



## Department of Geography

– Barrie and Orillia Campus – *asynchronous online*.

### **GEOG3253 “Cartography”**

**Autumn 2022: September - December**

A rigorous introduction to the history, theory and techniques of cartography, with a particular focus on computer cartography. Successful students will produce several professional-quality maps during the course.

**Credit weight:** 0.5. Type A: Humanities Type B: Social Science Type C: Engineering, Mathematical and Natural Sciences

**Prerequisite(s):** Geography 2232 and 2271, or permission of the Chair of the Department of Geography and the Environment

**Course objective:** This course intends to help students distinguish, explain, and apply the key elements of map design. They will learn to utilize appropriate scales and projections when designing a map, in addition to experimenting with different symbologies to develop maps ranging from qualitative to quantitative and through multivariate and non-traditional mapping styles. Students will learn how to evaluate and refine different map designs, to share their maps in various ways, and to make maps ethically.

**You *really* need to stay on top of the work for this course, don't get behind and let it build up.**

**Instructor:** Lisa TUTTY BSc (hon) MSc. My last name rhymes with putty 😊

**Contact information:**

**Email:** ltutty@lakeheadu.ca (*that is an “L” for Lisa*); please email using your lakeheadu email. You can generally expect a response *within* 48 hours.

**Office hours:** As noted in the chart below – are held in OR1037, this room is on the main floor of the *residence* building. I am also happy to meet you on Zoom.

Monday	Tuesday	Wednesday	Thursday	Friday
1:10-2pm	1:10-2pm	1:10-2pm	<i>Not available</i>	2:10-3pm

**Course website:** through D2L (you will find lecture notes there, as well as much important information).

**Learning objectives:**

*Students will develop an understanding of fundamental cartographic concepts, a familiarity with geographic data, and skills in computer-assisted map design and construction such that they can:*

- A. Synthesize and evaluate geographical information from diverse sources, including geospatial data.*
- B. Collect, analyze and interpret geographical and geospatial data in relation to social and biophysical systems.*
- C. Communicate geographic ideas and understanding effectively to a variety of audiences in writing, orally, and graphically.*
- D. Develop foundational knowledge and demonstrate applied skills in cartographic principles and geospatial data visualization, design and communication. Examples include – a) Selecting and combining appropriate visual variables to clearly represent geospatial data and communicate map content as well as b) Classifying and generalizing data, applying principles of colour and contrast, and choosing projections and scales for maps of varying purpose.*
- E. Develop foundational knowledge and practical skill with standard methods in GISci including geospatial data acquisition, interpretation, quantitative processing*

*and analysis; geospatial databases; spatial modeling; and application to geographic problems.*

*F. Through the thoughtful application of cartographic conventions, develop a professional looking and aesthetically pleasing maps with all of the necessary elements for use in an assignment, paper or report for research or communication.*

*G. Analyze, critique, and share high-quality maps.*

*H. Explain the responsibility of a cartographer to represent data that is accurate and consistent with the original purpose of a map, as well as cite examples of map misuses.*

Course objective and goals created with notes from GEOG1170 at Douglas College and GEOG486 at Penn State.

## Marks breakdown:

**Lab Exercises** WEEKLY – **85%** this includes your final mapping project which is completed in steps throughout the term

**Examination – 15% \*\*\*See note below**

(multiple choice/'true and false'/'mix and match' + short answer

+ long answer) Date/time will be scheduled by the University

*All tests and the examination will be held in an examination room setting (NOT online), pandemic permitting. The exam dates are 8-18 Dec inclusive of days, evenings, and weekends with the 19 Dec as a contingency date. Personal circumstances are not considered, you need to be available so don't schedule holidays or travel until after this time period.*

A+	90 to 100%	Outstanding understanding of the course concepts including integration of materials and ideas, ability to apply knowledge to situations
A	80 to 89%	
B	70 to 79%	Above average to excellent knowledge, ability to apply knowledge to situations
C	60 to 69%	Satisfactory knowledge including ability to recognise and apply major course concepts, and to progress to next level of course
D	50 to 59%	Some grasp of course concepts; will likely encounter difficulty with higher levels
E	40 to 49%	Failed to meet minimum requirements of the course
F	1 to 39%	Failure
F	0	Failure resulting from academic dishonesty

Mark descriptions from Lakehead University. Students are advised to refer to the University Calendar to ensure that they have adequate grades and/or average to proceed in their program. Grades in this course are numerical (not letters).

**Textbook:** I expect you to have access to some standard cartography textbook that you can refer to for basic techniques and languages, e.g., how to use different line weights to signify different characteristics. I have put several of these on course reserve (short term loan) in the library.

