HIGHER LEARNING

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INSTITUTIONS

Cultivation Course

Instructor: Trevor McGraw

Location: 17 S Saginaw St, Pontiac, MI 48342

Schedule: Monday/Wednesday 10am-12pm and 6pm-8pm June 29, 2020 – August 19, 2020

Required Classroom Hours: 30 **Required Lab Hours:** 8

COURSE DESCRIPTION- For 8 weeks - 2 classes per week for 2 hours each. Students are required to attend two classes and one-hour of lab per week. Final will be held on Wednesday of Week 8.

This course will give you the basic understanding of the history, current laws, medical applications and basic uses of cannabis. Most importantly, the basic knowledge and understanding the process of Cultivating the cannabis plant. The class will cover the foundation of Cultivation Standard Operating Procedures with a primary concentration in the students being able to transition a plant from Veg to Flower. Students will gain knowledge on the types and forms of cannabis and which strains will grow better in different conditions or growing mediums. There will be a concentration in propagation, cloning, transplanting, low stress training, feeding schedules, lighting and environment.

COURSE STRUCTURE- The material for this course will be comprised of lectures, interactive media, handouts, in-class exercises, homework, current events, exams, and a textbook. All homework and exam materials will be derived from the books and slides from lectures.

Homework and reading assignments must be completed on time, independent of classroom study.

EVALUATION- Students will be evaluated on quizzes, a midterm, final exam and lab attendance. One of the assignments will be presented to the class.

HOMEWORK- The students will assignments out of workbook due each week.

EXAMS- The midterm will test all material covered in the first three weeks of class. The final exam will test all material covered after the midterm. Make up exams will only be granted in exceptional circumstances. Students must pass with an 80% or better to not only be granted their Certificate of Completion, but to be placed into our hiring pool for our staffing company.

LAB Students are required to work 1 hours per week in the predetermined lab location.

Grade	%	Scale
A+	97-100	4.0
A	93-96	4.0
A-	90-92	3.7
B+	87-89	3.3
B	83-86	3.0
B-	80-82	2.7
C+	77-79	2.3
C	73-76	2.0
C-	70-72	1.7
D+	67-69	1.3
D	65-66	1.0
E/F	>65	0.0

GRADING = 20 points Lab = 30 points Midterm = 30 points Final = 20 points Quizzes

BOOKS

The Marijuana Grower's Guide by Mel Frank and Ed Rosenthal https://justcannabisseed.com/wp-content/uploads/2019/02/TheMarijuanaGrowersGuide.pdf

The Leafly Guide to Cannabis: A Handbook for the Modern Consumer - December 2017 by The Leafly Team

This syllabus is subject to change, as necessary, at the discretion of the instructor and the Higher Learning Institutions Administration

SCHEDULE

Week 1

Cultivation Basics: Lesson 1 - Introduction to the Cannabis Plant – 4 hours

- **How do I complete this course**?
- **Introduction**: Course description: Starting from the very small to the very big
- **Introduction**: Seed to Product
- **History**: Origins of the Plant
- **History**: Human Use
- **History**: Michigan Laws vs Federal Laws
- **Species**: Indica, Sativa & Ruderalis
- **Species**: Strain vs Cultivar
- **Species**: Indica
- **Species**: Indica Cultivars
- **Species**: Sativa
- **Species**: Sativa Cultivars
- **Species**: Hybrid
- **Species**: Hybrid Cultivars
- **Species**: High CBD Cultivars
- **Biology**: Cannabinoids
- **Biology**: THC
- **Biology**: CBD
- **Biology**: CBN
- **Biology**: Other Cannabinoids

- **Biology**: Terpenes and Flavonoids
- **Biology**: Common Terpenes
- **Biology**: Cell Growth & Division
- **Biology**: Life Cycle of a Plant
- **Biology**: Description of Plant Cells
- **Biology**: Anatomy of a Cannabis Plant
- **Biology**: Useful Terminology
    - *Cultivation Basics: Quiz 1 – Introduction*

Week 2

Cultivation Basics: Lesson 2 – The Growing Environment – 4 hours

- **Facility**: Basic Layout
- **Facility**: Temperature
- **Facility**: Humidity & Atmosphere
- **Facility**: Safety & Security
- **Lighting**: Why Light Isn't Just Light
- **Lighting**: Color Spectrum
- **Lighting**: Wavelengths
- **Lighting**: How Much?
- **Lighting**: Fluorescent
- **Lighting**: LED
- **Lighting**: High Intensity Discharge (HID)
- **Lighting**: Hoods & Reflectors
- **Lighting**: Light Cycles
- **Lighting**: Distance from Plants
- **Water**: Sources
- **Water**: pH Levels
- **Water**: Flushing
    - *Cultivation Basics Quiz 2 – The Growing Environment*

