

## OFFICIAL UNDERGRADUATE COURSE OUTLINE FORM

**Note:** The University reserves the right to amend course outlines as needed without notice.

<b>Course Code and Number:</b> GEOG 358		<b>Number of Credits:</b> 4 <a href="#">Course credit policy (105)</a>													
<b>Course Full Title:</b> Forensic Geographic Information Systems <b>Course Short Title:</b> Forensic GIS															
<b>Faculty:</b> Faculty of Science		<b>Department:</b> School of Land Use and Environmental Change													
<b>Calendar Description:</b> Concepts in crime mapping, environmental criminology, and geographic profiling will be investigated through the application of spatial analysis techniques and Geography Informational Systems (GIS). Note: Field trips outside of class time may be required. Please refer to the department website for scheduling information. Note: Students with credit for GEOG 300N cannot take this course for further credit.															
<b>Prerequisites (or NONE):</b>		45 university-level credits.													
<b>Corequisites (if applicable, or NONE):</b>		NONE													
<b>Pre/corequisites (if applicable, or NONE):</b>		NONE													
<b>Antirequisite Courses</b> <i>(Cannot be taken for additional credit.)</i> Former course code/number: <b>GEOG 300N</b> Cross-listed with: Equivalent course(s): <i>(If offered in the previous five years, antirequisite course(s) will be included in the calendar description as a note that students with credit for the antirequisite course(s) cannot take this course for further credit.)</i>		<b>Course Details</b> Special Topics course: <b>No</b> <i>(If yes, the course will be offered under different letter designations representing different topics.)</i> Directed Study course: <b>No</b> <i>(See <a href="#">policy 207</a> for more information.)</i> Grading System: <b>Letter grades</b> Delivery Mode: <b>May be offered in multiple delivery modes</b> Expected frequency: <b>Winter only</b> Maximum enrolment (for information only): <b>28</b>													
<b>Typical Structure of Instructional Hours</b> <table border="1"> <tr> <td>Lecture/seminar</td> <td>20</td> </tr> <tr> <td>Experiential (field trip)</td> <td>10</td> </tr> <tr> <td>Supervised laboratory hours (computer lab)</td> <td>45</td> </tr> <tr> <td>Tutorials/workshops</td> <td>15</td> </tr> <tr> <td></td> <td></td> </tr> <tr> <td><b>Total hours</b></td> <td><b>90</b></td> </tr> </table>		Lecture/seminar	20	Experiential (field trip)	10	Supervised laboratory hours (computer lab)	45	Tutorials/workshops	15			<b>Total hours</b>	<b>90</b>	<b>Prior Learning Assessment and Recognition (PLAR)</b> PLAR is available for this course.	
Lecture/seminar	20														
Experiential (field trip)	10														
Supervised laboratory hours (computer lab)	45														
Tutorials/workshops	15														
<b>Total hours</b>	<b>90</b>														
<b>Scheduled Laboratory Hours</b> Labs to be scheduled independent of lecture hours: <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes		<b>Transfer Credit</b> <i>(See <a href="#">bctransferguide.ca</a>.)</i> Transfer credit already exists: <b>Yes</b> Submit outline for (re)articulation: <b>Yes</b> <i>(If yes, fill in <a href="#">transfer credit form</a>.)</i>													
<b>Department approval</b>		<b>Date approved:</b> November 2021													
<b>Faculty Council approval</b>		<b>Date approved:</b> December 3, 2021													
<b>Undergraduate Education Committee (UEC) approval</b>		<b>Date of meeting:</b> January 28, 2022													

**Learning Outcomes** *(These should contribute to students' ability to meet program outcomes and thus Institutional Learning Outcomes.)*

Upon successful completion of this course, students will be able to:

1. Describe how information related to forensic science is represented and managed on computers as GIS data.
2. Provide written, verbal, and visual explanation of the core concepts of forensic GIS.
3. Critically examine the application of GIS as a tool in forensic investigations through field work in a community, and library research techniques.
4. Demonstrate competency in the operation of the latest version of ArcGIS in forensic investigation.
5. Present findings on the applicability of GIS in helping prevent criminality in a local and regional setting.
6. Integrate primary and secondary geographic data in cartographic form to support investigations into a real-world project on crime prevention, reduction, and enforcement.
7. Discuss Indigenous perspectives in Forensic GIS and crime mapping.

**Recommended Evaluation Methods and Weighting** *(Evaluation should align to learning outcomes.)*

Final exam:	15%	Assignments:	25%	Project:	25%
Quizzes/tests:	35%		%		%

**Details:**

GEOG 358 is primarily a lecture and seminar course. Students will be expected to read a sizable portion of the course reading list, critically research, assess, and summarize material, and present reflections and conclusions in class. Depending on course content, fieldwork will likely be expected. Depending on course content, lab work may also be required.

**NOTE: The following sections may vary by instructor. Please see course syllabus available from the instructor.**

**Texts and Resource Materials** *(Include online resources and Indigenous knowledge sources. [Open Educational Resources](#) (OER) should be included whenever possible. If more space is required, use the [Supplemental Texts and Resource Materials form](#).)*

Type	Author or description	Title and publication/access details	Year
1. Textbook	Chainey, S. and Radcliffe, J.	GIS and Crime Mapping	2005
2. Textbook	Santos, R.	Crime and Analysis with Crime Mapping	2016
3. Textbook	Chainey, S., & Thompson, L.	Crime Mapping Case Studies	2007
4. Textbook	National Institute of Justice	Crime Mapping Analysis Program	2007
5. Textbook	Owusu-Nempah, A., & Luscombe, A.	Race, cannabis, and the Canadian war on drugs: An examination of Cannabis arrest data by race in five cities	2020

**Required Additional Supplies and Materials** *(Software, hardware, tools, specialized clothing, etc.)*

Courses in Geography may have mandatory field trips with additional fees. Details are available on course outlines distributed in class.

**Course Content and Topics**

This applied GIS course will be offered using a modified problem-based learning strategy where a project which may be part of CityStudio challenge such as criminality in local parks or environmental criminology in local strip malls will be the theme of the problem-based learning. Although the students will be using real crime data in the lab exercises, when they apply their learning from the lab exercises to their project, they will be conducting research about the local area, search for secondary crime data or gather primary crime data that can be used in solving the issues raised in the theme and in completing expected deliverables of the CityStudio challenge. Short mini lessons on key topics may be given by the instructor as special GIS techniques that might be necessary to complete the deliverables. The instructor will facilitate the learning environment and provide key direction, mini lessons, and background information.

Topics likely to be covered include:

- Introduction to crime mapping and ArcGIS
- GIS and the criminal justice system
- Effective crime map design and layout
- Geocoding crime data and standard query language, and geodatabases
- Forensic geology, forensic limnology, and isoforesics
- Forensic palynology, forensic botany, and forensic mycology
- Preparing crime data for analysis using geoprocessing
- Analyzing crime data through spatial statistics
- Crime hotspots analysis
- Geographic profiling