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

SSCI 587 (Section 35715), Spatial Data Acquisition

Syllabus

Units: 4

Term Day Time: Spring 2020, Online

Location: Online

Instructor: Su Jin Lee, Ph.D., GISP
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Office Hours: Mondays 12:00-1:00 p.m. and Wednesdays 12:30-1:30 p.m. Also available most days and times by appointment via email.
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Course Scope and Purpose

This course provides students with the requisite knowledge and practical skills to source and evaluate data against recognized quality standards for use in GIS-based projects. It also helps students understand how to assess the quality of information output from those projects. It is a required course for the Geographic Information Science & Technology (GIST) M.S. and Graduate Certificate Programs and the Human Security and Geospatial Intelligence (HSGI) M.S. Program. We cover several topics, including:

Data Needs and Types – We start by focusing on the data challenge, defining data needs, and the role of conceptualization, entitation (recognition of an entity that can be studied as a system), and quantification in scientific research and management, and an introduction to some of the ways in which spatial and attribute data can be gathered and used to serve specific needs.

Data Capture and Estimation – We discuss the various ways legacy digital data can be sourced, evaluated, and used in specific projects, as well as ways to interpolate attribute values at unsampled locations and/or times.

Remotely Sensed Data – We discuss the diverse ways in which data can be collected remotely using various platforms. We focus on Global Navigation Satellite Systems (GNSS) as well as other aerial and satellite systems as valuable sources of spatial data.

Data Quality – We discuss data standards and how they are used to promote and/or preserve data quality. We also examine the various types and sources of error that we may encounter as a part of the data stream. We consider the various ways we can check for errors and cope with uncertainty when using GIS to help inform decisions about actions we may take in the real world.

New Spatial Data Capture – We explore the ways in which the Esri, Eos, and Trimble software ecosystems can be used along with field-based systems (GNSS and GPS receivers, unmanned autonomous systems and a variety of sensors) to support spatial data acquisition, analysis, and visualization. A variety of readings and exercises in the first half of the class will help to support a field project conducted during a one-week field trip on Catalina Island in which students design, conduct, and present the results of their own spatial data collection projects using equipment provided by the Spatial Sciences Institute and/or their own devices.

Master's Prospectus – All M.S. students in the GIST program are required to complete a thesis at the end of their studies. To help these students, and GIST Graduate Certificate students planning to transition to the GIST M.S. Program, move quickly towards the development of their thesis plans, these students apply concepts and ideas gleaned from *SSCI 581: Concepts for Spatial Thinking* and this course to prepare an abstract, extended abstract, and a preliminary prospectus for their master's thesis project. The thesis represents the capstone project for the GIST M.S. degree; additional thesis elements are interspersed throughout the required and elective courses leading to *SSCI 594a/b: Master's Thesis*. GIST students who do not intend to complete a thesis will complete alternative assignments. Students enrolled in the HSGI M.S. program are required to complete a capstone project that focuses on one or more human

security and/or geospatial intelligence challenges at the end of their studies. Similarly, these students complete on a series of assignments that work towards a project proposal.

Written Communication Skills - Since successful spatial scientists and geospatial intelligence specialists need cutting-edge spatial skills as well as effective communication competence to prosper in today's rapidly evolving world, faculty members from the USC Writing Program coach students on their writing skills in selected assignments during this course.

Learning Objectives

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

- Describe fitness-for-purpose (i.e. use) criteria and apply them to the evaluation of geospatial data for specific applications;
- Discuss the conceptual foundations of unmanned autonomous system (UAS)-derived imagery data
- Describe and demonstrate the methods to collect and process UAS-derived imagery;
- Design and implement a strategy for capturing or sourcing geospatial data and any accompanying metadata;
- Assess the impact of national and international data standards on the sourcing and availability of geospatial data;
- Critically evaluate the potential impacts of data quality on spatial analysis and decision making; and
- Demonstrate the ability to use one or more of the commonly utilized systems employed today for the capture of location-based data so you can acquire, organize, store, analyze, model, visualize, and share your own spatial data going forward.

