

## COURSE INFORMATION

### INSC 516-001/002 Geospatial Technologies

Spring 2021, 3 Credit Hours

University of Tennessee, Knoxville

Course Mode: Online, synchronous

Class Meetings: Mondays, 6:30-9:10

ZOOM: <https://tennessee.zoom.us/j/92797273324>

Password: 516

### Faculty Contact Information

- Wade Bishop, Associate Professor
- (he/him/his)
- [wade.bishop@utk.edu](mailto:wade.bishop@utk.edu)
- Communications Bldg., 454
- 865-974-2775
- <https://bradleywadebishop.github.io/website/>
- Office Hours: Tuesdays, 8AM EST to noon



### SIS Office Information

- 450 Communications Bldg.
- 1345 Circle Park Drive
- Knoxville, TN 37996-0341
- SIS Office: 865.974.2148
- Fax (SIS): 865.974.4667

### Welcome Statement

Welcome to INSC 516 Geospatial Technologies! I hope this course will ignite your interests in geospatial data and all of the technologies that create and analyze them. In this course you'll learn a geographic information system (GIS) through a series of lab assignments, but to provide context of why and how GIS are used there are also readings. All of the readings are in Canvas site. The course schedule will be your guide as well as this Syllabus to when items are due. Everything will be submitted via Canvas. All class meetings will occur in Zoom. The entry password is 516. If at any time you are experiencing difficulties in this class, or have questions, or just want to chat more, please reach out ([wade.bishop@utk.edu](mailto:wade.bishop@utk.edu)). Office hours on Tuesday mornings are blocked off from other courses, standing research team meetings, and global, university, college, and school service commitments. Still, let me know if those times cannot work and we will figure something out. Have a great semester!

## COURSE INFORMATION

### Catalog Description

This course explores the creation, distribution and growth of geospatial data, highlighting their uses and misuses. Structured as an applications-based course where students learn how geospatial technologies are used to turn geospatial data into maps, tables and imagery through hands-on exercises and laboratory works.

### Student Learning Outcomes

Students who complete this course will:

- Explain the basic nature, characteristics, specification, types, acquisition, processing, organization and management of geospatial data in a geographic information system;
- Describe, select and apply the basic functional and analytical capabilities of GIS;
- Organize and visualize spatial data in ArcGIS; and
- Describe and explain pertinent policy issues relating to the use of GIS in the public and private sectors.

**Prerequisites:** None.

### Background:

This elective was developed for the Geographic Information Librarianship project (GIL) with funding by the Laura Bush 21st Century Librarian Program Grant via the Institute of Museum and Library Services (IMLS) in their “programs to build institutional capacity” category.

### Required Text

Law, M., & Collins, A. (2020). Getting to know ArcGIS Pro 2.6.

9781589486355 1589486358 9781589486362 1589486366

All other readings are either available in Canvas.

## COMMUNICATION

### Email

I am required to communicate with you through your UTK email address. If you prefer to use another address, consult the [OIT Helpdesk](#) to obtain directions for forwarding your UTK email to your preferred address if you do not wish to check both accounts.

### Instructor Availability

Please don't hesitate to email me with updates, questions, or concerns. I will typically respond within one or two days during the week, but I might not respond on the weekend. I will notify you if I will be out of town and/or if connection (or other) issues may delay a response.

## COMPUTING REQUIREMENTS AND RESOURCES

### Requirements

Since you will attend class via Zoom, you should plan to have a device that will allow you to take notes and view course readings. The course is learning geospatial technologies (ArcGIS Pro 2.6) and requirements for the software are detailed through the Office of Information Technology (<https://oit.utk.edu/research/research-software/arcgis/>).

The instructions to download from OIT are straightforward and located on that website. **YOU** will NEED to call OIT (865-974-9900) or email them through their site if you are having issues.

ArcGIS can run on a Mac, but you need to install Windows in Boot Camp or Parallels.

