USC Dornsife
Dana and David Dornsife
College of Letters, Arts and Sciences
Spatial Sciences Institute

SSCI 581 (35892), Concepts for Spatial Thinking

Syllabus

Units: 4

Term — Day — Time: Fall 2018, Mondays and Wednesdays, 12:00 to 1:50 p.m. PT

Location: AHF 145D

Instructor: Katsuhiko "Kirk" Oda, Ph.D., GISP
Office: AHF B56B
Office Hours: Mondays 11:00 to 12:00 p.m. PT and Wednesdays 2:00 a.m. to 3:00 p.m. PT. Also available most days and times by appointment via email.
Contact Info: katsuhio@usc.edu, 213-740-2868 (office), https://bluejeans.com/2137402868

Library Help: Andy Rutkowski
Office: VKC 36B
Office Hours: Tuesdays 10:00 a.m. to 12:00 p.m. PT and Thursdays 4:30 to 5:30 p.m. PT
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Office: AHF 146
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Course Scope and Purpose

This course is an introduction to geographic information science and the technological, cartographic, and geographic concepts underlying spatial thinking. Spatial is an enabling discipline, insofar as it facilitates effective problem solving in a variety of fields. Thus, the domain is inherently multi-disciplinary and collaborative, appropriate to a wide range of academic fields.

The course is designed to serve many audiences within the Spatial Sciences Institute and across the USC campus. It is the required entrée course for five distance learning programs – the M.S. in Geographic Information Science & Technology (GIST) and the M.S. in Human Security and Geospatial Intelligence, the GIST and Geospatial Intelligence Graduate Certificates, and the GeoHealth track in the Keck School of Medicine's Master of Public Health program – and three residential programs, the M.S. in Spatial Data Science, the M.S. in Spatial Economics and Data Analysis, and the M.S. in Transportation Systems Management. To accommodate and serve this wide range of academic objectives, students are provided with a variety of options in course topics and assignments so they can align the geospatial data, analysis, and visualization tasks with their own interests.

The course is taught residentially and online. Residential students are encouraged to take the residential course but can take the online class if needed, and online students may take the residential course as desired.

Most fundamentally, the course is designed for any student who wishes to improve their GIS skills and understand the concepts underlying GIS analysis. In addition to the theoretical underpinnings, students will master the fundamentals of geographic information science including spatial analysis, coordinate systems, and cartography, and the ways in which Esri's ArcGIS software enables analysis, modeling and visualization.

Fundamentals of GIS – The course provides a core foundation in the evolving field of geographic information science. We will explore the relationship between geographic information science and the fields of transportation, human security, geospatial intelligence, spatial data science, public health, economics, land use planning, geodesign, environmental science and management, spatial science, archaeology, and the humanities.

The ArcGIS Ecosystem – Esri's ArcGIS is a powerful, industry-standard software that can be used analyze spatial questions and visualize the outcome. Through a series of tutorials, students will analyze and manipulate different types of geospatial data, raster and vector data models, coordinate systems, map projections, geoprocessing tools, and conduct raster analysis. After familiarizing themselves with ArcGIS's functionality, students will initiate their own spatial analysis questions and achieve them using their learned skill sets.

Spatial Data– The ability to understand and analyze data sets is an essential component of spatial thinking and reasoning. We will investigate fundamental geospatial datasets such as the U.S. Census and attain the knowledge and skills necessary for processing, interpreting, and analyzing GIS data. Students will apply these skills to solving real-world spatial problems.

Spatial thinking – Location is critically important in contemporary society and a spatial perspective can be applied to nearly every arena. The course will explore the importance of spatial thinking for describing, analyzing, modeling and visualizing the world, and how one can cultivate the habit of thinking spatially. We will use readings, discussions, and a variety of case studies to show how spatial thinking permeates and supports various kinds of problem solving.

Geodesy – Geodesy is the branch of science concerned with the size and shape of the Earth and determining precise locations on its surface. The major topics to be covered – geodetic datums, geoids, coordinate systems, and map projections – underlie the successful deployment and use of geospatial technologies.

Maps – Maps have been used throughout history to aggregate and communicate geographic concepts. Once the domain of professional cartographers, maps can now be authored and shared by nearly anyone using GIS and the internet. We will review past, present, and future map use and how maps depict and communicate geographic knowledge in the digital age.