Prerequisite(s): None
Co-requisite(s): None
Concurrent Enrollment: None
Recommended Preparation: *SSCI 581: Concepts for Spatial Thinking*

Course Structure

This is a graduate level course, so you should expect this class to be both academically robust and intellectually challenging. As a graduate student, you are expected to engage with the information you are learning and to explore the heady cauldron of ideas, opinion, and analysis that describe our collective effort to thoroughly interrogate the subject at hand. Learning arises from active engagement with the knowledge found in the reading materials and with one another. As in any graduate level class, the instructor's role is that of a guide who keeps you on path of discovery and you will find that you will learn much from your fellow classmates. This is especially the case within the milieu of "online learning".

All course materials will be organized through Blackboard. The main theoretical concepts will be provided through the course notes and assigned readings. Hands-on practical exercises will use various software products accessible over the Internet. Assignments will give you an opportunity to internalize and apply the concepts and theory learned from readings. Some assignments require student interaction; all will benefit from it.

Workload – This is a four credit, one semester graduate level course. Students should expect to spend 10-15 hours per week to complete the work in this class. Please note that in addition to the weekly workload, there is a required weeklong field excursion to the Philip K. Wrigley Marine Science Center on Catalina Island. *Note: There is a required room and board fee for the Catalina trip of approximately $360 that is supplemental to the regular tuition cost.*

Technological and Communication Requirements

The geospatial software and data required for course assignments will be accessed using computing resources provided by the Spatial Sciences Institute.

ArcGIS is provided online via the SSI Server; hence, you do not need to install it on your own computer. In addition, your instructor will provide laptops with Esri, Trimble, and image processing software and a variety of GPS and related data capture devices for the Catalina field component. At their home workspaces, every student must have the following technology requirements:

- A computer with a fast Internet connection.
- A functional webcam and a microphone for use whenever a presentation or meeting is scheduled.
- An up-to date web browser to access the SSI server.

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

Catalina Data Hub – Students enrolled in SSCI 587 will be given access to the Catalina Data Hub https://catalinaisland-uscssi.opendata.arcgis.com), the SSI-managed open data hub, via the institutional ArcGIS Online accounts. Students should explore the open data available for Catalina Island ahead of the field component and utilize this data while on Catalina. Students can also request access to closed research groups where they can access data made available to SSI students for use during this course and for research purposes only – these data are not to be shared publically

Communications – Apart from the week on Catalina, this is a distance-learning course, so most of our interactions will be asynchronous (not at the same time). All materials to be handed in will be submitted via Blackboard. 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.

I will send via email through Blackboard any notices that are time sensitive. Please be sure that you read as soon as possible all email sent from Blackboard or from me. Do not ignore course email until the day before assignments are due. Also double check to be sure that email sent from the USC blackboard account does not go into your junk mail!

While I am usually on-line and will probably respond to emails from students very quickly, I will endeavor to respond to all email within 24 hours of receipt, aiming for no more than 72 hours delay. In the rare case when I expect to be off-line for more than 72 hours, I will post an announcement on the Blackboard site.

Discussion and Collaborative work – On Blackboard, you will discuss your learnt concepts and theory with classmates and work with them to complete course assignments, exercises, and projects as the need arises. Through discussion and collaborative work, students can provide support to each other while working on their own assignments, and sharing helpful tips.

Required Readings and Supplementary Materials

The required textbooks for this course are:

- Bolstad, P. 2016. *GIS Fundamentals: A First Text on Geographic Information Systems*, 5th edition. White Bear Lake, MN: Elder Press. This text is available as a hardbound copy or e-book for purchase at: www.xanedu.com.
- Law, M., and A. Collins. 2019. *Getting to Know ArcGIS Pro (3nd edition)*. Redlands, CA: Esri Press.

You will recognize that both of these books are also required for *SSCI 581: Concepts for Spatial Thinking*. These textbooks will be supplemented with Course Notes and a mixture of readings from academic journals, professional reports, and authoritative websites.

Supplemental Readings – The following journal articles will be posted to Blackboard under the Course Readings:

- Wilson, John P., and A. Stewart Fotheringham (editors). 2008. *The Handbook of Geographic Information Science*. Oxford, Blackwell. While you may purchase this book if you wish to own a bound copy, **it is available through the USC Libraries.**
- Bolstad, P. V., P. Gessler, and T. M. Lillesand. 1990. Positional uncertainty in manually digitized map data. *International Journal of Geographic Information Systems* 4: 399-412.
- Chrisman, N. R. 1984. The role of quality information in the long-term functioning of a geographic information system. *Cartographica* 21: 79-87.
- De Genst, W., F. Canters, and H. Gulinck. 2001. Uncertainty modeling in buffer operations applied to connectivity analysis. *Transactions in GIS* 5: 305-326.
- De Smith, M. J., M. F. Goodchild, and P. A. Longley. 2015. *Geospatial Analysis: A Comprehensive Guide to Principles, Techniques and Software Tools (5th Ed.).* London, UK: Winchelsea Press (Ch. 5.1.2).