<https://www.esri.com/arcgis-blog/products/arcgis-pro/3d-gis/arcgis-pro-in-mac-os-x/?rmedium=redirect&rsource=blogs.esri.com/esri/arcgis/2016/03/08/arcgis-pro-in-mac-os-x>

You will also use your NetID to create an ArcGIS Online (AGOL)

<https://www.arcgis.com/index.html> and Esri Training Academy <https://www.esri.com/training/> for both accounts use: **myutk** and then select University of Tennessee.

Although this elective does not require any pre-requisites, in past versions of the course students suggested the IT skill expectation be more clearly stated and links to remedial tutorials provided (if needed). With 514 a requirement for all MSIS students, I will assume you have a basic understanding of installing software, using a relational database, and having some background in other software than GIS that you might use in your final project (e.g., Excel, Adobe Reader). You will use something to capture screen shots for labs.

You will be asked to submit screen shots of assignments. This means you should know how to hit PrtScn and copy and paste into any image software, or use whatever snipping tool you have.

Editing maps for your final project will look more professional in other software (e.g., Adobe Illustrator or other software), but that is not required.

### Course Resources

We will use Canvas, so make sure you can access our course via your account.

## COURSE ATTENDANCE AND PARTICIPATION POLICIES

### Learner Expectations

- Be prepared for all classes
- Be respectful of others
- Actively contribute to the learning activities in class
- Abide by the UT Honor Code Instructor Expectations

### Instructor Expectations

- Be prepared for all classes
- Evaluate all work fairly and equitably

- Provide timely feedback
- Be respectful of all students
- Be responsive to student emails and requests for meetings
- Create and facilitate meaningful learning activities
- Behave according to University codes of conduct

### **Attendance and Participation**

See section below, Assignments. In sum, you are expected to attend all classes and participate.

### **Inclement Weather**

The chancellor (or appointed representative) may officially close or suspend selected activities of the university because of extreme weather conditions. When a decision to close is made, it applies to all classes (whether on-campus or online). The information is distributed to the campus community, shared with local media, and posted on the University homepage at <http://utk.edu>.

## **ADDITIONAL POLICIES AND POINTS OF INFORMATION**

### **Disability Services**

Any student who feels they may need an accommodation based on the impact of a disability should contact [Student Disability Services](#) in Dunford Hall at 865-974-6087, or by video relay at 865-622-6566, to coordinate reasonable academic accommodations.

### **University Civility Statement**

Civility is genuine respect and regard for others: politeness, consideration, tact, good manners, graciousness, cordiality, affability, amiability and courteousness. Civility enhances academic freedom and integrity, and is a prerequisite to the free exchange of ideas and knowledge in the learning community. Our community consists of students, faculty, staff, alumni, and campus visitors. Community members affect each other's well-being and have a shared interest in creating and sustaining an environment where all community members and their points of view are valued and respected. Affirming the value of each member of the university community, the campus asks that all its members adhere to the principles of civility and community adopted by the campus. For more information, see the [UT Principles of Civility and Community](#).

### **CCI Diversity Statement**

The College of Communication and Information recognizes that a college diverse in its people, curricula, scholarship, research, and creative activities expands opportunities for intellectual inquiry and engagement, helps students develop critical thinking skills, and prepares students for social and civic responsibilities. All members of the College benefit from diversity and the quality of learning, research, scholarship and creative activities is enhanced by a climate of inclusion, understanding and appreciation of differences and the full range of human experience. As a result, the College is committed to diversity and equal opportunity and it recognizes that it must represent the diversity inherent in American society. The College is acutely aware that diversity and fairness are foundations that unite the College's faculty, staff, students, and the larger communication and information community.

