
Instructor: Christine Koeller, GISP

Office location: Science Building, Room B329

Office hours: Wednesday 3:30pm to 4:30pm, Thursday 10:00am to 11:00am or by appointment
(e-mail for appointment)

Phone: 715-346-2677

E-mail: ckoeller@uwsp.edu

Class meets:

- Lecture (all) – Monday and Wednesday 12:00pm to 12:50pm in SCIB328
- Section 1 Lab 1 - Wednesday 1:00pm to 2:50pm in SCID326
- Section 1 Lab 2 - Monday 3:00pm to 4:50pm in SCIB308

Course Description: Develop, use and maintain a geographic-based spatial information system (GIS) for resource management. Acquire and assess spatial data. Compare raster and vector data models. Computer-based geographic data handling, analysis, interpretation, and display. Cartographic and spatial modeling. Available for graduate credit as GEOG 541.

Learning Outcomes: Competencies addressed in this course are tied to the Geographic Information Science and Technology (GIS&T) Body of Knowledge and the Geospatial Technology Competency Model (United States Department of Labor Employment and Training Administration). After successful completion students will be able to:

- Acquire and interpret GIS data and metadata in various file formats.
- Describe measurement systems, geographic representations, GIS data models, and GIS data collection.
- Plan, create, encode, and assess GIS data in various formats.
- Plan, conduct and assess GIS data queries and core vector spatial analysis techniques.
- Discuss various ethical and societal issues in GIS&T.

Required reading materials

- Geographic Information Systems and Science, Third Edition. Longley, P. A. Goodchild, M.F. Maguire, D.J. Rhind, D.W. John Wiley and Sons, Inc. 2011.
- Additional readings available on D2L.

Student Evaluation: The grade you earn in this course will be based on participation, lab exercises, quizzes, exams, and additional assignments.

Participation:

- Student participation during class and exercises are integral to this course; you will be evaluated based on your participation in class. Attendance during all classes and laboratory exercises is **required** and includes attending the **entire** lecture and the **entire** lab period. Classes are prepared to discuss the daily topic; it is expected you will have previously completed any assigned readings and homework assignments before attending.

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- Be respectful to fellow students and your instructor. Disruption or other incivility during class or lab time will not be tolerated and will result in a reduction of your participation grade.
 - Attendance will be recorded according to the [UWSP attendance policy](#). More than two unexcused absences from combined lecture and/or lab time will result in a deduction or loss of participation points.

Examinations: There will be one midterm and one final examination in this course. The final exam is comprehensive and will cover content from the entire course. If you miss the exam without prior coordination with the instructor, you will be assigned zero points. Any exam administered through Desire 2 Learn (D2L) still requires in person attendance during the exam time and location; you must sign an exam attendance sheet verifying your presence. Failure to be present at the exam time and location will result in a score of zero. The midterm exam and final exam will each count towards 15% of your overall course grade (a combined 30% of your total grade for the course).

Quizzes: There will be required quizzes that cover the required readings and class topics. Quizzes are typically administered through D2L over a multiple day window; you will be notified in D2L when quizzes are assigned, available and due. It is your responsibility to regularly check D2L for available quizzes and due dates. You are expected to complete the quiz independently and you are not allowed to copy or share quiz questions or responses with yourself or other students. Quizzes not completed before the due date and time will be given a score of zero, retakes are not allowed. Quizzes will count towards 10% of your overall course grade.

Assignments: Class assignments will also be assigned during lecture. Assignment due dates will be enforced and late assignments will not be accepted. Assignments count towards 5% of your overall course grade.

Spelling and grammar: This is a university course, written composition along with spelling and grammar will be evaluated as part of your grade on most assignments and lab exercises.

Lab Exercises: The lab component of this course includes hands-on GIS lab exercises that account for 45% of your overall course grade. You will incorporate what you learn in lectures and readings to lab.

Accessing Lab Exercise Data and Saving your Work

Lab exercises are primarily conducted on a campus server referred to as the **Z: drive**. Each student is assigned a folder on the Z: drive. You will find instructions for accessing your Z: drive folder in D2L under the Content section. Students should map a network drive to this server location:

z:\uwsp.edu\files\CLS\GEO\classes2

Lab exercises should be saved in your student folder on the Z: drive. Most labs also require materials to be uploaded to a D2L Dropbox for grading. Review lab deliverables in the lab instructions for detailed information about what to turn in.

Complimentary copies of ArcGIS software for education are available for student use and expire one calendar year after installation. UWSP does not provide installation support for ArcGIS Educational licenses. Contact your instructor for a license key.