- Fisher, P., A. Comber, and R. Wadsworth. 2010. What's in a name? Semantics, standards, and data quality. In *Spatial Data Quality: From Process to Decisions*, edited by R. Devillers and H. Goodchild. 43-59. Boca Raton, FL: CRC Press.
- Frank, A. U. 2010. Scale is introduced in spatial datasets by observation processes. In *Spatial Data Quality: From Process to Decisions,* edited by R. Devillers and H. Goodchild. 17-30. Boca Raton, FL, CRC Press.
- Frank, S. A. 2011. Measurement scale in maximum entropy models of species abundance. *Journal of Evolutionary Biology*. 24: 485-496.
- Goldberg, D. W., J. P. Wilson, and C. A. Knoblock. 2007. From text to geographic coordinates: The current state of geocoding. *Journal of the Urban and Regional Information Systems Association* 19(1): 33-46.
- Goodchild, M. F. 2000. Communicating the Results of Accuracy Assessment: Metadata, Digital Libraries, and Assessing Fitness for Use. In *Quantifying Spatial Uncertainty in Natural Resources: Theory and Applications for GIS and Remote Sensing.* Eds T.M. Mowrer and R.G. Congalton. 3-15. Chelsea, MI: Ann Arbor Press.
- Goodchild, M. F. 2011. Scale in GIS: An overview. *Geomorphology* 130: 5-9.
- Greenwood, F. 2015. How to make maps with drones. In *Drones and Aerial Observation: New Technology for Property Rights, Human Rights, and Global Development, A Primer*, edited by K. Kakaes. 35-47. Washington, DC: New America.
- Hodgson, J.C., R. Mott, S.M. Baylis, T.T. Pham, S. Wotherspoon, A.D. Kilpatrick, R.R. Segaran, I. Reid, A Terauds, L.P. Koh. 2018. Drones count wildlife more accurately and precisely than humans. *Methods in Ecology and Evolution*. 9:1160-1167.
- Hunter, G. J., and M. F. Goodchild. 1995. Dealing with error in spatial databases: A simple case study. *Photogrammetric Engineering and Remote Sensing* 61: 529-537.
- Hunter, G. J., and M. F. Goodchild. 1996. Communicating uncertainty in spatial databases. *Transactions in GIS* 1: 13-24.
- Hutchinson, M. F. 1989. A new procedure for gridding elevation and stream line data with automatic removal of spurious pits. *Journal of Hydrology* 106: 211-232.
- Jankowska, M. M., J. Schipperijn, and J. Kerr. 2015. A framework for using GPS data in physical activity and sedentary behavior studies. *Exercise and Sport Sciences Reviews* 43 no.1: 48-56.
- Johnson, C. E., and C. C. Barton. 2004. Where in the world are my field plots? Using GPS effectively in environmental field studies. *Frontiers in Ecology and the Environment* 2: 475-482.
- Jones, R. R., C. T. DellaValle, A. R. Flory, , A. Nordan, J. A. Hoppin, J. N. Hofmann, …, and M. H Ward. 2014. Accuracy of residential geocoding in the Agricultural Health Study. *International Journal of Health Geographics* 13: 37.