## **Instructor Status as a Title IX Mandatory Reporter**

University of Tennessee faculty are committed to supporting our students and upholding gender equity laws as outlined by Title IX. Please be aware that if you choose to confide in a faculty member regarding an issue of sexual misconduct, dating violence, or stalking, we are obligated to inform the University's Title IX Coordinator, who can assist you in connecting with all possible resources both on- and off-campus. If you would like to speak with someone confidentially, the Student Counseling Center (865-974-2196) and the Student Health Center (865-974-3135) are both confidential resources. For additional resources and information, visit [titleix.utk.edu](http://titleix.utk.edu).

## **ASSIGNMENTS, ASSESSMENTS, AND EVALUATIONS**

### **Academic Integrity**

Students should be familiar with the [Hilltopics Student Handbook](#), and comply with all academic policies. This includes the University of Tennessee Honor Statement and the Academic Integrity Policy.

The Honor Statement reads: *“An essential feature of the University of Tennessee, Knoxville is a commitment to maintaining an atmosphere of intellectual integrity and academic honesty. ‘As a student of the university, I pledge that I will neither knowingly give nor receive any inappropriate assistance in academic work, thus affirming my own personal commitment to honor and integrity.’”* For more information, see the Honor Statement on the Academic Policies and Procedures page of the current [catalog](#) for student and faculty responsibilities.

The Academic Integrity policy reads: *“Study, preparation and presentation should involve at all times the student’s own work, unless it has been clearly specified that work is to be a team effort. Academic honesty requires that the student present his or her own work in all academic projects, including tests, papers, homework, and class presentation. When incorporating the work of other scholars and writers into a project, the student must accurately cite the source of that work.”* For additional information, see the [Student Code of Conduct](#).

### **Plagiarism**

Plagiarism in any of its forms is intolerable, and attention to matters of documentation in all written work is expected and required. Inadvertence, alleged lack of understanding, or avowed ignorance of the various types of plagiarism are not acceptable excuses.

*Specific examples of plagiarism are:*

1. Copying without proper documentation (quotation marks and a citation) written or spoken words, phrases, or sentences from any source.
2. Summarizing without proper documentation (usually a citation) ideas from another source (unless such information is recognized as common knowledge).
3. Borrowing facts, statistics, graphs, pictorial representations, or phrases without acknowledging the source (unless such information is recognized as common knowledge).
4. Collaborating on a graded assignment without the instructor’s approval.
5. Submitting work, either in whole or in part, created by a professional service and used without attribution (e.g., paper, speech, bibliography, or photograph).

Students who may be unsure of the nature of plagiarism should consult the instructor or a guide for writing research reports. Resources are available through the University Libraries, including a [Citing Sources guide](#).

Infractions of academic integrity are penalized according to the severity of the infraction but may include a course grade of "F."

## ASSIGNMENTS

### Assignment Descriptions and Due Dates

This table provides a brief summary of assignment by name, due date, point value and percentage of final grade. A brief description of each assignment follows the table.

Assignment	Point Value	Percentage of Final Grade	Due Date
Labs (12)	150	50%	Weeks 2-12
Quizzes (2)	60	20%	Feb. 22 and Apr. 19
Research Proposal and GIS Project	90	30%	Proposal: Mar. 1 <sup>st</sup> Presentation: Apr. 26 <sup>th</sup> Final Paper: Apr. 30 <sup>th</sup>
<b>TOTAL</b>	<b>300</b>	<b>100%</b>	

*Acceptable reasons for absence from class include:*

- Illness
- Serious family emergencies
- Military obligation
- Severe weather conditions
- Religious holidays and
- Obligations for court imposed legal obligations (i.e., jury duty, subpoena)

Other reasons may also be approved.

Being engaged in this course is predicated on consistent attendance and timeliness, and coming to class having closely read and considered the assigned material. But more than this, “staying in class” entails frequently contributing your ideas via chat or voice to class discussions.

**Labs (50%):** There will be twelve labs during the semester (12.5 points each). The first is simply creating your ArcGIS Online account and downloading ArcGIS Pro 2.6. Ten labs are chapters in the lab book and one is Esri Training lab vis UTK call—Getting Started with the Geodatabase. You may find other Esri Training labs of interest, so know the learning can continue beyond the basic requirements of this course. Please be aware that some labs take longer than others and

when possible, screen shot the last step in an exercise of all of them (e.g, Ch. 2 has 3 exercises, so three screenshots pls). No late labs will be graded due to rigorous schedule, but you may work ahead.