Lab Expectations:

- Lab exercises vary in length. In general, lab exercises take 2-6 hours to complete which will require time outside of class.
- Grading rubrics are provided with each exercise. Follow the grading rubric!
- Lab computers are to be used for the assignments or approved resources. No other software is permitted to be used during lab exercises including instant messaging, chat, texting, email, Facebook, or any other software not directly related to the exercises.
- You are highly encouraged to seek instructor support during normal lab times and office hours. Alternative arrangements can be made by appointment.
- Lab instructor assistance is not available during weekends and evenings; you must plan accordingly to receive instructor assistance! Questions sent after 3:00pm Friday will not be addressed until the following Monday or non-holiday.

Lab Exercise Due Dates: Lab due dates are specified on D2L and in the course schedule. Please note that lab exercises are typically due at 11:59pm **the night prior** to your subsequent scheduled lab. Instructor assistance is not available during weekends and evenings; it is recommended you complete labs when instructor assistance is still available.

Penalty for late Lab Exercises: Late lab exercises are subject to a **10%** deduction of the total possible points for each additional day after the due date and time. Late lab exercises **must** be turned in to the D2L Dropbox if required in the lab instructions. Late lab exercises will not be graded until you notify the instructor that you have completed the exercise and it is ready for grading. Late assignments will *only* be accepted up to one week past the scheduled due date.

Policy on Lab Attendance: Lab attendance is mandatory. If you cannot attend your lab session, you may try to attend another lab session with permission from the instructor. There are no scheduled makeup labs. If you are unable to attend lab, it is your responsibility to obtain assistance to complete the work.

Lab Policies: B308 and D326 are available for you to work on lab exercises when another course is **not** in progress. The lab schedules are posted on the door. You may check out building and room keys for the semester from the Geography Department Associate, Mary Clare Sorenson, in Science Building, room D332. The room D326 door must remain closed and locked at all times. The B308 door must be closed and locked at all times after normal operating hours (typically 8:00am-5:00pm Monday through Friday, except holidays and school breaks). Failure to comply may result in loss of room keys and afterhours access.

Lab Group Work with Microsoft Office 365/OneDrive: Some lab exercises may include group activities that require collaboration and file-sharing; in this class we will use Microsoft Office 365. Microsoft Office 365 is a suite of software products and services with cloud-storage capabilities (OneDrive). You do not need a separate account to use Office 365 on campus, your UW-Stevens Point account is your Office 365 account.

- To start using Office 365/OneDrive, go to <https://office.uwsp.edu> and sign in with your UWSP credentials. When asked if you are using a Microsoft for Work account, select "Work".

To learn more about Office 365/OneDrive, visit our Help Resources at:
<http://www.uwsp.edu/office/Pages/Help-Resources.aspx>.

- Group work: It is your responsibility to contribute adequately when working in groups. Failure to contribute or inadequately contribute may result in a lower lab grade for group exercises.
- Your Office 365/OneDrive files are managed privately; you have the ability to share files or folders with others at UW-Stevens Point or keep documents private. However, assignments for this class will require you to contribute to documents that are shared with members of your class and your instructor for this course.

Grading scheme: The course the grading scheme is based on the following:

Item	Total Points Available	Percent of Grade
Midterm Exam	15	15%
Final Exam	15	15%
Quizzes	10	10%
Assignments	5	5%
Lab Exercises	45	45%
Participation	10	10%
Total	100	100%

<u>Letter Grade</u>	<u>Minimum Percentage Required</u>
A	93
A-	90
B+	87
B	83
B-	80
C+	77
C	73
C-	70
D+	67
D	63
F	<63

Course Management: This course uses the Desire2Learn (D2L) for course management and administration. Course information, grades, lecture information, quizzes, exams, due dates and additional reading materials will be accessed and circulated via D2L. D2L should be your primary source for course administration, announcements and communication outside of class. Additionally, course announcements may be communicated via your UWSP email. You are expected to check your UWSP email daily during this course.

Lectures: Lecture materials concentrate on the basic theory and applications of Geographic Information Systems (GIS) by providing the foundation of information needed to understand and conduct GIS work. Most lecture slides are made available; however, the information on the slides is only an outline of material we will cover, and does **not** contain all the information you will need to learn and know. It is your responsibility to take notes during lecture. If you miss a lecture, it is your responsibility to obtain notes from another class member.

Classroom policies:

- Mute the sound on all cell phones and electronic devices during class.
- Classes start promptly at the assigned time, please show up on time.
- Be prepared: Review the course schedule and complete the required readings before class.
- Be respectful with your classmates and instructor at all times. Be responsible for your actions.