At the graduate level, students are responsible for their own learning. The instructor's role is as a guide on the path of academic exploration, and students will be rewarded through active engagement with both the material and with their fellow classmates. The challenge for the instructor is to provide a robust, challenging, and stimulating academic experience within the broader milieu of the digital era.Students will be intellectually challenged by the course content and through the exploration of ideas, opinions, and approaches to analysis different from their own.

All course materials will be organized through the Blackboard Course Management System. Core theoretical concepts will be provided via course notes and assigned readings. Written assignments will give students an opportunity to analyze and apply the concepts and theory learned from readings. Presenting the course notes and assigned readings again in class would simply consume your precious time. Instead, you are required to read the texts and course notes before you come to the classroom and discuss what concepts you thought the most challenging to understand. This allows you to engage in internalizing and applying the concepts and theory learned from readings for a deeper understanding of our course materials. In addition, you will work with your classmates together and actively interact by sharing experiences through collaborative learning. All will benefit from the aforementioned course format. Practical exercises will mainly use ArcGIS Pro.

Learning Outcomes

On completion of this course, students should be able to:

- Acknowledge and utilize spatial thinking for geospatial analysis and visualization.
- Understand and be able to apply fundamental spatial concepts such as arrangement, orientation, diffusion, dispersion, and pattern.
- Explain and apply exemplary cartographic principles. Demonstrate how maps have been used throughout history to organize and empower different groups of people. Anticipate the evolution of maps in the future.

- Explain the role and importance of geodetic datums, geoids, coordinate systems, and map projections for identifying position and the location of places, people, and features on the Earth's surface.
- Gain an in-depth understanding of how spatial analysis, modeling, and visualization tools included in geographic information systems and other geospatial technologies can be used to advance knowledge creation and communication across a variety of disciplines.
- Process, assess, and describe core geospatial datasets such as census data.
- Conduct a GIS project for real-world decision-making through geographic inquiry.

Prerequisite(s): None
Co-Requisite(s): None

Recommended Preparation: None

Technological and Communication Requirements

ArcGIS is provided online via the SSI Server; hence, you do not need to install it on your own computer. Instead, every student must have the following technology requirements:

- A computer with a fast Internet connection (DSL at a minimum).
- A functional webcam for use whenever a presentation or meeting is scheduled.

SSI Server and Tech Support – This course utilizes the SSI Server which is a virtual desktop giving access to many different professional software. If you are unable to connect to the server or experience technical issues, send an email using your USC account to SSI Tech Support at spatial_support@usc.edu, making sure to copy (cc) your instructor on the email.

Communications – All materials will be provided via Blackboard. This allows you to engage in reading and class preparation assignments individually before you come to the classroom. It is each student's responsibility to stay informed about what is going on in our course. In addition to email about time-sensitive topics, any important announcements will be posted on the Announcement page in Blackboard. Be sure to check these each time you log onto Blackboard.

Your instructor is regularly online and will respond to student emails quickly. All email will be responded to within 24 hours of receipt, with no more than 72 hours delay. In the rare case when your instructor will be offline for 72 hours or more, an announcement will be posted on the Blackboard site.

Required Readings and Supplementary Materials

Textbooks – There are seven texts for this course, though you are not required to purchase all of them. They are available from the USC Bookstore or online outlets such as Amazon. For further information on the Bolstad text, visit the following page: http://www.paulbolstad.net/gisbook.html. Make sure to obtain the correct editions of the

texts. Textbooks will be supplemented with Course Notes and readings from academic journals, professional reports and reputable websites.

Course texts (Students must purchase):

- Bolstad, Paul. *GIS fundamentals: A first text on geographic information systems*. 5th ed. Acton, MA: XanEdu, 2016.
- Law, Michael, and Amy Collins. *Getting to know ArcGIS Pro*. Redlands, CA: Esri Press, 2016.

