departments, within top-tier international universities, located in major metropolitan regions. In contrast, the universities in Thunder Bay, ON (Lakehead University), Edmundston, NB (Université de Moncton) and Prince George, BC (University of Northern British Columbia) are situated in the heartlands of the forest products industry, and provide direct access to the forest for training and research.

Others, such as l'Université Laval (Québec, PQ) and the University of New Brunswick (UNB, Fredericton, NB), date from the 17th and 18th centuries. In the case of UNB, founded in 1785, only six universities in the UK (Oxford, Cambridge and the four ancient universities of Scotland) are older, debunking the myth that Canada has no history!

All of Canada's professional forestry schools are research-led and offer superb field and lab facilities, with strong links to the forestry and conservation sectors. Many of Canada's forestry professors are global leaders in their fields, and are well supported by both federal and provincial governments, and by the forestry sector. All faculties incorporate the latest teaching and technologies in forest management, conservation and biological sciences; many are also recognised as centres of wood technology, chemistry, design and engineering.

Undergraduate courses

Traditionally, few UK students have consid-

ered undergraduate education in Canada. However, with fees rising to £9000/year for many English universities, Canada is becoming more competitive. Several Canadian universities are recruiting in the UK, offering some scholarships.

Degree courses in English-speaking Canada are organised in a similar way to those in the UK, with a strong US influence. Most universities offer a four-year bachelor programme, with typical awards being BSc, BScF or BSF degrees. Many courses are awarded with honours, which usually involve a research project. Courses typically start from a broad science foundation and become increasingly focused. In general, management courses tend to be more industry-focused, while science courses often act as preparation for advanced research degrees.

All universities offer choice and the opportunity to specialise in different sub-fields, called 'majors' or 'minors', depending on module weightings. For example, at UBC there are major streams in forest science, forest operations and forest resources management. The BScF degree at UNB, dating from 1908, is now the longest-running forestry qualification in Canada. This can be pursued with a number of sub-specialisms, to

give minors in computer applications, economics, business, wildlife, environmental studies, wood products, or forest science.

Toronto offers options in forest conservation, via either science-based (BSc) or humanities-based (BA) streams, run by the Faculty of Arts and Science, with support from the Faculty of Forestry, so there is not quite the same immersion in professional forestry.

Increasingly, forestry degrees blend elements of environmental science, making it possible to complete programmes in forestry, with majors in wildlife management, outdoor recreation, forest conservation and ecology. This interdisciplinary approach is perhaps exemplified by the innovative natural resources management programme at UNBC, Canada's newest forestry school, and the new BSc environment and natural resources programme at UNB.

In all, great emphasis is placed on generic graduate skills, and most programmes are accredited with provincial professional forestry associations and the Canadian Institute of Forestry (www.cif-ifc.org). All schools have a strong community spirit and balanced social life.

Most undergraduate forestry students find vocational work experience during the summer. Because of the long winters in Canada, it is an established tradition for employers to hire students for planting, surveying, mapping and junior supervisory roles. Others work as forest rangers, or research assistants. Many undergraduate courses are closely linked to the forestry sector, with co-op (sandwich year) options.

Summer work and co-op placements in forestry are usually well paid, compared to other student jobs. They offer valuable experience, a way of seeing the country and usually subsidise the costs of study. However, Canada has strict employment laws.

Future forestry leaders – Toronto MFC students during their annual Fall Field Camp at Haliburton Forest, Ontario. (Photo credit: Canadian Institute of Forestry)



Postgraduate courses

Most UK students in Canada, go for postgraduate studies, where forestry courses are divided into professional and research degrees.

Professional masters courses generally last 12-18 months, are course-based and capped by a three/four-month research project, or case study.

For many years, the Master of Forestry or Master of Forest Engineering degrees were the main professional degrees, closely linked to the forest sector. Since 1996, a Master of Forest Conservation degree has been offered at Toronto. More recently, others have been added, such as the Master of Sustainable Forest Management, and the Master of International Forestry at UBC, and the Master of Environmental Management at UNB, all with a record of success in employment. Research masters (MSc or MScF) degrees are usually at least 24 months and PhD courses are normally four years. An MSc or MScF usually precedes a doctoral degree, however, increasingly, strong masters students are fast-tracked to complete their PhD in four/five years. Research degrees in Canada feature

a significant course load, with a solid grounding in research methods, statistics, bioethics and advanced specialist topics, as in the US.

Also, Canadian doctoral degrees include a 'comprehensive', approximately half-way through, which is a rigorous oral examination by a panel of professors. This encourages breadth and depth of knowledge in the forest sciences. Once over this hurdle, candidates are able to focus on their research project and thesis. While it might appear daunting, it is very common for Canadian postgraduates to finish with a solid list of research papers already published, or in press. Undeniably, this gives a significant advantage in the job market!

Postgraduate funding

Checking funding and application deadlines will be priorities for anyone planning to study in Canada. It is also important to make early contact with a prospective supervisor.

Postgraduate studies in Canada are typically longer than in the UK, but most students are supported by scholarships/fellowships, or employed by their supervisor as research assistants. Another potential source of funds is a teaching assistantship, designed to support a professor in undergraduate teaching, demonstrating and marking papers: invaluable experience for anyone considering an academic career.

Admission usually goes with a minimum package of guaranteed funding. In recent years, various prestigious awards have been available, the most generous being the Future Forests Fellowship at UBC, valued at \$60 000 CAD per year, for a four-year programme. Most are not so well resourced, but will cover fees and subsistence. With a TA position and additional support from their supervisor, most postgraduates enjoy a reasonable standard of living and manage an annual visit home.

The best known UK funding is the Commonwealth Scholarship Programme: highly competitive and open to candidates across all fields of study.

Final thoughts

Regardless of the school, applications for study can be competitive and require evidence of a commitment to excellence. This should not be a deterrent to the dedicated and enthusiastic student. Study at a Canadian forestry school includes not only a rich academic experience, but all the excitement of meeting new people and living in a new culture. Depending on the region you choose, you will have plenty of opportunity to develop your spirit of adventure, outdoor skills and sports. You will never be far from Canada's truly awesome lakes, woods and trees.

Ted Wilson is a silviculturist and forest scientist. He was formerly assistant professor of silviculture at the Faculty of Forestry, University of Toronto, and holds a BScF in forest science from the Faculty of Forestry, University of New Brunswick. He currently leads projects on forest regeneration, continuous cover forestry and interactions between forests and human health. Email: ted.wilson@silviculture.org.uk