

Course Prefix/Number/Title: PLSC 252 – Industrial Hemp Production

Number of Credits: Two

Course Description: This is an advanced course that provides students with extended detail on hemp production, harvesting and post-harvest activities. Students will learn how to cultivate industrial hemp for high CBD flower, fiber, and seeds. Students will also learn about high CBD medical cannabis cultivars. The course will examine the different methods of processing industrial hemp. The many byproducts of each production model will be explored, and special attention will be placed on ways to create new uses or products out of the byproducts.

Pre-/Co-requisites: None

Course Objectives:

1. Introduce best practices for growing hemp and summarize harvest practices that lead to high yield and quality grain, fiber, and CBD.
2. Become proficient in processing of CBD, hemp oil and fiber.
3. Examine current uses for hemp products which are changing daily as the crop uses evolve.
4. Develop an understanding of tissue culture, and creating strains
 - Growing techniques for small and large scale grows
 - Cannabis plant needs (marijuana versus hemp)
 - Cannabis extraction methods

Instructor: Keith Knudson

Office: Molberg 26

Office Hours: TBD

Phone: 701-228-5489

Email: Keith.a.knudson@dakotacollege.edu

Lecture/Lab Schedule: Tu-Th 10:00 AM to 10:50 AM

Textbook(s): This course is an Open Education Resources program. Resource materials will be provided by the course instructor.

Course Requirements:

Grading will be based on the following to obtain points. There will be three quizzes each worth 40 points, a student lead discussion topic worth 120 points, assignments worth 150 points, and a final exam worth 100 points. Points for quizzes and final exam may be adjusted using a curve method. Total possible points for the course are 490. The final grade is based on the following criteria:

- A = 89.5% to 100% of the total points (439 points to 490 points)
- B = 79.5% to < 89.5% of the total points (439 points to 438 points)
- C = 68.5% to < 79.5% of the total points (336 points to 437 points)

D = 59.6% to <69.5% of the total points (292 points to 335 points)
F = < 59.5% of the total points (<292 points)

Tentative Course Outline:

Week One	History and General review of industrial hemp.
Week Two	Anatomy and botany of the hemp plant.
Week Three-Four	Production of industrial hemp require an understanding of this crop's water, temperature, soil and nutrient requirements
Week Five, Six and Seven	Production of industrial hemp will require an understanding of this crop's water, temperature, soil and nutrient requirement temperature, pests and crop rotation
Week Eight	Producing hemp as a grain crop, hemp grain agronomics, equipment needs, Harvesting, post-harvest activities and storage.
Week Nine	Hemp grain processing and use for food and feed production and product manufacturing, hemp oil characteristics.
Week Ten and Eleven	Producing hemp for CBD harvest has special requirements that differ from grain or fiber production, Hemp CBD agronomics, Equipment needs for planting, IPM and irrigation.
Week Twelve and Thirteen	Hemp CBD processing, equipment used for extracting cannabinoids, plant materials sampling and analysis.
Week Fourteen	Growing hemp for fiber requires specific production practices that will maximize yield and quality of the end crop, hemp fiber agronomics, equipment needs, and byproducts development of fiber.
Week Fifteen	Hemp fiber preharvest and post-harvest techniques for retting, curing, fiber processing, storage techniques.
Week Fifteen	Student led discussions and field tours of spring planting. - Fifteen-minute discussion per student as assigned by instructor - Discussion may also include a lab demonstration.
Week Sixteen	Completion of student led discussions and field tours.

General Education Competency/Learning Outcome(s) OR CTE Competency/Department Learning Outcome(s):

Attain level of technical skills and practices used in Horticulture Industry in preparation for workplace readiness.

Relationship to Campus Focus:

This course will address the campus theme of Nature, Technology and Beyond through learning about our natural resources and how best to utilize each resource.

Classroom Policies:

1. Cell phones, iPods and related technologies use are prohibited in the classroom unless otherwise instructed. It is recommended that you shut off or put your internet/cellular device in "airplane mode" while in the classroom.
2. Be respectful of other students, instructor and guests.

Student Email Policy:

Dakota College at Bottineau is increasingly dependent upon email as an official form of communication. A student's campus-assigned email address will be the only one recognized by the Campus for official mailings. The liability for missing or not acting upon important information conveyed via campus email rests with the student.

Academic Integrity:

According to the DCB Student Handbook, students are responsible for submitting their own work. Students who cooperate on oral or written examinations or work without authorization share the responsibility for violation of academic principles, and the students are subject to disciplinary action even when one of the students is not enrolled in the course where the violation occurred. The Code detailed in the Academic Honesty/Dishonesty section of the Student Handbook will serve as the guideline for cases where cheating, plagiarism or other academic improprieties have occurred.

Disabilities or Special Needs:

Students with disabilities or special needs (academic or otherwise) are encouraged to contact the instructor and Disability Support Services.

Title IX:

Dakota College at Bottineau (DCB) faculty are committed to helping create a safe learning environment for all students and for the College as a whole. Please be aware that all DCB employees (other than those designated as confidential resources such as advocates, counselors, clergy and healthcare providers) are required to report information about such discrimination and harassment to the College Title IX Coordinator. This means that if a student tells a faculty member about a situation of sexual harassment or sexual violence, or other related misconduct, the faculty member must share that information with the College's Title IX Coordinator. Students wishing to speak to a confidential employee who does not have this reporting responsibility can find a list of resources on the DCB Title IX webpage.