Course Prefix/Number/Title: HORT 211 - Sustainable Vegetable Farming

Number of credits: 3 Semester Credits

Course Description: This course will provide students with a clear perspective on vegetable farm management, field operations, soil fertility, season extension, pest management and marketing of sustainable agriculture in our local and global communities. Students will be introduced to sustainable agriculture focusing on production that renews resources.

Pre-/Co-requisites: None

Objectives:

1. To learn about the basic principles of sustainable vegetable farming.
2. Evaluate crop management techniques for sustainability.
3. Evaluate the financial viability and potential of vegetable enterprises.
4. Explain the principles of crop rotation and demonstrate the ability to develop a simple crop rotation plan.
5. Demonstrate the ability to prepare soils using garden-scale sustainable tillage techniques.
6. Explain the key factors involved in successful aerobic, high temperature composting and demonstrate an ability to successfully build, monitor and manage compost piles and assess compost quality and maturity.
7. Demonstrate an ability to take a representative soil sample, interpret laboratory analyses, develop a simple nutrient budget and select and use naturally occurring soil amendments and fertilizers.
8. Demonstrate a command of basic irrigation concepts and terminology and an ability to develop irrigation schedules using qualitative and quantitative methods.
9. Explain the principle biodiversity conservation concerns in agriculture and describe strategies for biodiversity conservation in agriculture.
10. Explain the major social and economic obstacles to the adoption of more sustainable farming practices.

Instructor: Keith Knudson

Office: 519 Main Street, Suite 5; Bottineau, ND 58318; Bottineau Tech Center

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

Phone: 701-228-2160

Email: Keith A Knudson

Lecture/Lab Schedule: 8:00 to 8:50 AM MWF

Textbook(s): Sustainable Vegetable Production from Start-Up to Market, NRAES-104; ISBN: 0-935817-45-X.

Course Requirements: Grading will be based on the following to obtain points. There will be 8 lecture quizzes each worth 30 points; 3 individual student led discussions each worth 50 points; and a final exam worth 150 points. Total possible points for the course are 540. The final grade is based on the following criteria:

A = 89.5% to 100% of the total points
B = 79.5% o < 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:

Wk. 1 – Chapter 1: Sustainable, Integrated and Organic Production Systems
Wk. 2 – Chapter 2: Getting Started in Vegetable Farming
Wk. 3 – Chapter 3: Farm Business Management
Wk. 4 – Chapter 3 cont.: Farm Business Management
Wk. 5 – Chapter 4: Marketing Your Crop
Wk. 6 – Chapter 5: Soil Fertility Management
Wk. 7 – Chapter 6: On Farm Composting
Wk. 8 – Chapter 7: Crop Rotation
Wk. 9 – Chapters 8: Cover Crops and Green Manures
Wk. 9 cont. – Chapter 9: Tillage Equipment and Field Preparation
Wk. 10 - Chapter 10: Seeds and Transplant
Wk. 11 – Chapter 11: Irrigation and Spraying Systems
Wk. 12 – Chapter 12: Harvest and Postharvest Handling
Wk. 13 – Chapter 13: Season Extension
Wk. 14 – Chapter 14: Integrated Pest Management
Wk. 14 cont. – Chapter 15 Insect Management
Wk. 15 – Chapter 16: Disease Management
Wk. 15 cont. – Chapter 17: Weed Management
Wk. 16 – Chapter 18: Wildlife Management
Wk. 16 cont. – Review
Wk. 16 cont. – Final Exam

General Education Goals:

Not Applicable

Relationship to Campus Theme:

This course is part of our Sustainable Vegetable Production 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 technology are prohibited in the classroom at all times. It is recommended that you do not bring your cell phone into the classroom or, at the very least, turn it off.
2. Food and beverages are permitted in accordance with IVN classroom policy.
3. Be respectful of other students, instructors and guests.

Academic Integrity:

All students are expected to 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 Jan Nahinurk in the Learning Center (701-228-5479) as early as possible during the beginning of the semester.