Other textbook excerpts (Excerpts will be supplied or available for download - students do not need to purchase)

- Harder, Christian. *The ArcGIS book: 10 big Ideas about applying geography to your world*. Redlands, CA: Esri Press, 2015.
- Kimerling, A. Jon., Aileen Buckey, Phillip C. Muehrcke, and Juliana O. Muehrcke. *Map use: Reading, analysis, interpretation*. 8th ed. Redlands, CA: Esri Press Academic, 2016.
- Mitchell, Andy. *The Esri guide to GIS analysis: Volume 3, modeling suitability, movement, and interaction.* Redlands, CA: Esri Press. 2012.
- National Research Council. *Learning to think spatially: GIS as a support system in the K-12 curriculum.* Washington, DC: National Academies Press (available at http://www.nap.edu/catalog.php?record_id=11019). 2006.
- Wilson, John. P. and A. Stewart Fotheringham, (editors). *The handbook of geographic information science.* Oxford: Blackwell. 2008. (Available through the USC Libraries as an e-Book.)

Academic Articles – Additional readings that focus on topics relevant to course themes will be provided through Blackboard.

- Batty, Michael, Andrew Hudson-Smith, Richard Milton, and Andrew Crooks. "Map mashups, Web 2.0 and the GIS revolution." *Annals of GIS* 16(1), 1-13, 2010.
- Cebrecos, Alba, Julia Díez, Pedro Gullón, Usama Bilal, Manuel Franco, and Francisco Escobar. "Characterizing physical activity and food urban environments: A GIS-based multicomponent proposal." *International Journal of Health Geographics,* 15(1), 35, 2016.
- Downs, Roger M. "The geographic eye: Seeing through GIS?" *Transactions in GIS* 2(2), 111-121, 1997.
- DiBiase, David, Michael DeMers, Ann Johnson, Karen Kemp, Ann Taylor Luck, Brandon Plewe, and Elizabeth Wentz. "Introducing the first edition of geographic information science and technology body of knowledge." *Cartography and Geographic Information Science* 34(2), 113-120, 2007.
- Duckham, Matt. "GI expertise." *Transactions in GIS* 19(4), 499-515, 2015.
- Goodchild, Michael F. "Geographical information science." *International Journal of Geographical Information Systems* 6(1), 31-45, 1992.
- Shi, Wenzhong, Michael Goodchild, Brian Lees, and Yee Leung, eds. *Advances in geo-spatial information science*. Boca Raton, FL: CRC Press, 2012.
- Kitchin, Rob and Martin Dodge. Rethinking maps. *Progress in Human Geography*, 31, 331-334, 2007.

- Monaco, Joseph. *Supporting timely HA/DR decisions through GEOINT and GIS tools.* Fort Leavenworth: School of Advanced Military Studies, Kansas, 2014.
- Phua, Mui-How, and Mitsuhiro Minowa. "A GIS-based multi-criteria decision making approach to forest conservation planning at a landscape scale: A case study in the Kinabalu Area, Sabah, Malaysia." *Landscape and Urban Planning* 71(2-4), 207-222, 2005.
- Reitsma, Femke. "Revisiting the 'Is GIScience a science?'debate (or quite possibly scientific gerrymandering)." *International Journal of Geographical Information Science* 27(2), 211-221, 2013.
- Wright, Dawn J., Michael F. Goodchild, and James D. Proctor. "Demystifying the persistent ambiguity of GIS as 'tool'versus 'science'." *Annals of the Association of American Geographers* 87(2), 346-362, 1997.
- Zheng, Siqi, Weizeng Sun, Jianfeng Wu, and Matthew Kahn. "Urban agglomeration and local economic growth in China: The role of new industrial parks." *USC Dornsife Institute for New Economic Thinking,* Working Paper No. 16-06, 2016.

Description and Assessment of Assignments

Weekly Assignments

There are several different types of weekly assignments, which are further described in the "Weekly Assignments" folders on Blackboard.

Resume Assignment – 1 worth 1 point. All students are required to post and maintain a public resume, biography, and headshot on the SSI Student Community Blackboard site. Unless a student opts out, their resume will be included in the Spatial Sciences Institute Graduate Programs Resume Book. This resume book is used to both promote the program and highlight student skills, experiences, and professional aspirations.

Access SSI Server Tutorial – 1 worth 1 point. The SSI Server will be used frequently throughout the semester, so students must ensure and verify access during the first week.

Discussion Forums – 3 worth a total of 6 points. The discussions will include (1) a personal introduction, (2) an introduction to spatial thinking, and (3) an opportunity to reflect on and evaluate the course. All students are expected to post original reflections to the prompts and engage with their classmates.

Reading Quizzes – 10 worth of a total of 4 points. These short open-book quizzes emphasize key points from the readings.

