



McGill

Faculty of
Medicine and
Health Sciences



Course: Medical Cannabis 101

Contact hours: 12

Prerequisite: Basic knowledge of science is required.

Target Audience

This program is open to anyone with an interest in learning about the medicinal uses of cannabis, what is required to cultivate and process it, and potential commercial opportunities.

Learning Outcomes

On completion of the course, participants will have gained the knowledge to:

1. Understand a wide-variety of topics on medical cannabis, based on the most current science and clinical research;
2. Identify potential health-related applications for medical cannabis;
3. Understand cannabis growth patterns and plant-related product quality;
4. Be informed of quality assurance/quality control practices;
5. Understand commercial opportunities for medical cannabis and cannabis-based products.

By the end of this course, participants will obtain a broad knowledge of cannabis appropriate for entry into this emerging medical and health sciences sector.

Course Outline

Lecture 1: Introduction to Cannabis: Learning the lingo

This lecture will serve as a primer for the remainder of the course, and key topics/concepts will be introduced that will be expanded upon in subsequent lectures. General topics will include historical uses of cannabis, origins of the plant and early

medical writing/ documentation, terminology for cannabis, an overview of its chemicals and how it can be used medically.

[Dr. Carolyn J. Baglole, PhD](#), an Associate Professor in the Faculty of Medicine and Health Sciences and Director of the McGill Research Centre for Cannabis, whose research program centres on chronic lung disease pathogenesis in response to inhalational exposures.

Lecture 2: How does cannabis work in the body?

Topic will include description of why cannabis works to affect physiological processes in the body, with a focus on metabolism and inflammation.

[Dr. Jorg Fritz, PhD](#) is an Associate Professor in the Department of Microbiology & Immunology at McGill University. His laboratory focuses on understanding how innate host resistance regulates inflammatory and antigen-specific adaptive immune responses.

Lecture 3: Medical Cannabis 101- separating fact from fiction

Topic will include: state-of-knowledge of efficacy in different diseases; current products approved for medical use (Sativex, Marinol) and their MOAs; pharmacokinetics/ pharmacodynamics; synthetic cannabinoids; major gaps in knowledge.

[Dr. Mary-Ann Fitzcharles, MD](#) is an Associate Professor of Medicine in the Division of Rheumatology at McGill University. She has been on faculty at McGill University since 1984 and has been a consultant rheumatologist to the McGill Pain Centre at the Montreal General Hospital for the past five years.

Lecture 4: Contraindications for cannabis use and associated risks

Topics for discussion will be pulmonary effects of smoking/vaping cannabis; myths related to addiction and the potential to become dependent on cannabis.

[Dr. Cecilia Costiniuk, MD](#) is an Associate Professor of Medicine in the Division of Infectious Diseases/Chronic Viral Illness Service. Her interest lies in exploring the therapeutic potential of cannabinoids for various conditions affecting people living with HIV in the context of well-designed clinical studies.

Lecture 5: Cannabis cultivation

Topics will include cannabis taxonomy, cannabis cultivars, production practices for the generation of medical cannabis, including considerations for plant growth (e.g., light, nutrients, stress, pathogens, etc.) and hydroponic techniques.

[Dr. Donald Smith, PhD](#) is a Distinguished James McGill Professor in the Department of Plant Science with research interests in the production and physiology of crop plants, particularly with an emphasis on plant-microbe interactions.

Lecture 6: Extraction and processing

Topics will include preparation of plant material for extraction and further downstream processing. Classic and newer extraction methods will be introduced, with an emphasis on the production of innovative, selective market-targeted consumer products and the necessary quality control.

[Dr. Valerie Orsat, PhD](#), a James McGill Professor at the Department of Bioresource Engineering and Associate Dean of Student Affairs at McGill University, has a research program that addresses post-harvest handling, extraction and bioprocessing for the agri-food sector.

Lecture 7: The importance of Quality Control (QC) and Quality Assurance (QA) for commercial cannabis products

QA/QC topics will provide an introduction to: Good agricultural practises (GAP), good production practises (GPP), pathogens of economic importance attacking cannabis production under indoor cultivation; microbial contaminants in cannabis; and good manufacturing practises (GMP).

[Dr. Mark Lefsrud, PhD](#) is an Associate Professor at McGill University. His laboratory's primary goal is the improvement of plants for human consumption (food security), human health (medical cannabis), environmental protection (green building materials) and energy (biofuels).

Lecture 8: Commercial opportunities to meet potential global demand

Knowledge topics discussed in previous sections will be expanded to focus on commercialization and will include legalization, global market cap, commercial opportunities, cultivation in the Caribbean (new vs old genetics), outdoor vs indoor manufacturing, import/export of product (medicine vs recreational point of view), pricing, economics, etc.

[Dr. Nadeem Siddiqui, PhD](#) is a Research Associate in the Dept. of Biochemistry at McGill. He has a background in biophysics and currently studies mRNA metabolism and protein synthesis in cancer, human metabolism and the use of cannabinoids in neurological disorders. He is also part of the cannabis industry in Canada as a manufacturer of finished cannabis products.