

Bismarck State College

Bismarck State College, an innovative community college, offers high quality education, workforce training, and enrichment programs reaching local and global communities.

Current Semester: Fall 2018

Course: SOIL 210 LAB

Credit Hours: 1

Instructor Contact Information:

Marko Davinic

Phone: (701) 224-5409

Email: marko.davinic@bismarckstate.edu

Office: CA115

Office Hours: M-F 12:00-12:50

Course Materials: Notebook of your choice

Course Description: Lab activities and field labs to enhance topics covered in Soil 210 lecture. Laboratory exercises and field-trips will help students develop proficiency in the methods/tools for analyzing soil chemistry, biology, morphology, and physical properties.

Course Outcomes:

Course Learning Outcomes	Program Learning Outcomes	Institutional Essential Learning Outcomes (IELOs)
Explain the chemical processes that control the release of nutrients from the soil matrix; including the role of soil pH/acidity and cation exchange capacity.	Students will gain knowledge and comprehension of plant and soil science in areas of study including classification, physiology, morphology, and culture.	Ethical Reasoning*
Evaluate how management practices in agriculture affect soil quality and sustainability.	Students will apply knowledge and comprehension of plant and soil science to evaluate various production options and formulate a best management practices.	Problem Solving*
Explain where and how to find information about soils using the NRCS Web-Based Soil Survey	Students will be able to demonstrate critical thinking and problem solving skills as they apply to a variety of agriculture systems.	Inquiry and Analysis*

* The BSC Institutional Essential Learning Outcomes can be found at

<https://bismarckstate.edu/uploads/0/BSCsInstitutionalEssentialLearningOutcomes.pdf>

Unit Objectives:

Active Learning: In addition to educational strategies such as reading, listening, and reflecting, when appropriate this class makes use of learning techniques commonly known as active learning. Students should expect to participate in active learning techniques such as discussions and presentations, small group activities, writing, problem-solving, movement, case studies, role-playing, etc. These activities promote analysis, synthesis, and evaluation of class content in order to improve student learning outcomes.

Assessment Methods: Evaluation of lab participation and assignments throughout the semester will collectively contribute to the measure of student learning.

Grading: Final grades are based on the total of all points for the semester.

The following percentages are associated with letter grades: A: 90 – 100%; B: 80-89%; C: 70-79%; D: 60-69%; F: <60%

Course Component	Points	Approximate Total
Field, lab and WSA Experiment Journals	30	450
Soil sample and analysis	50	50
Final WSA Experiment Results Paper	100	100

Attendance/Makeup: Late work will not be accepted and graded as 0. Participation in field day or experiment is required to complete a journal entry assignment.

Policies and Procedures:

Academic Honor Code: Students at BSC are expected to be honorable in behavior and above reproach in pursuit of their academic achievements. Cheating, plagiarism, or collusion in class work, laboratory performance, shop work, or test taking is unacceptable and subject to disciplinary action. More information can be found at <https://bismarckstate.edu/uploads/resources/356/studentacademichonorcode.pdf>.

Accessibility: If you have a disability that may limit your ability to fully participate in this class, please contact the Student Accessibility Office (SAO) at 224-2575. Personnel from the SAO will work with you and your instructor to arrange for reasonable accommodations after you have completed the registration process and it has been determined that you qualify.

Camera/Video Recording: Photographic, audio, and video recording of this class and/or the instructor are prohibited unless specifically requested by a student and approved/authorized in writing by the instructor or the Student Accessibility Office.

Email: Please note that I will only correspond with students through their **BSC email account**. Student Email Policy states: "In an effort to protect student privacy and better ensure student authenticity, official email exchanged between registered students and BSC personnel requesting a response shall require the response be exchanged from the student's official email address (i.e., NDUS ID@bismarckstate.edu). This policy is for the protection of faculty, staff, and students." More information can be found at <https://bismarckstate.edu/uploads/resources/1197/studentemailpolicy.pdf>.

Military/Veteran Statement: If you are currently or have served in the military, please contact the Veterans Services Office at 701.224.5779 regarding services/benefits to which you may be entitled.

Drop/Withdrawal Deadlines: Term dates can be found on Campus Connection in the class details. Drop and withdraw dates for each term can be found at <https://bismarckstate.edu/academics/records/calendarsdeadlines/>.

Student Rights and Responsibilities: Student rights and responsibilities along with student policies can be found at https://issuu.com/bismarckstatecollege/docs/bsc_student_rights_and_responsibili?e=19734813/52188116.

Title IX: For more information on sexual misconduct/Title IX please go to the BSC home page (www.bismarckstate.edu), scroll to the bottom and click on Title IX.

Guest Speaker Statement: Bismarck State College is committed to presenting timely, innovative educational opportunities for its students. As part of those efforts, BSC faculty may invite guest speakers to address the student members of this course. Under FERPA regulations, such guest speakers are considered volunteers who serve a legitimate educational interest to institutional services or functions. Guest speakers will be informed by the faculty member of their responsibilities under FERPA to ensure student privacy. For more information, please visit the Department of Education's FERPA Student Privacy webpage at <https://studentprivacy.ed.gov/>

Course Outline: A 15 passenger van will be the method of transportation during in-field lab training sessions. Dress for muddy/dusty field conditions and be prepared for varying weather conditions. Approximately 6 field lab sessions announced one week prior to lab.

Topics to be covered:

- Determine soil texture using the "paint" and ribbon method
- Determine textural grades
- Soil sampling procedures, soil pH, EC and organic matter in class analysis
- ND Soil Origins
- Soil horizon analysis
- Soil moisture, infiltration and bulk density
- Professional research soil lab functions and services

- Soil salinity
- Web Soil Survey
- Aggregate analysis and aggregate stability
- Analyze soil health/quality in differing agriculture production systems
- Importance of soil conservation