Written Assignments – 5 worth of a total of 15 points. Graduate students must be well-versed in the discussions, debates, and normative frameworks that define their field. The five written assignments included in this course focus on the theoretical aspects of spatial thinking and reasoning, with the objective of enabling students to critically examine and reflect upon them. To allow students to customize pursue their academic and professional interests, four of the assignments allow students to select an article of their choice from a diverse set of readings.

Geodesy Quiz – 1 worth of 5 points. The Geodesy quiz allows student to demonstrate their understanding of geodetic datums, coordinate systems, and map projections. The quiz will be administered at the end of the geodesy module.

ArcGIS Tutorials – 5 worth of a total of 15 points. The ArcGIS tutorials are intended to familiarize students with the analytical capabilities of ArcGIS Pro and apply their proficiencies to problem-solving scenarios. Students will gain skills from Law and Collins' *Getting to Know ArcGIS Pro* workbook and Esri web courses, solve basic research questions, and submit a written report. Critical thinking questions will provide students an opportunity to apply their competencies to exploratory, open-ended scenarios. Should students face technical or methodological challenges, a Blackboard discussion forum allows for student-to-student dialogue.

GIS Data Tutorials – 3 worth of a total of 15 points. In the GIS data tutorials, students investigate, assemble, and master techniques for processing spatial data. Students can choose from a variety of data sets appropriate to their area of interest, including elevation, hydrography, land cover, transportation networks, and the U.S. Census. Students will come to recognize the key properties of a data set, including spatial and temporal granularity, measurement scale, sample design, and suitability for future applications.

Final Project

The course culminates with a final project, which integrates the theoretical concepts and technical skills gained during the course by applying them to a real-world geospatial question for decision support. The specific geospatial question is chosen by each student based on their academic interests. This includes, but is not limited to transportation, human security, geospatial intelligence, spatial data science, public health, economics, land use planning, geodesign, environmental science and management, spatial science, archaeology, and the humanities. Students will identify and locate the appropriate spatial and non-spatial data sources, import data into ArcGIS, conduct analysis, and produce and interpret maps answering spatial analysis questions. To facilitate this project, the workflow is broken up into five distinct components:

Annotated Bibliography – 4 points. As a means of familiarizing themselves with the core theoretical foundation within their area of interest, students will form small groups and develop an annotated bibliography. This will build a strong intellectual background and sets the foundation for an informed and sophisticated project proposal.

Proposal – 7 points. Once a student has a solid understanding of their field of interest, they will propose a research question and summarize the criteria needed to conduct the appropriate spatial analysis. An individual online meeting with the instructor is required to discuss the feasibility and direction of the proposal, and is a crucial component of a successful project.

Data Report – 4 points. The data report documents the key properties of the complete set of data identified and acquired for the project.

Final Report -– 20 points. The final report will be 10-12 single-spaced pages including figures, maps, tables and references. Specifics will be included in the Final Project description.

Final Presentation -– 3 points. Each student will deliver a slideshow summarizing their Final Project, similar to a "lightening talk" session at a professional or academic conference. This will occur online with a small audience of the instructor and fellow students. With student consent, these may be captured and shared with the broader spatial science community.

Grading Breakdown

Careful planning and a serious, consistent commitment will be required for you to successfully navigate the various deliverables in this and other SSCI courses. The table in the next page summarizes the SSCI 581 course assignments and their point distribution:

Assessment	Number	Points Each	Total Points
Weekly Assignments			
Resume Assignment	1	1	1
Access SSI Server Tutorial	1	1	1
Discussion Forums	3	2	6
Written Assignments	5	3	15
Geodesy Quiz	1	5	5
ArcGIS Tutorials	5	3	15
Reading Quizzes	10	0.4	4
GIS Data Tutorials	3	5	15
Project Components			
Annotated Bibliography	1	4	4
Proposal	1	7	7
Data Report	1	4	4
Final Report	1	20	20
Final Presentation	1	3	3
Total	34	-	100

Assignment Submission Policy

Assignments must be submitted via Blackboard by the due dates specified in the Course Schedule. Attention to on-time assignment submission is essential. Your instructor will aim to return comments on your submitted assignments before the next one is due.

Strict penalties apply for late assignments as follows:

- All assignments will be penalized 2 points up to FOUR days late. No points will be given for submissions more than FOUR days late. Note that all assignments worth 2 points will receive 0 points if submitted late.
- Additionally, no written work will be accepted for grading after 5 p.m. PT on the last day of classes.