- Kassie, D., A. Roudot, N. Dessay, J.-L. Piermay, G. Salem, and F. Fournet. 2017. Development of a spatial sampling protocol using GIS to measure health disparities in Bobo-Dioulasso, Burkina Faso, a medium-sized African city. *International Journal of Health Geographics* 16: 14.
- NASA. 2015. *Small Spacecraft Technology State of the Art*. Moffet Field, CA: NASA Mission Design Division Ames Research Center (Ch. 1-2).
- Onsrud, H. J. 2010. Liability for spatial data quality. In *Spatial Data Quality: From Process to Decisions*, edited by R. Devillers and H. Goodchild. 3-16. Boca Raton, FL: CRC Press.
- Pasquarella, V. J., C. E. Holden, L. Kaufman, and C. E. Woodcock. 2016. From imagery to ecology: Leveraging time series of all available Landsat observations to map and monitor ecosystem state and dynamics. *Remote Sensing in Ecology and Conservation* 2: 152-170.
- Reynard, D. 2018. Five classes of geospatial data and the barriers to using them. *Geography Compass*. March. https://doi.org/10.1111/gec3.12364
- Robinson, L., J. P. Newell, and J. M. Marzluff. 2005. Twenty-five years of sprawl in the Seattle region: Growth management responses and implications for conservation. *Landscape and Urban Planning* 71: 51-72.
- Singh, I. 2016. The future of earth observation is in small satellites. Retrieved from https://www.geospatialworld.net/article/earth-observation-small-satellites-industry/
- Smith, A. N. H., M. J. Anderson, and M. D. M. Pawley. 2017. Could ecologists be more random? Straightforward alternatives to haphazard spatial sampling. *Ecography* 40 (no.11): 1251-1255.
- Strominger, J., R. Anthopolos, and M. L. Miranda. 2016. Implications of construction method and spatial scale on measures of the built environment. *International Journal of Health Geographics* 15: 15.
- Wang, J., J. Liu, D. Zhuan, L. Li, and Y. Ge. 2002. Spatial sampling design for monitoring the area of cultivated land. *International Journal of Remote Sensing* 23 (no.2): 263-284.
- Whitehead, K., and C. H. Hugenholtz. 2014. Remote sensing of the environment with small unmanned aircraft systems (UASs), Part 1: A review of progress and challenges. *Journal of Unmanned Vehicle Systems* 2: 69-85.
- Zandbergen, P. A. 2008. A comparison of address point, parcel and street geocoding techniques. *Computers, Environment and Urban Systems* 32: 214-232.

Description and Assessment of Assignments

Weekly Assignments

There are several different kinds of assignments with at least one due weekly. These are described in the Weekly Folders on Blackboard. Due dates are shown in the Schedule below.

Resume Assignment – 1 worth 2 points. We require all current students to post and maintain a public resume, short biography, and recent photo on our shared SSI Student Community Blackboard site. Please prepare your resume in the SSI template that will be provided to you. Unless you opt out, your resume will be included in the Spatial Science Institute Graduate Programs Resume Book. This resume book is compiled annually and, along with our web presence, is used to promote our programs, and more importantly, your skills, experience, and professional aspirations.

Reading Assignments – 5 worth 10 points. Each student is required to complete a minimum of five of the 10 reading assignments for this class. The reading assignments focus on the theory portion of the course as presented in the weekly readings. The objective is to help you evaluate and integrate the information you have acquired from the course readings. The first reading assignment is required and from there you are free to choose any four of the nine subsequent assignments. However, you must complete and submit them for grading in the weeks specified in the Schedule below. If you complete more than five reading assignments, your instructor will use the first reading assignment and your four highest scores from the subsequent reading assignments to calculate your course grade.

Data Capture and Use Assignments – 4 worth 12 points. Each student is required to complete a minimum of four (4) of the five (5) data capture and use assignments for this class. The "hands-on" data capture assignments require you to work through various skill development activities and data integration into the ArcGIS Pro platform. To demonstrate that you have completed the steps comprising each of these assignments, you will submit a Word document containing output such as a map and/or brief written answers.

Discussion Forums – 2 worth 4 points. These focus on varying combinations of theory and practice. Anticipate that you will be required to post a minimum of two new messages (i.e. one per forum) and four replies (i.e. two per forum) to messages posted by your classmates at designated times throughout the semester.

Exercises – 3 worth 15 points. To demonstrate your understanding of the basic concepts and skills learned in the class, you will complete three exercises that will integrate key concepts and ideas and require independent thought. The final two exercises will take one of three forms depending on your student status. Students enrolled in the GIST M.S. Program and GIST Graduate Certificate students planning to transition to the GIST M.S. Program will start work on their proposed thesis prospectus; the remainder of the GIST Graduate Certificate students will tackle a pair of exercises focused on fundamental geospatial information data capture and management challenges; and the HSGI M.S. students will start work on their proposed capstone project proposal.

Summative Assignment – 1 worth 4 points. A final summative written assignment to be completed during the final examination period is required. In this assignment, you will reflect on the course learning outcomes and explain how the assigned work completed during the semester address these.