**Quizzes (20%):** There will be two quizzes in this class, consisting of essay and definition questions. The quizzes are designed to evaluate your comprehension of geospatial technology concepts. The class discussions, labs, and readings will prepare you.

**Research Proposal and GIS Project (30%):** Do not ask me what I want your research project to be about. This is an opportunity for you to select a topic that interests you! *A one-page proposal of your paper is due at 11:59PM on Mar. 1st.* This proposal is worth 12 points. The proposal should be a short outline and contain the following:

1. Select and describe a topic, with a working title, brief description of what you plan to investigate, how you plan to investigate, and brief literature review for consideration (at least 5 sources). Please provide a description of how you will get the data (if needed) to do your analyses. Pick a topic that will benefit your future and that you will enjoy.

The remaining points for the assignment results from these items outline in the rubric below.

2. Find **research articles** (peer-reviewed) on the topic, and use your interpretation and evaluation of the research to inform important aspects of the future of geospatial technologies related to your topic; **DO NOT** simply summarize what has been researched, but relate the research articles to each other and synthesize a theme out of the articles you find. Each topic will have a different number of key articles, but for a final paper this length I expect~20 citations.
3. Include a section where you discuss future implications for the field related to your topic and specifically for your career.
4. Finally, you will prepare a 15 minute presentation of your paper to inform the class.
5. As a semester long assignment, I have high expectations for the quality of this work. You should produce a project that is of publishable quality. I am indifferent about structure or citation style; however, be consistent and do not hesitate to ask for clarification. In fact, you may want to take this opportunity to produce work that would lead to an actual presentation, paper, or poster.

To give full attention to the paper, please produce at least 4,000 words of content. The following rubric should be used:

IS 516: Rubric	12	8	4	0
Purpose (Due Mar 1)	The author presents the topic, with a working title, a brief description of an investigation plan, with how investigation will occur and how the data will be found/collected, and also a literature review for consideration (at least 5 sources).	The author presents the topic, with a working title, a brief description of an investigation plan, but fails to include all other required details.	The author presents the topic, with a working title, a brief description of an investigation plan, but fails to at least half of the other required details.	Topic of the paper is unclear and does not address all required details.
Literature Review	Sufficient background information and a clear review of the topic and why it is important to geospatial technologies are evident.	Adequate background information and a clear review of the topic and why it is important to geospatial technologies are provided.	The author provides limited background information.	Insufficient or no background information is provided.
Critical Analysis of the Research	Exceptional integration and synthesis of research. Very effectively identifies and discusses implications and common themes relevant to the topic.	Research is integrated and well synthesized. Identifies and discusses some implications and/or themes relevant to the topic.	Very little integration and/or synthesis. Mainly reflects previous research findings, with very little critical analysis of the literature.	Discussion of the research is integrated poorly, with little to no critical analysis of past studies and/or articles.
Future Implications for Field	Effectively applies research findings and discusses implications for the future practice of the field and/or careers related to the topic.	Adequately discusses implications for the future practice of the field and/or careers related to the topic.	Discussion of application to future GIS practice and/or careers is limited.	Does not discuss implications for future practice of the GIS field or careers related to the topic.
References	Author includes at least 20 peer-reviewed articles and correctly cites them according to a consistent citation style of their choosing.	Author includes between 15-19 peer-reviewed articles and cites them according to a consistent citation style of their choosing.	Author includes fewer than 15 peer-reviewed articles and cites them according to their chosen citation style.	The author includes no peer-reviewed articles and does not cite any sufficient outside research.
Grammar and Formatting	No grammatical, spelling, or punctuation errors, and paper follows a consistent format.	Few grammatical, spelling, or punctuation errors, and format is generally consistent.	More than 10 grammatical, spelling, or punctuation errors, and/or formatting is inconsistent.	More than 15 grammatical, spelling, or punctuation errors, and/or inconsistent formatting detracts from paper's readability.
Length of Research Paper	Length of final paper meets the assigned 4,000-word minimum	Length of final paper falls slightly below 4,000-word minimum	Length of final paper falls sufficiently below the assigned 4,000-word minimum	Length of final paper is unacceptable.
Presentation	Class presentation is around 15 minutes long and clearly presents the main issues of the topic.	Class presentation is around 15 minutes long and fails to cover clearly the issues of the topic.	The presentation goes substantially over or under 15 minutes in length, but covers main issues of the topic	The presentation goes substantially over or under 15 minutes in length and is unclear in covering the main issues of the topic

