

CANNABIS SCIENCE & OPERATIONS (CSO)

CSO 1000 | Cannabis Fundamentals

Lecture Credit: 3

Provides an overview of the cannabis industry landscape. This course covers cannabis terminology, a review of the history of the industry, cultural norms, common interactions within the human body and risks associated with cannabis usage. This course also covers the Marijuana Enforcement Division (MED) badge and the Colorado state regulations required to work in the industry.

CSO 1050 | Cannabis Business

Lecture Credit: 3

Focuses on the foundational aspects of cannabis business areas, including laws and regulations, initial investment, license acquisition, funding, management, marketing, and customer service.

Prerequisite: BUS 1015 with a grade of C or better

CSO 2000 | Cannabis Laws, Regulations, and Compliance

Lecture Credit: 3

Explores the history of the legalization of cannabis in Colorado, the United States, and other countries. This course provides an in-depth examination of business aspects and the regulatory environment of the cannabis industry. Additionally, it covers accounting and tax laws, and the unique challenges faced by cannabis users, suppliers, and third parties.

CSO 2015 | Software and Systems Requirements for Cannabis Business

Lecture Credit: 3

Introduces software and systems commonly used in the cannabis industry. This course covers the strengths and weaknesses of software and systems, and their applicability for different operations.

CSO 2020 | Cannabis Business Accounting

Lecture Credit: 4

Explores principles and practices of financial accounting, including the standards that govern the preparation of financial statements in cannabis businesses. This course covers the unique attributes of financial reports related to regulated cannabis firms including banking, taxation, Know Your Customer (KYC) audits, and the nuances of a primarily cash business.

Prerequisite: CSO 1050 with a grade of C or better

CSO 2030 | Cannabis Retail and Management

Lecture Credit: 3

Discusses the principles of cannabis retail and sales management. This course covers security systems, governmental interaction, and Marijuana Enforcement Tracking Reporting Compliance (METRC) seed-to-sale training. Additionally, this course covers the Responsible Vendor Program (RVP) certification for store management.

Prerequisite: CSO 1050 with a grade of C or better

CSO 2080 | Internship

Internship Credit: 3

Provides students with the opportunity to supplement course work with practical work experience related to their educational program. Students work under the immediate supervision of experienced personnel at the business location and with the direct guidance of the instructor.

CSO 3000 | Cannabis Seminar

Lecture Credit: 3

Focuses on various aspects of the cannabis industry including cannabis taxonomy, historical uses of cannabis, and the political landscape and regulations in Colorado and across the United States. This course covers the Colorado Marijuana Enforcement Division (MED) badge and the Colorado state regulations required to work in the industry and explores career opportunities in cannabis industry. It combines relevant analysis of the industry with a wide range of experts from the cannabis industry.

CSO 3010 | Fundamentals of Cannabis Science w/Lab

Lecture Credit: 3 Lab Credit: 2

Focuses on foundational concepts in organic chemistry, analytical chemistry, and microbiology as they relate to cannabis sciences. This course discusses chemical and microbiological quantitative analytical techniques and applications in cannabis products analysis. It also covers safe laboratory practices in the chemical and microbiological laboratory settings.

Prerequisite: CHE 1111 with a grade of C or better

Corequisite: CHE 1112

CSO 4000 | Chemical Analysis of Medicinal Plants w/Lab

Lecture Credit: 2 Lab Credit: 2

Covers the quality control process and the use of quality control data from the analysis of medicinal plant products to improve processes in the cannabis-processing field. This lab intensive course focuses on advanced analytical testing methods to quantify heavy metal concentration, potency, and residual solvents. Additionally, this course covers related testing methods that do not require significant pre-measurement separation.

Prerequisite: CSO 3010 with a grade of C or better

CSO 4005 | Endocannabinoid System and Pharmacology

Lecture Credit: 4

Covers the endocannabinoid system, receptors, their locations throughout the body, and their physiological relevance. This course introduces different types of cannabinoids and other compounds found within cannabis sativa and their physiological activity. Additionally, this course covers routes of cannabis administration, common dosing of cannabis products in clinical settings, the entourage effect, and adverse reactions to cannabis.

Prerequisite: BIO 2101 with a grade of C or better

CSO 4010 | Extraction for Production

Lecture Credit: 1 Lab Credit: 2

Explores methodologies for concentration, extraction, and purification of cannabis plant constituents, along with the scope and limitations of different extraction techniques.

Prerequisite: CSO 3010 with a grade of C or better

CSO 4015 | Microbiological Analysis of Medicinal Plant w/Lab

Lecture Credit: 2 Lab Credit: 2

Covers the microbiological analysis of contaminants and their toxicity in cannabis products. This course introduces the quality control process and applications used in the microbiological analysis of medicinal plants. Additionally, this course includes hands-on laboratory experiences covering sampling, culturing, identifying, and controlling microorganisms.

Prerequisite: CSO 3010 with a grade of C or better

CSO 4025 | Environmental Sustainability & Waste Management in Cannabis Cultivation

Lecture Credit: 3

Introduces the environmental sustainability and waste management aspects of a cannabis cultivation and processing business. This course focuses on light, odor, noise, and water pollution, and methods of mitigating their effects. Additionally, this course covers sustainability best practices and their societal and financial impacts.

CSO 4035 | Cannabis-Infused Products

Lecture Credit: 3

Introduces laws, regulations, standards, and codes related to cannabis-infused products. This course covers different types of cannabis extraction techniques, their applicability to different Manufactured Infused Products (MIPs), and basics of food safety. Additionally, this course covers clean areas, food management, extraction waste handling, and the necessary steps to establish a Hemp Concentrate Production (HCP) facility.

CSO 4050 | Public Health and Cannabis Use

Lecture Credit: 3

Covers the history of medicinal and recreational usage, the legalization of cannabis, and the impacts on public health and safety. This course uses research, scientific evidence, and case study analysis related to the safety and efficacy of medical cannabis.

CSO 4080 | Internship

Internship Credit: 2

Provides students with the opportunity to supplement coursework with practical work experience related to their educational program. Students work under the immediate supervision of experienced personnel at the business location and with the direct guidance of the instructor.

Prerequisite: CSO 3000, CSO 4000, CSO 4005, CSO 4010, CSO 4015, CSO 4025, and AGY 3025 with a grade of C or better

CSO 4089 | Medicinal Plant Analysis Capstone

Lecture Credit: 1 Lab Credit: 3

Focuses on separation techniques and quantitative measurement of components from complex mixtures in challenging matrices found in the cannabis industry. This course covers advanced gas and liquid chromatography techniques for microbial profiling, potency determination, terpene profiling, and pesticide and mycotoxin quantitation.

Prerequisite: CSO 4000, CSO 4010, and CSO 4015 with a grade of C or better