Workload – This is a four credit, one semester course. Students should expect to spend 10-15 hours per week completing the work in this course.

Course Schedule: A Weekly Breakdown

		Topic	Readings and Assignments	Deliverables and Due Dates
Week 1	8/20	**Introduction**	Harder: Ch 1 - 4 Discussion Forum 1	Discussion Forum 1: Monday, 8/20
	8/22	**Introduction Cont.**	Course Syllabus Resume Assignment Access SSI Server Assignment Reading Quiz 1	Reading Quiz 1: Wednesday, 8/22 Access SSI Server Assignment: Wednesday, 8/22
Week 2	8/27	**Why Location Matters**	Harder: Ch 5 - 10 Reading Quiz 2 Discussion Forum 2	Reading Quiz 2: Monday, 8/27 Discussion Forum 2: Monday, 8/27
	8/29	**Introduction to ArcGIS**	Law: Ch 1&2 ArcGIS Tutorial 1	Resume Assignment: Tuesday, 8/28
Week 3	9/5	**Spatial Thinking**	NRC: Ch 1-3 Law: Ch 3&10 Downs 1997 Written Assignment 1 ArcGIS Tutorial 2	ArcGIS Tutorial 1: Tuesday, 9/4 Written Assignment 1: Wednesday, 9/5
Week 4	9/10	**GIS in Decision Support**	Cebrecos 2016 Monaco 2014 Phua et al. 2015 Zheng 2016 Written Assignment 2 Final Project Annotated Bibliography	No deliverables
	9/12	**Geoprocess-ing Tools**	Law: Ch 5&7 ArcGIS Tutorial 3	ArcGIS Tutorial 2: Tuesday, 9/11
Week 5	9/17	**GIS Data Models**	Bolstad: Ch 2 Reading Quiz 3	Reading Quiz 3: Monday, 9/17
	9/19	**Tools for Raster Data**	Law: Ch 9 ArcGIS Tutorial 4	Written Assignment 2: Tuesday, 9/18 ArcGIS Tutorial 3: Tuesday, 9/18
Week 6	9/24	**Geodesy and Datums**	Bolstad: Ch 3 Reading Quiz 4	Reading Quiz 4: Monday, 9/24
	9/26	**Spatial Analysis for Decision Making**	ArcGIS Tutorial 5	ArcGIS Tutorial 4: Tuesday, 9/25 Final Project Annotated Bibliography Posts: Tuesday, 9/25

				Final Project Annotated Bibliography Comments/Edits: Wednesday, 9/26
Week 7	10/1	**Coordinate Systems & Map Projections**	Bolstad: Ch 3 Reading Quiz 5 Geodesy Quiz	Reading Quiz 5: Monday, 10/1
	10/3	**Final Project Proposal**	Final Project Proposal	ArcGIS Tutorial 5: Tuesday, 10/2 Final Project Proposal: Wednesday, 10/3
Week 8	10/8	**Vector Analysis**	Bolstad: Ch 8&9 Reading Quiz 6	Geodesy Quiz: Monday, 10/8 Reading Quiz 6: Monday, 10/8
	10/10	**GIS Data 1: Census Data**	GIS Data Tutorial 1	No deliverables
Week 9	10/15	**Raster Analysis**	Bolstad: Ch 10 Reading Quiz 7	Reading Quiz 7: Monday, 10/15
	10/17	**GIS Data 2**	GIS Data Tutorial 2	GIS Data Tutorial 1: Tuesday, 10/16
Week 10	10/22	**GIST Domains**	Duckham 2015 DiBiase et al. 2007 Reading Quiz 8	Reading Quiz 8: Monday, 10/22
	10/24	**GIS Data 3**	GIS Data Tutorial 3	GIS Data Tutorial 2: Tuesday, 10/23
Week 11	10/29	**Geographic Information Systems**	Bolstad: Ch 1 Reading Quiz 9 Written Assignment 3	Reading Quiz 9: Monday, 10/29 Written Assignment 3: Monday, 10/29
	10/31	**Final Project Data Report**	Final Project Data Report	GIS Data Tutorial 3: Tuesday, 10/30
Week 12	11/5	**Geographic Information Science**	Wilson & Fotheringham eds.: An Introduction Goodchild 1992 Wright et al. 1997 Reitsma 2013 Written Assignment 4	No deliverables

