Fond du Lac Tribal and Community College
COURSE OUTLINE FORM
03/19/19

Please return this form to the college vice president of academic affairs and the chairperson of
the Academic Affairs and Standards Council (AASC)

1. Prepared by: ___________________________________________________________

2. Date submitted: _______________________________________________________

3. Date approved: ___________ Date revised ___10/30/23___

4. Department/discipline: ____________________________ Geography

5. Department(s) endorsement(s):
   (Signatures of the person(s) providing the endorsement are required.)

6. Course Title: ______________________ GIS Applications
   Abbreviated course title for Transcripts (25 characters or less): ____________

7. Course Designator: ______GEOG_______ 8. Course Level: __2050__

9. Number of Credits: Lecture ___2____ Lab ___2____

10. Control Number (on site) ___30_____ Control Number (online) ___25____

11. Catalog/Course description:
   This is a capstone course in GIS. Students develop, execute, and present a real-world spatial
   analysis or mapping project aligning with the needs of an external partner or addressing a
   problem in the student’s field of interest. Students also create a GIS résumé and portfolio.
   Lectures and activities cover data and project management, geospatial analysis techniques,
   workflows, and programming basics.

12. Course prerequisite(s) or co-requisite(s): Accuplacer scores/ Other courses
   Prerequisite(s): GEOG 2001 Introduction to GIS or instructor consent
   Co-requisite:

13. Course Materials (Recommended course materials and resources. List all that apply, e.g.
    textbooks, workbooks, study guides, lab manuals, videos, guest lecturers).
    Instructor’s choice

14. Course Content (Provide an outline of major topics covered in course)
   1. Data sources, acquisition, and management
   2. Vector spatial analysis techniques
   3. Geostatistics
   4. Raster spatial analysis techniques
   5. Workflows and automation in GIS
   6. Web GIS components and structures
   7. Creating project goals and research questions
   8. Project needs assessment
   9. Ethics of culturally sensitive research and mapping
   10. Creating presentable tables, maps, and data graphics
11. Project poster or presentation design
12. Creating a professional resumé
13. Creating a professional web portfolio

15. Learning Goals, Outcomes, and Assessment
At FDLTCC we have 4 Competencies Across the Curriculum (CAC) areas. They are as follows:

A. Information Literacy (the ability to use print and/or non-print tools effectively for the discovery, acquisition, and evaluation of information)
B. Ability to Communicate (the ability to listen, read, comprehend, and/or deliver information in a variety of formats.)
C. Problem Solving (the ability to conceptualize, apply, analyze, synthesize, and/or evaluate information to formulate and solve problems.)
D. Culture (knowledge of Anishinaabe traditions and culture, knowledge of one’s own traditions and culture, knowledge of others’ traditions and cultures, culture of work, culture of academic disciplines and/or respect for global diversity.)

Upon completion of this course, the student will be able to:

<table>
<thead>
<tr>
<th>Learning Outcomes</th>
<th>Competencies (CAC)</th>
<th>Cultural Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manage in a well-organized file structure.</td>
<td>B</td>
<td></td>
</tr>
<tr>
<td>Find, download, and use GIS datasets from online repositories</td>
<td>A, B</td>
<td></td>
</tr>
<tr>
<td>Apply appropriate spatial analysis tools to solve geospatial problems</td>
<td>A, C</td>
<td></td>
</tr>
<tr>
<td>Clearly articulate a research question that can be answered or project goal that can be accomplished within given time and resource constraints</td>
<td>B, C, D</td>
<td>1</td>
</tr>
<tr>
<td>Identify the needs of a GIS project, including relevant datasets and their sources, human resources, and technologies necessary to accomplish the work</td>
<td>A, B, C, D</td>
<td>1, 4</td>
</tr>
<tr>
<td>Appraise a project topic for cultural sensitivity and other ethical issues and seek approvals from institutional review bodies where appropriate</td>
<td>A, B, C, D</td>
<td>1, 3, 4</td>
</tr>
<tr>
<td>Produce a project deliverable suitable for professional conference presentation</td>
<td>B, D</td>
<td></td>
</tr>
</tbody>
</table>
Maintain a professional GIS resumé and online portfolio  
B, D

WINHEC Cultural Standards:

1. **GIKENDAASOWIN – Knowing knowledge:** To develop human beings who value knowledge, learning, and critical thinking and are able to effectively use the language, knowledge, and skills central to an Ojibwe-Anishinaabe way of knowing.

2. **GWAYAKWAADIZIWIN – Living a balanced way:** To develop balanced human beings who are reflective, informed learners who understand the interrelatedness of human society and the natural environment, recognize the importance of living in harmony with creation, and are able to apply a systems approach to understanding and deciding on a course of action.

3. **ZOONGIDE’EWIN – Strong hearted:** To increase the students’ capacity to live and walk with a strong heart, humble and open to new ideas and courageous enough to confront the accepted truths of history and society.

4. **AANGWAAMIZIWIN – Diligence and caution:** To develop students’ capacity to proceed carefully, after identifying, discussing, and reflecting on the logical and ethical dimensions of political, social, and personal life.

5. **DEBWEWIN – Honesty and integrity:** To increase students’ capacity to think and act with honesty and integrity as they understand and face the realities of increasingly interdependent nations and people

6. **ZAAGI’ IDIWIN – Loving and Caring:** To encourage students' acceptance of the diversity within their school, community, and environment by developing healthy, caring relationships built on respect for all.

7. **ZHAWENINDIWIN – Compassion:** To expand students' knowledge of the human condition and human cultures and the importance of compassion especially in relation to behavior, ideas, and values expressed in the works of human imagination and thought.

16. **Minnesota Transfer Curriculum (MnTC):** List which goal area(s) – up to two – this course fulfills.

   See [www.mntransfer.org](http://www.mntransfer.org)

   Goal Area(s): __________

   Provide the specific learning outcomes as listed on the mntransfer.org website that pertain to this course.

17. Are there any additional licensing/certification requirements involved?  

   _______ Yes ___ X ___ No

   Provide the required documentation to show course meets required licensing/certification standards.

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