Week 3

Cultivation Basics: Lesson 3 – Seeds, Cloning & Transplantation – 2 hours

- **Seeds**: How to Determine Good Seeds
- **Seeds**: Seed Feminizing – Colloidal Silver
- **Seeds**: Seed Feminizing – Rodelization
- **Seeds**: Seed Feminizing - Silver Thiosulfate
- **Seeds**: Germination
- **Seeds**: Sweat Chambers
- **Seedlings**: Growing Medium
- **Seedlings**: Lighting & Light Cycles
- **Seedlings**: Temperature & Humidity
- **Cloning**: Why Cloning is Important
- **Cloning**: Supplies
- **Cloning**: Step-by-Step Guide
- **Cloning**: Other Methods

Cultivation Basics: Lesson 4 - Hydroponics and Soil Cultivation – 2 hours

- **Transplantation**: Supplies
- **Transplantation**: Step-by-Step Guide
- **Soil**: Hydroponics or Soil? Hydroponics
- **Soil**: Hydroponics or Soil? Soil
- **Soil**: Cultivation
- **Soil**: Types
- **Soil**: Amendments
- **Soil**: Nutrients & pH
- **Soil**: Containers
- **Soil**: Organic Cultivation
- **Hydroponics**: Overview of Setup
- **Hydroponics**: Equipment & Instruments
- **Hydroponics**: Aeroponics
- **Hydroponics**: Clay Pellets

- **Hydroponics**: Top Feed
- **Nutrients**
- **Water**
    - *Cultivation Basics Quiz 3 – Hydroponics and Soil & Seeds, Cloning & Transplantation*

Week 4

Cultivation Basics: Lesson 5 – The Vegetative Cycle – 4 hours

- **VC Week 1**: What is Happening with the Plant?
- **VC Week 1**: Lighting and the Light Cycle
- **VC Week 1**: Temperature
- **VC Week 1**: Humidity
- **VC Week 1**: pH and EC Levels
- **VC Week 1**: Nutrients
- **VC Week 2**: What is Happening with the Plant?
- **VC Week 2**: Lighting and the Light Cycle
- **VC Week 2**: Temperature
- **VC Week 2**: Humidity
- **VC Week 2**: pH and EC Levels
- **VC Week 2**: Nutrients
- **VC Week 2**: Pruning
- **VC Week 2**: Identifying the Sex
    - *Cultivation Basics Quiz 5 - The Vegetative Cycle*

Week 5 & 6

Cultivation Basics: Lesson 6 – The Flowering Cycle – 8 hours

- **FC Week 1**: What is Happening with the Plant?
- **FC Week 1**: Lighting and the Light Cycle
- **FC Week 1**: Temperature
- **FC Week 1**: Humidity
- **FC Week 1**: pH and EC Levels
- **FC Week 1**: Nutrients
- **FC Week 2**: What is Happening with the Plant?
- **FC Week 2**: Lighting and the Light Cycle

- **FC Week 2**: Temperature
- **FC Week 2**: Humidity
- **FC Week 2**: pH and EC Levels
- **FC Week 2**: Nutrients
- **FC Week 3**: What is Happening with the Plant?
- **FC Week 3**: Lighting and the Light Cycle
- **FC Week 3**: Temperature
- **FC Week 3**: Humidity
- **FC Week 3**: pH and EC Levels
- **FC Week 3**: Nutrients
- **FC Week 4**: What is Happening with the Plant?
- **FC Week 4**: Lighting and the Light Cycle
- **FC Week 4**: Temperature
- **FC Week 4**: Humidity
- **FC Week 4**: pH and EC Levels
- **FC Week 4**: Nutrients
- **FC Week 5**: What is Happening with the Plant?
- **FC Week 5**: Lighting and the Light Cycle
- **FC Week 5**: Temperature
- **FC Week 5**: Humidity
- **FC Week 5**: pH and EC Levels
- **FC Week 5**: Nutrients
- **FC Week 6**: What is Happening with the Plant?
- **FC Week 6**: Lighting and the Light Cycle
- **FC Week 6**: Temperature
- **FC Week 6**: Humidity
- **FC Week 6**: pH and EC Levels
- **FC Week 6**: Nutrients
- **FC Week 7**: What is Happening with the Plant?
- **FC Week 7**: Lighting and the Light Cycle
- **FC Week 7**: Temperature

- **FC Week 7**: Humidity
- **FC Week 7**: pH and EC Levels
- **FC Week 7**: Nutrients
- **FC Week 8**: What is Happening with the Plant?
- **FC Week 8**: Lighting and the Light Cycle
- **FC Week 8**: Temperature
- **FC Week 8**: Humidity
- **FC Week 8**: pH and EC Levels
- **FC Week 8**: Nutrients
- **FC Week 9**: What is Happening with the Plant?
- **FC Week 9**: Lighting and the Light Cycle
- **FC Week 9**: Temperature
- **FC Week 9**: Humidity
- **FC Week 9**: pH and EC Levels
- **FC Week 9**: Nutrients
    - *Cultivation Basics Quiz 6 – The Flowering Cycle*

Week 7

Cultivation Basics: Review Week – 4 hours

Week 8

Cultivation Basics: Finals Week Wednesday – 2 hours