*A few suggested textbooks – the chapters listed in the syllabus schedule on p9 come from these editions so if you have a different edition please check carefully.*

Tyner, J (2014). Principles of Map Design. The Guilford Press. *(T-Bay course reserves)*

Slocum, T.A., McMaster, R.B., Kessler, F.C., and Howard, H.H. (2009). Thematic cartography and geovisualization, 3e. Pearson Prentice Hall.

Dent, B.D., Torguson, J.S., and Hodler, T.W. (2009). Cartography – Thematic Map Design, 6e. McGraw Hill. *(OR and T-Bay course reserves)*

**Tools:** Not everyone will be able run the software packages that we typically use for cartography on their home systems. Technology Services have provisioned a cloud-based virtual machine (VM) with many of these software tools that will be available to you. In general, this requires a fast, robust internet connection and even then, there is a lag using the software on the VM that makes it less than ideal. If you need to run software on the VM it can be found here:  
[lakeheadu.ca/labs](http://lakeheadu.ca/labs)

#### **Course policies on lateness and absence:**

Late submissions for lab exercises may be accepted however the late penalty is 10% per day, including weekends. No late submissions after your classmates assignments have been marked.

**Absences and lateness:** *During the pandemic LU has temporarily been using the student self-declaration of illness – please check the D2L site to see whether this is still possible before getting the Certificate of Illness or Incapacitation completed.*

<https://www.lakeheadu.ca/sites/default/files/uploads/3283/For%20Students-%20Self-Declaration%20of%20Illness.pdf> You may receive consideration for your late work (meaning no late penalty) if you submit the **Certificate of Illness or Incapacitation** (for all health related concerns) or an appropriate piece of documentation for other excuses (ex. certification from the funeral home for the death of a close relative). The proper documentation must be received as soon as possible after the missed deadline. For absences from a midterm test for reasons of illness use the **Certificate of Illness or Incapacitation**, for compassionate reasons or representing the university off-campus you will require written documentation in order to be receive *potential consideration* for a marks redistribution (midterm) or assignment extension. The late penalty for assignments (without consideration as described above) is 10% per day late, including weekends. Late assignments should be submitted to Lisa via the D2L website. You may email copies of your documentation to Lisa but must submit proper paper copies when you return to class.

**Missed Examinations Due to Illness:** In cases where a student misses a formal examination due to an incapacitating illness, the student must have the **Certificate of Illness or Incapacitation** completed by a Medical Professional and submit the completed form to Enrolment Services no later than three (3) working days after the date of the original final examination. The **Certificate of Illness or Incapacitation** must be dated as seen by the Medical Professional no later than one (1) working day after the examination.

In other exceptional circumstances, official supporting documentation must be provided (e.g. copy of a death certificate or letter from the funeral home).

The **Certificate of Illness or Incapacitation** is the acceptable documentation for illness. It is available at:

[https://www.lakeheadu.ca/sites/default/files/forms/Certificate%20of%20Illness\\_Incapacity.pdf](https://www.lakeheadu.ca/sites/default/files/forms/Certificate%20of%20Illness_Incapacity.pdf)

**Please see the following for important information about missed exams:**

<https://www.lakeheadu.ca/studentcentral/exams-grades/missed-exam-medical-personal>

## **Student services:**

Lakehead University has **health services** available, at the Wellness Centre they make appointments in person or by phone.

<https://www.lakeheadu.ca/students/wellness-recreation/student-health-and-wellness/health-services>

The University provides academic accommodations for students with disabilities in accordance with the terms of the Ontario Human Rights Code. This occurs through a collaborative process that acknowledges a collective obligation to develop an accessible learning environment that both meets the needs of students and preserves the essential academic requirements of the University's courses and programs.

Lakehead University has a **Student Accessibility Services (SAS)** office which provides support services and advocacy on behalf of students with disabilities. The SAS office is located on both campuses, so check online for details please.

**PLEASE BOOK YOUR EXAM EARLY IF YOU WRITE WITH SAS.**

**Student Success Centre:** They have advisors, tutoring and peer-assisted learning and to book an appointment with a Student Success Advisor, you can login to mySuccess. You can get help with first year transition, time management, reading and note taking, study skills, exam preparation, resume and cover letter, job searching, networking and much more. To book an appointment with a writing coach, you can click on the "Academic Support Zone" tab.

**Lakehead University Library services:** Use it to search for journal articles or textbooks for example <http://library.lakeheadu.ca/>

**Technology Services Centre Helpdesk:** TSC Helpdesk is the liaison between Lakehead University's IT services and users (Students, Faculty & Staff and by extension to guests and visitors). The principal purpose of the Helpdesk is to provide quick resolution to inquiries. <https://www.lakeheadu.ca/faculty-and-staff/departments/services/tsc>

## **Academic integrity – Code of student behaviour and disciplinary procedures.**

<https://www.lakeheadu.ca/faculty-and-staff/policies/student-related/code-of-student-behaviour-and-disciplinary-procedures>

### **Academic Integrity:**

Academic integrity is fundamental to learning and scholarship at Lakehead University. Participating honestly, respectfully, responsibly, and fairly in this academic community ensures that the degree that you earn will be valued as a true indication of your individual academic achievement, and will continue to receive the respect and recognition it deserves. The University takes a most serious view of offences against academic honesty such as plagiarism, cheating and impersonation. Penalties for dealing with such offences will be strictly enforced.