**Total:** \_\_\_\_ / 100 points

### Submitting Assignments, Late Assignments

Assignments should be submitted to the “assignments” area of Canvas and are due (officially) at 11:59 p.m. EST on the due date listed on the Syllabus. Late assignments are not accepted unless prior arrangements have been made, or if you have an unexpected emergency. Quizzes, reading reflections, and activities have firm due dates and cannot be made-up.

### Penalty for Late Work

10% of the grade per business day may be deducted for work not submitted by class time on the due date.



## Grading Scale

Semester grades will be assigned according to the following scale:

A	93-100	Superior performance (4 quality points)
A-	90-92.99	Intermediate superior performance (3.7 quality points)
B+	88-89.99	Very good performance (3.3 quality points)
B	83-87.99	Good performance (3.0 quality points)
B-	80-82.99	Intermediate good performance (2.7 quality points)
C+	78-79.99	Fair performance (2.3 quality points)
C	73-77.99	Satisfactory performance (2.0 quality points)
C -	70-72.99	Unsatisfactory performance (1.7 quality points)
D+	68-69.99	Unsatisfactory performance (1.3 quality points)
D	63-67.99	Unsatisfactory performance (1.0 quality points)
D -	60-62.99	Unsatisfactory performance (0.7 quality points)
F	0-59.99	Failure performance (0.0 quality points)
S		Satisfactory; only assigned for C or better work when a course is taken on a S/NC grading basis. Carries no point value.
NC		No Credit; indicates failure to complete a course satisfactorily, and is only assigned for C- or worse work when a course is taken on a S/NC grading basis. Carries no point value.
I		Under extraordinary circumstances and at the discretion of the instructor, the grade of I (Incomplete) may be awarded to students who have satisfactorily completed a substantial portion of the course but cannot complete the course for reasons beyond their control. An I carries no quality points. If the I grade is not removed within one calendar year or upon graduation, it shall be changed to an F and count as a failure in the computation of the grade point average.
W		Indicates student has officially withdrawn from the course or the university. Carries no point value.

## Incompletes

Based on adopted University of Tennessee-Knoxville policy, a grade of *I* (Incomplete) is reserved for emergencies that prevent the student from completing the course on time. Incompletes are granted only under "the most unusual of circumstances" and solely at the discretion of the instructor. Plan your semester's course of study carefully to insure sufficient time to complete the required work. For students who simply "disappear" without contacting the instructor and without completing the required form, an "F" is submitted.

## COURSE EVALUATION

You will be invited by email to evaluate the course at the end of the term via TNVoice. Please participate in this valuable process. I also invite your comments throughout the course and read all comments, suggestions, and recommendations.

**DISCLAIMER**

Should it be necessary to cancel a class meeting, every effort will be taken to do so in advance. Look for e-mail announcements via Canvas.

The course schedule may change due to unforeseen circumstances, but you will be notified of any alternations via Canvas.