Academic Misconduct: [UW-Stevens Point Chapter 14](#)

There is no tolerance for [Academic Misconduct](#) in this course. I expect everyone to work independently to complete assignments, labs, quizzes, and examinations. Academic misconduct is subject to Disciplinary Sanctions as outlined in Chapter 14.04 of the student academic standards and disciplinary procedures: <http://www.uwsp.edu/dos/Documents/CommunityRights.pdf#page=11>

UWSP 14.03 Academic Misconduct Subject to Disciplinary Action

- (1) Academic misconduct is an act in which a student:
 - (a) Seeks to claim credit for the work or efforts of another without authorization or citation;
 - (b) Uses unauthorized materials or fabricated data in any academic exercise;
 - (c) Forges or falsifies academic documents or records;
 - (d) Intentionally impedes or damages the academic work of others;
 - (e) Engages in conduct aimed at making false representation of a student's academic performance; or
 - (f) Assists other students in any of these acts.
- (2) Examples of academic misconduct include, but are not limited to: cheating on an examination; collaborating with others in work to be presented, contrary to the stated rules of the course; submitting a paper or assignment as one's own work when a part or all of the paper or assignment is the work of another; submitting a paper or assignment that contains ideas or research of others without appropriately identifying the sources of those ideas; stealing examinations or course materials; submitting, if contrary to the rules of a course, work previously presented in another course; tampering with the laboratory experiment or computer program of another student; knowingly and intentionally assisting another student in any of the above, including assistance in an arrangement whereby any work, classroom performance, examination or other activity is submitted or performed by a person other than the student under whose name the work is submitted or performed.

Disability Services:

The University of Wisconsin Stevens Point is committed to providing students with disabilities the academic accommodations and auxiliary aids necessary to ensure access to all university services, programs and activities. If you require classroom accommodations, you must notify me of your registration with the Disability and Assistive Technology Center within a reasonable timeframe and I will make every effort to accommodate your request. See <http://www.uwsp.edu/disability/Pages/faculty/accomodations.aspx> for additional information.

The Disability and Assistive Technology Center is located in 609 Albertson Hall and can be contacted by phone at (715) 346-3365 (Voice) (715) 346-3362 (TDD only) or via email at datctr@uwsp.edu.

UW-Stevens Point will modify academic program requirements as necessary to ensure that they do not discriminate against qualified applicants or students with disabilities. The modifications should not affect the substance of educational programs or compromise academic standards; nor should they intrude upon academic freedom. Examinations or other procedures used for evaluating students' academic achievements may be adapted. The results of such evaluation must demonstrate the student's achievement in the academic activity, rather than describe his/her disability.

UW-Stevens Point Emergency Procedures:

- *Medical Emergency:* In the event of a medical emergency call 9-1-1 or use Red Emergency Phone (if available). Offer assistance if trained and willing to do so. Guide emergency responders to victim.
- *Tornado Warning:* In the event of a tornado warning, proceed to the lowest level interior room without window exposure at [e.g. second floor hallways, SCI A224/225]. See www.uwsp.edu/rmgt/Pages/em/procedures/other/floor-plans.aspx for floor plans showing severe weather shelters on campus. Avoid wide-span structures (gyms, pools or large classrooms).
- *Fire:* In the event of a fire alarm, evacuate the building in a calm manner. Meet at Parking Lot T. Notify instructor or emergency command personnel of any missing individuals. For more information on fire emergency procedures, review the following: <http://www.uwsp.edu/rmgt/Pages/em/procedures/grounds/fire-explosion.aspx>.
- *Active Shooter/Code React:* Run/Escape, Hide, Fight. If possible, your best option is to run away from the attacker to safety. If trapped hide, lock doors, turn off lights, spread out and remain quiet. Call 9-1-1 when it is safe to do so. Follow instructions of emergency responders. If you are unable to escape, use your best judgment. Review the Active Shooter/CODE REACT procedures on campus at <http://www.uwsp.edu/rmgt/Pages/em/procedures/violence/active-shooter.aspx>.

See UW-Stevens Point Emergency Procedures at www.uwsp.edu/rmgt/Pages/em/procedures for details on all emergency response at UW-Stevens Point.

Lab Schedules: Be sure to review the appropriate section due dates!