The "Code of Student Behaviour and Disciplinary Procedures" including sections on plagiarism and other forms of misconduct may be found on the Lakehead University Senate website. See the Code under "Policies - Student Related" in the University Policies at [policies.lakeheadu.ca](https://policies.lakeheadu.ca).

### **Potential offences include, but are not limited to:**

#### **In papers and assignments:**

- Using someone else's ideas or words without appropriate acknowledgement.
- Copying material word-for-word from a source (including lecture and study group notes) and not placing the words within quotation marks.
- Submitting your own work in more than one course without the permission of the instructor.
- Making up sources or facts.
- Including references to sources that you did not use.
- Obtaining or providing unauthorized assistance on any assignment including:

- Working in groups on assignments that are supposed to be individual work;
- Having someone rewrite or add material to your work while “editing”.
- Lending your work to a classmate who submits it as his/her own without your permission.

**On tests and exams:**

- Using or possessing any unauthorized aid, including a cell phone.
- Looking at someone else’s answers
- Letting someone else look at your answers.
- Misrepresenting your identity.
- Submitting an altered test for re-grading.

**Misrepresentation:**

- Falsifying or altering any documentation required by the University, including doctor’s notes.
- Falsifying institutional documents or grades.

The following rules shall govern the treatment of candidates who have been found guilty of attempting to obtain academic credit dishonestly.

(a) The minimum penalty for a candidate found guilty of plagiarism, or of cheating on any part of a course will be a zero for the work concerned.

(b) A candidate found guilty of cheating on a formal examination or a test, or of serious or repeated plagiarism, or of unofficially obtaining a copy of an examination paper before the examination is scheduled to be written, will receive zero for the course and may be expelled from the University.

**No formal division of the class into groups will be made for labs or assignments, though it is acknowledged you will likely work together at times. Individual (and unique) submissions are expected for each lab exercise and assignment and the exam. I expect you to read and understand the University's policy on plagiarism.**

Neat 15 minute exercise from Cardiff University (Avoiding plagiarism):

<https://ilrb.cf.ac.uk/plagiarism/tutorial/>



\*Schedule subject to change.

		<b>Tyner</b>	<b>Slocum et al</b>	<b>Dent et al</b>
<b>Se 6-9</b>	Intro	Tyner ch 1	Slocum et al ch 1 and 2	Dent et al ch 1
<b>Se 12-16</b>	Planning & composition	Tyner ch 2	Slocum et al ch 12	Dent et al ch 12
<b>Se 19-23</b>	Text material & typography; label appearance & placement	Tyner ch 3	Slocum et al ch 11	Dent et al ch 13
<b>Se 26-30</b>	Generalization - map scale; fundamental map elements	Tyner ch 5	Slocum et al ch 6 and 7 and 12	Dent et al ch 2
<b>Oc 3-7</b>	Projections; thematic maps	Tyner ch 6	Slocum et al ch 8 and 9	Dent et al ch 3
<b>Oc10-14</b>	<b>Reading Week</b>			
<b>Oc 17-21</b>	Symbolization I	Tyner ch 7	Slocum et al ch 5 (5.3)	Dent et al ch 4
<b>Oc 24-28</b>	Symbolization II	Tyner ch 8	Slocum et al ch 4 and 5 and 12	Dent et al ch 5
<b>Oc 31-Nov 4</b>	Chloropleth maps - normalization and classification and colour theory	Tyner ch 4	Slocum et al ch 14 and 10	Dent et al ch 6, 14
<b>Nov 7-11</b>	Proportional symbol maps and Dot density maps		Slocum et al ch 17	Dent et al ch 7 and 8
<b>Nov 14-18</b>	Multivariate mapping	Tyner ch 9	Slocum et al ch 18	
<b>Nov 21-25</b>	Cartograms and diagrams (incl. flow maps)	Tyner ch 10	Slocum et al ch 19	Dent et al ch 10 and 11
<b>Nov 28-Dec 2</b>	Continuity and change	Tyner ch 11	Slocum et al ch 21	
<b>Dec 5</b>	Adobe illustrator for maps, visual hierarchy	Tyner ch 12; & Sarah Bell's ESRI blog posts	Slocum et al ch 13; & Sarah Bell's ESRI blog posts	Dent et al ch 12 and 15; & Sarah Bell's ESRI blog posts
<b>Dec 8 – 18 (19)</b>	<i>Exams run day/night/weekends inclusive so don't book travel or work etc.</i>			