**COURSE OUTLINE**

Week	Date	Due	Class Topic and Reading
1	<u>Jan. 25</u>	Install software and create ArcGIS Online account	<b>Introductions / What is GIS</b> <b>Read:</b> Lin, W. (2012). Geographic information systems (GIS). In J. P. Stoltman <i>21st century geography: A reference handbook</i> (Vol. 2, pp. 677-686). SAGE Publications, Inc., <a href="https://www.doi.org/10.4135/9781412995986.n60">https://www.doi.org/10.4135/9781412995986.n60</a> <b>Classic Reading:</b> Maguire, D. J. (1991). An overview and definition of GIS. <i>Geographical information systems: Principles and applications</i> , 1, 9-20.
2	<u>Feb. 1</u>	Ch 1 due	<b>GIS: The Software</b> <b>Guest speaker:</b> Jon Jablonski, Interdisciplinary Research Collaboratory, UC-Santa Barbara Library <b>Read:</b> Longley, P. A., Goodchild, M. F., Maguire, D. J., & Rhind, D. W. 6.1 GI System Software. In <i>Geographic Information Science &amp; Systems (4th Edition)</i> : John Wiley & Sons. Bartelme, N. (2012). Geographic Information Systems. In W. Kresse & D. M. Danko (Eds.), <i>Springer Handbook of Geographic Information</i> (pp. 59-71). Berlin, Heidelberg: Springer Berlin Heidelberg. 27 Differences Between ArcGIS and QGIS – The Most Epic GIS Software Battle in GIS History <a href="https://gisgeography.com/qgis-arcgis-differences/">https://gisgeography.com/qgis-arcgis-differences/</a>
3	<u>Feb. 8</u>	Ch 2 due	<b>GIS: The Data</b> <b>Read:</b> Longley, P. A., Goodchild, M. F., Maguire, D. J., & Rhind, D. W. 6.1 Representing Geography. In <i>Geographic Information Science &amp; Systems (4th Edition)</i> : John Wiley & Sons. Bray, H. (2014). The Hard Way. In <i>You are here : From the compass to gps, the history and future of how we find ourselves</i> . ProQuest Ebook Central <a href="https://ebookcentral-proquest-com.proxy.lib.utk.edu">https://ebookcentral-proquest-com.proxy.lib.utk.edu</a>
4	<u>Feb. 15</u>	Ch 3 due	<b>GIS: The Maps</b> <b>Guest Speakers:</b> Frank Donnelly, GIS and Data Librarian, Brown University Kevin Dyke, Maps and Spatial Data Coordinator, Oklahoma State University <b>Read:</b> Crampton, J. W., & Krygier, J. (2005). An introduction to critical cartography. <i>ACME: an International E-journal for Critical Geographies</i> , 4(1), 11-33. Boonstra, O. (2013). The Dawn of a Golden Age? Historical GIS and the History of Choropleth Mapping in the Netherlands. In A. von Lünen & C. Travis (Eds.), <i>History and GIS: Epistemologies, Considerations and Reflections</i> (pp. 27-38). Dordrecht: Springer Netherlands. Wang, F. (2020). Why public health needs GIS: a methodological overview. <i>Annals of GIS</i> , 26(1), 1-12. doi:10.1080/19475683.2019.1702099 <b>Watch:</b> Map Projections explained <a href="https://www.youtube.com/watch?v=wflLW1j05Dg">https://www.youtube.com/watch?v=wflLW1j05Dg</a>
5	<u>Feb. 22</u>	Getting Started with the Geodatabase due	<b>QUIZ 1</b> <i>Go forward; Move ahead; Try to detect it; It's not too late</i>