LAB 1 SCHEDULE (Wednesday 1:00PM-2:50PM - SCI D326)			
Wk	Week	Exercise	Date Due
1	9/6	Ex. 0. ArcGIS familiarization (optional)	NA
2	9/13	Ex. 1. Data acquisition and metadata	9/19
3	9/20	Ex. 2. Map projections and coordinate systems	9/26
4	9/27	Ex. 3. Map layout fundamentals	10/3
5	10/4	Ex. 4. Create and assess vector data (GPS)	10/10
6	10/11	Ex. 5. Create and assess vector topology	10/17
7	10/18	Ex. 6a. Create, edit, and assess vector point data (heads-up digitizing)	10/24
8	10/25	Ex. 6b. Create, edit, and assess vector line data (heads-up digitizing)	10/31
9	11/1	Ex. 6c. Create, edit, and assess vector line data (heads-up digitizing)	11/7
10	11/8	Ex. 7. Spatial and attribute queries	11/14
11	11/15	Ex. 8. Vector Spatial Analysis	11/21
12	11/22	Ex. 9. Geocoding	11/28
13	11/29	Ex. 10. Get Started with ArcGIS Online	12/5
14	12/6	Ex. 11. Get Started with ArcGIS Pro	12/12
15	12/13	Ex. 12. Getting to know QGIS	12/15

LAB 2 SCHEDULE (Monday 3:00PM-4:50PM - SCI B308)

Wk	Week	Exercise	Date Due
1	9/4	Labor Day (Ex. 0. ArcGIS familiarization - optional/online)	NA
2	9/11	Ex. 1. Data acquisition and metadata	9/17
3	9/18	Ex. 2. Map projections and coordinate systems	9/24
4	9/25	Ex. 3. Map layout fundamentals	10/1
5	10/2	Ex. 4. Create and assess vector data (GPS)	10/8
6	10/9	Ex. 5. Create and assess vector topology	10/15
7	10/16	Ex. 6a. Create, edit, and assess vector point data (heads-up digitizing)	10/22
8	10/23	Ex. 6b. Create, edit, and assess vector line data (heads-up digitizing)	10/29
9	10/30	Ex. 6c. Create, edit, and assess vector line data (heads-up digitizing)	11/5
10	11/6	Ex. 7. Spatial and attribute queries	11/12
11	11/13	Ex. 8. Vector Spatial Analysis	11/19
12	11/20	Ex. 9. Geocoding	11/26
13	11/27	Ex. 10. Get Started with ArcGIS Online	12/3
14	12/4	Ex. 11. Get Started with ArcGIS Pro	12/10
15	12/11	Ex. 12. Getting to know QGIS	12/15

LAB USE REGULATIONS

Department of Geography and Geology

CARTOGRAPHIC/GIS/REMOTE SENSING COMPUTER LABS – Rooms B308/B312

COMPUTER GEOGRAPHICS LAB -- Room B346

SPATIAL INFORMATION ANALYSIS LAB (SIAL) -- Room D326

1. Geography and Geology computing labs are NOT public computing labs. Computing labs maintained by the Department of Geography and Geology are to be used **exclusively** by students enrolled in geography and geology classes requiring their use or when given special permission by a faculty member of the Department of Geography and Geology.
2. **AUTOMATIC SUSPENSION OF ROOM KEY PRIVILEGES.** The Department of Geography and Geology will monitor computer usage. Students who log on to department computers for friends who do not have permission to use Geography and Geology computing labs will automatically have their room key privileges suspended. Automatic suspension will also occur if students provide their user name and password to friends for the purpose of providing them with access to Geography and Geology computers when permission has not been given by the Department.
3. Doors to the lab rooms must always be shut and locked by the last student to leave the room. For security purposes no room should be left open or unlocked if it is not being occupied.
4. Computers needed for classroom instruction will have priority over individual use. Faculty permission is required for student use of computers during classroom instruction.
5. Students are not allowed to bring friends or guests along with them when using the labs.
6. No food, beverages, or tobacco are permitted in the labs.
7. Headphones are required for any audio applications. The Department does not supply headphones.
8. Students are not allowed to modify hardware and software configurations.
9. Students who break or damage equipment will be responsible for the repair or replacement of such equipment.
10. Courteous behavior is required at all times.
11. **Access to Geography and Geology labs and computer labs after hours is a privilege not a right.** Students checking out keys for the labs (and the Science Building) are responsible for their security. Keys must be checked out through the Geography and Geology Office only with the permission of the instructor. Students who do not return their keys at the end of the semester or academic year will have their grades withheld.
12. Failure to comply with any of these rules will result in suspension of a student's privilege to use the labs. First Violation – Warning Issued; Second Violation – Suspension of Room Key Privileges. Automatic suspension supersedes a first violation warning. A First Violation may result in an immediate suspensions/revocation depending upon the severity of the violation.