

## Dakota College at Bottineau Course Syllabus

Course Prefix/Number/Title: **HORT 126 Aquaponics Practicum II**

Number of credits: 1 to 4

Course Description: Course provides students with hands-on experiences in a greenhouse environment. Students will continue to apply concepts discussed in Production Aquaponics course. Students will work with daily operations including monitoring water quality, cleaning filters and components, plant propagation, pruning, transplanting and harvesting, plant nutrient requirements, sampling and analysis, photosynthesis and plant lighting, pathogen controls, fish health and feeding.

Pre-/Co-requisites: Practicum I

Course Objectives:

- Understand the importance of monitoring water quality and cleaning the system on a schedule.
- Propagate plants using grafting techniques and transplant at the proper times.
- Demonstrate pruning techniques mainly on vine and/or indeterminate type vegetables.
- Obtain proper tissue samples and analysis for plant nutrient needs.
- Adjust lighting throughout the growing season to assure maximum vegetable production.
- Develop and awareness of proper handling and cleaning procedure to reduce the risk of pathogens and disease.
- Develop proper feed rations and feed rate ratios based on age, weight and species of fish.

Instructor: Keith Knudson

Office: Room 26 Molberg Center

Office Hours: 11 AM to 4:50 PM – MWF or by appointment

Phone: 701-228-5489

Email: keith.knudson@dakotacollege.edu

Lecture/Lab Schedule: TBD – Aquaponics Greenhouse

Textbook(s): None

Course Requirements: Grading is based on student's ability to demonstrate practices relating to the course objectives. The final grade is based on the following criteria:

A = 89.5% to 100% of the total points

B = 79.5% to < 89.5% of the total points

C = 68.5% to < 79.5% of the total points

D = 59.6% to < 69.5% of the total points

F = < 59.5% of the total points

Tentative Course Outline: The practicum demonstrates the below activities and skills.

- Plant Health and Care
- Plant Nutrition- Sampling, review of test results, analysis and recommending nutrient rates
- Plant Propagation – Seeding, transplanting, grafting  
Photosynthesis and Plant Lighting – Adjusting light based on season  
Fish Health – Monitoring, caring for sick fish and prevention of health issues
- Food Safety – Demonstrating proper handling of plants, fish and harvesting techniques.
- Field Tours

General Education Goals/Objectives: Students should follow the Aquaponics Program curriculum.

Relationship to Campus Theme: This course is part of our Aquaponics Production and Management program and it addresses the campus theme of Nature, Technology and Beyond by learning about our natural resources and how best to utilize each resource. The latest technology is discussed and demonstrated.

Classroom Policies:

1. Cell phones, iPods and related technologies use are prohibited in the classroom unless otherwise instructed. It is recommended that you do not bring your internet/cellular device into the classroom if it interrupts you or your fellow student in the course that you have purchased, as you will not receive the value you should expect in order to excel in the area of study.
2. Food and beverages are permitted in accordance with IVN classroom policy.
3. 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:** All students are expected to excel to the best of their ability. Students must adhere to the highest standards of academic integrity. Dishonesty in the classroom or laboratory and with assignments, quizzes and exams is a serious offense and is subject to disciplinary action by the instructor and college administration. For more information, refer to the student handbook.

**Disabilities and Special Needs:** If you have a disability for which you are or may be requesting an accommodation, you are encouraged to contact your instructor and the Learning Center (701-228-5479) as early as possible during the beginning of the semester