Catalina Field Component

For this part of the course, you will be divided into small teams to undertake your field work together. In addition to completing the data collection project, each team will deliver two oral presentations and a poster summarizing your project and results.

First Presentation – 5 points. This 10-15 minute presentation will take place at the start of the week and will describe your team's proposed research project.

Second Presentation – 10 points. This 15-20 minute presentation will take place at the end of the week and will summarize your team's methodology, results and findings.

Poster – 8 points. The poster will present a summary of your project and visualization of results. The posters must be submitted for grading to Blackboard before leaving the island.

Research Reports

Two research reports provide students an opportunity to integrate learning from various aspects of the course through the practice of a more in-depth assignment.

First Report – 10 points. The first report will provide you with an opportunity to describe the data capture options and challenges for a project of your choice from a list of projects spanning a variety of application domains. The first report must not exceed six single-spaced pages excluding figures, maps, tables, and references.

Second Report – 20 points. The second report will take one of three forms depending on your student status. Students enrolled in the GIST M.S. Program and GIST Graduate Certificate students planning to transition to the GIST M.S. Program (Group 1) will prepare a prospectus for a thesis project and outline some of the methods and geospatial data sources that could be used in such a project. The remainder of the GIST Graduate Certificate students (Group 2) will be afforded the opportunity to integrate all that they have learned in the semester in an investigation of data quality for one or several specific applications that your instructor will designate. The HSGI M.S. students (Group 3) will prepare a proposal for their capstone project. The second report (for all groups) must not exceed 10-12 single-spaced pages excluding figures, maps, tables, and references.

Grading Breakdown

Assignments	Number	Points	Total Points
Weekly Assignments			
Resume Assignment	1	2	2
Reading Assignments	5	2	10
Data Capture and Use	4	3	12
Discussion Forums	2	2	4
Exercises	3	5	15
Summative Assignment	1	4	4
Catalina Island Excursion			
First Presentation	1	5	5
Second Presentation	1	10	10

Poster	1	8	8
Research Reports:			
First Report	1	10	10
Second Report	1	20	20
Totals	21	-	100

Assignment Submission Policy

Unless otherwise noted, assignments must be submitted via Blackboard by the due dates specified in the Course Schedule below and on the assignment instructions.

Unless otherwise noted, all Reading Assignments, Exercises, Data Capture & Use Assignments, and Discussions are *due by 11:59 pm Pacific Time (PT) on Mondays*. Fieldwork components have different due dates as indicated on the Schedule below. Attention to on-time assignment submission is essential if your instructor is to meet the goal to return comments on submitted assignments before the next one is due. Sometimes this is impossible, so your instructor will post a notice on anticipated delays if needed.

Strict penalties apply for late assignments as follows:

- All assignments will be penalized 2 points for up to FOUR days late. No points will be given for submission 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 pm PT on the last day of classes.

Schedule

	Topic	Readings and Assignments	Deliverables/Due Dates
Module 1: Spatial Information			
Week 1 1/13	Introduction to class	Wilson & Fotheringham, Ch. 1 Resume Assignment Discussion Forum 1	No deliverables
Week 2 1/21* *Monday, 1/20 is university holiday	Geospatial data types	Bolstad, Ch. 2 Chrisman (1984) Reading Assignment 1)	Resume Assignment: TUESDAY 1/21 Discussion Forum 1: TUESDAY 1/21
Week 3 1/27	Fitness-for-use	Goodchild (2000) Fisher et al (2010) Reading Assignment 2 Exercise 1	Reading Assignment 1: Monday, 1/27