6	<u>Mar. 1</u>	Ch 4 due *Final Project Proposal	<b><u>Geographic Database Management</u></b> <b>7:30-Guest Speakers:</b> Emma Slayton, PhD, Data Curation, Visualization, & GIS Specialist and Jessica Benner, Library Liaison, Computer Science & GIS, Carnegie Mellon University Libraries <b>Read:</b> Martin, M. E., & Schuurman, N. (2017). Area-Based Topic Modeling and Visualization of Social Media for Qualitative GIS. <i>Annals of the American Association of Geographers</i> , 107(5), 1028-1039. doi:10.1080/24694452.2017.1293499 Bishop, B. W., & Hank, C. (2020). Curation, Digital. In Audrey Kobayashi (Ed.), <i>International Encyclopedia of Human Geography</i> , 2e. Amsterdam, Netherlands: Elsevier. <a href="https://doi.org/10.1016/B978-0-08-102295-5.10531-1">https://doi.org/10.1016/B978-0-08-102295-5.10531-1</a>
7	<u>Mar. 8</u>	Ch 5 due	<b><u>Spatial analysis</u></b> <b>Read:</b> Longley, P. A., Goodchild, M. F., Maguire, D. J., & Rhind, D. W. 13 Spatial data Analysis. In <i>Geographic Information Science &amp; Systems (4th Edition)</i> : John Wiley & Sons. <b>Watch:</b> <a href="https://www.youtube.com/watch?v= J_bmWmOF3I">https://www.youtube.com/watch?v= J_bmWmOF3I</a>
8	<u>Mar. 15</u>	Ch 6 due	<b><u>Other explorations in Geospatial Technologies</u></b> <b>Read:</b> Vardi, R., Berger-Tal, O., & Roll, U. (2021). iNaturalist insights illuminate COVID-19 effects on large mammals in urban centers. <i>Biological Conservation</i> , 254, 108953. doi: <a href="https://doi.org/10.1016/j.biocon.2021.108953">https://doi.org/10.1016/j.biocon.2021.108953</a> Shannon, J. (2015). Rethinking Food Deserts Using Mixed-Methods GIS. <i>Cityscape</i> , 17(1), 85-96. Retrieved January 19, 2021, from <a href="http://www.jstor.org/stable/26326924">http://www.jstor.org/stable/26326924</a>
9	<u>Mar. 22</u>	Ch 7 due	<b><u>GIS use in LIS</u></b> <b>Guest Speaker:</b> Christie Koontz, Adjunct Professor, Florida State University <b>Read:</b> Mandel, L. H., Bishop, B. W., & Orehek, A. M. (2020). A new decade of uses for geographic information systems (GIS) in library research. <i>Library Hi Tech</i> . <a href="https://doi.org/10.1108/LHT-03-2020-0052">https://doi.org/10.1108/LHT-03-2020-0052</a> <b>Classic Reading:</b> Bishop, B. W. & Mandel, L. H. (2010). Utilizing geographic information systems (GIS) in library research. <i>Library Hi Tech</i> . 28(4), 536-547. doi:10.1108/07378831011096213
10	<u>Mar. 29</u>	Ch 8 due	<b><u>Social Science GIS</u></b> <b>Read:</b> Rice, S., & White, M. (2010). Introduction. In <i>Race, Ethnicity, and Policing: New and Essential Readings</i> . New York: NYU Press.
11	<u>Apr. 5</u>	Ch 9 due	<b><u>Raster GIS &amp; 3D GIS</u></b> <b>Read:</b> Henry, E. R., Wright, A. P., Sherwood, S. C., Carmody, S. B., Barrier, C. R., & Van de Ven, C. (2020). Beyond Never-Never Land: Integrating LiDAR and Geophysical Surveys at the Johnston Site, Pinson Mounds State Archaeological Park, Tennessee, USA. <i>Remote Sensing</i> , 12(15), 2364. <a href="https://doi.org/10.3390/rs12152364">https://doi.org/10.3390/rs12152364</a>
12	<u>Apr. 12</u>	Ch 10 due	<b><u>GIS Usability and E-government applications</u></b> <b>Read:</b> TBA
13	<u>Apr. 19</u>		<b>Quiz 2</b> <i>We're headin' for Venus (Venus); And still we stand tall</i>
14	<u>Apr. 26</u>	**Final presentations due	Final Presentations
15	<u>Apr. 30</u>	***Final project due 11:59 PM EST	**Final Projects**