	11/7	**Final Project Data Report Cont.**	Final Project Data Report	Final Project Data Report: Tuesday, 11/6
Week 13	11/12	**Maps and Spatial Analysis**	Bolstad: Ch 13 Mitchell: Ch 2 Kitchin & Dodge 2007 Batty et al. 2010 Goodchild 2012 Written Assignment 5	No deliverables
	11/14	**Final Project**	Final Project Final Report	Written Assignment 4: Tuesday, 11/13
Week 14	11/19	**Cartography and the History of Maps**	Kimerling et al.: Introduction Slocum et al.: Ch 2 Reading Quiz 10	Reading Quiz 10: Monday, 11/19 Written Assignment 5: Tuesday, 11/20
Week 15	11/26	**Future Trends of Maps and GIS**	Bolstad: Ch 15 Wilson & Fotheringham eds.: Ch 33&34 Discussion Forum 3	Discussion Forum 3: Monday, 11/26
	11/28	**Final Project Cont.**	Final Project Final Report	Final Project Final Report: No later than 5 pm (PT) on Friday, 11/30
Final Exam	12/5-12/12		Final Project Presentation	Final Project Presentation: 11 am -1 pm PT on Friday, 12/7

Statement on Academic Conduct and Support Systems

Academic Conduct

Plagiarism – presenting someone else's ideas as teir own, either verbatim or recast in their own words – is a serious academic offense with serious consequences. Students should be familiar with the discussion of plagiarism in *SCampus* in Part B, Section 11, "Behavior Violating University Standards" policy.usc.edu/scampus-part-b. Other forms of academic dishonesty are equally unacceptable. See additional information in *SCampus* and university policies on scientific misconduct, http://policy.usc.edu/scientific-misconduct.

Support Systems

Student Counseling Services (SCS) – (213) 740-7711 – 24/7 on call
Free and confidential mental health treatment for students, including short-term psychotherapy, group counseling, stress fitness workshops, and crisis intervention.
engemannshc.usc.edu/counseling

National Suicide Prevention Lifeline – 1 (800) 273-8255
Provides free and confidential emotional support to people in suicidal crisis or emotional distress 24 hours a day, 7 days a week. www.suicidepreventionlifeline.org

Relationship and Sexual Violence Prevention Services (RSVP) – (213) 740-4900 – 24/7 on call
Free and confidential therapy services, workshops, and training for situations related to gender-based harm. engemannshc.usc.edu/rsvp

Sexual Assault Resource Center
For more information about how to get help or help a survivor, rights, reporting options, and additional resources, visit the website: sarc.usc.edu

Office of Equity and Diversity (OED)/Title IX Compliance – (213) 740-5086
Works with faculty, staff, visitors, applicants, and students around issues of protected class. equity.usc.edu

Bias Assessment Response and Support
Incidents of bias, hate crimes and microaggressions need to be reported allowing for appropriate investigation and response. studentaffairs.usc.edu/bias-assessment-response-support

The Office of Disability Services and Programs
Provides certification for students with disabilities and helps arrange relevant accommodations. dsp.usc.edu

Student Support and Advocacy – (213) 821-4710
Assists students and families in resolving complex issues adversely affecting their success as a student EX: personal, financial, and academic. studentaffairs.usc.edu/ssa

Diversity at USC
Information on events, programs and training, the Diversity Task Force (including representatives for each school), chronology, participation, and various resources for students. diversity.usc.edu

USC Emergency Information
Provides safety and other updates, including ways in which instruction will be continued if an officially declared emergency makes travel to campus infeasible. emergency.usc.edu

USC Department of Public Safety – UPC: (213) 740-4321 – HSC: (323) 442-1000 – 24-hour emergency or to report a crime.
Provides overall safety to USC community. dps.usc.edu

Resources for Online Students

The Course Blackboard page and the GIST Community Blackboard page have many resources available for distance students enrolled in our graduate programs. In addition, all registered students can access electronic library resources through the link https://libraries.usc.edu/. Also, the USC Libraries have many important resources available for distance students through the link https://libraries.usc.edu/faculty-students/distance-learners. This includes instructional videos, remote access to university resources, and other key contact information for distance students.