	Topic	Readings and Assignments	Deliverables/Due Dates
Week 4 2/3	Maps and other legacy geospatial datasets	Bolstad, Ch. 3 & 4 Bolstad et al. (1990) Hutchinson (1989) (optional) Reading Assignment 3 Data Capture and Use Assignment 1	Reading Assignment 2: Monday, 2/3; Exercise 1: Monday, 2/3
Module 2: New Data Collection			
Week 5 2/10	GNSS & GPS receivers	Bolstad, Ch. 5 Johnson & Barton (2004) Jankowska et al. (2015) Reading Assignment 4 Data Capture and Use Assignment 2 **Introduce Report 1**	Reading Assignment 3: Monday, 2/10; Data Capture and Use 1: Monday, 2/10
Module 3: Imagery			
Week 6 *Monday, 2/17 is university holiday	Aerial and early satellie images	Bolstad, Ch. 6 Pasquearella et al. (2016) Robinson et al. (2005) Discussion Forum 2	Reading Assignment 4: Monday, 2/17; Data Capture and Use 2: Monday, 9/30
Week 7 2/24	*Catalina*	Reynard (2018) Course notes Proposal Presentation Final Presentation Poster	Discussion Forum 2: **Sunday, 2/23** ---------- First Presentation: Tuesday, 2/25 Second Presentation: Sunday, 3/1 Poster: Sunday, 3/1
Week 8 3/2	Newer satellite-based images	NASA (2015), Ch. 1-2 Singh (2016) Reading Assignment 5 Exercise 2	**Report 1:** **Monday, 3/2**
Week 9 3/9	Unmanned Autonomous Systems (UAS)	Course Notes Greenwood, Ch. 4 Whitehead & Hugenholtz (2014) Hodgson et al (2016) Reading Assignment 6 Data Capture and Use Assignment 3	Reading Assignment 5: Monday, 3/9; Exercise 2: Monday, 3/9
3/16	*3/16-3/22 is Spring Recess		

	Topic	Readings and Assignments	Deliverables/Due Dates
Module 4: Data Standards and Quality			
Week 10 3/23	Role and importance of scale	Goodchild (2011) Frank (2010) Strominger et al. (2016) Reading Assignment 7 **Introduce Exercise 3**	Reading Assignment 6: Monday, 3/23; Data Capture and Use 3: Monday, 3/23
Week 11 3/30	Data standards, data quality, and uncertainty	Bolstad, Ch. 14 De Genst et al. (2001) Hunter and Goodchild (1995) Hunter and Goodchild (1996) Reading Assignment 8	Reading Assignment 7: Monday, 3/30
Module 5: Geospatial Applications			
Week 12 4/6	Geocoding	Goldberg et al. (2007) Zandbergen (2008) Jones et al. (2014) Data Capture and Use Assignment 4	Reading Assignment 8: Monday 4/6; **Exercise 3:** **Monday, 4/6**
Week 13 4/13	Spatial sampling	De Smith et al. (2015), Ch. 5.1.2 Frank (2010) Kassie et al. (2017) Smith et al. (2017) Wang et al. (2002) Reading Assignment 9 Data Capture and Use Assignment 5 **Introduce Report 2**	Data Capture and Use 4: Monday, 4/13
Week 14 4/20	Spatial interpolation/ spatial estimation	Bolstad, Ch. 12 Reading Assignment 10	Reading Assignment 9: Monday, 4/20; Data Capture and Use 5: Monday, 4/20
Week 15 4/27 Friday, 5/1 is the last day of class	Class wrap-up	Onsrud (2010)	Reading Assignment 10: Monday, 4/27; **Report 2:** **FRIDAY 5/1**
Final Exam 5/6-5/13	Summative Assignment	Summative Assignment	Summative Assignment: **Monday, 5/11**

Statement on Academic Conduct and Support Systems

Academic Conduct:

Plagiarism – presenting someone else's ideas as your own, either verbatim or recast in your own words – is a serious academic offense with serious consequences. Please familiarize yourself 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, policy.usc.edu/scientific-misconduct.

Support Systems:

Counseling and Mental Health - (213) 740-9355 – 24/7 on call

studenthealth.usc.edu/counseling

Free and confidential mental health treatment for students, including short-term psychotherapy, group counseling, stress fitness workshops, and crisis intervention.

National Suicide Prevention Lifeline - 1 (800) 273-8255 – 24/7 on call

suicidepreventionlifeline.org

Free and confidential emotional support to people in suicidal crisis or emotional distress 24 hours a day, 7 days a week.

Relationship and Sexual Violence Prevention and Services (RSVP) - (213) 740-9355(WELL), press "0" after hours – 24/7 on call

studenthealth.usc.edu/sexual-assault

Free and confidential therapy services, workshops, and training for situations related to gender-based harm.

Office of Equity and Diversity (OED)- (213) 740-5086 | Title IX – (213) 821-8298

equity.usc.edu, titleix.usc.edu

Information about how to get help or help someone affected by harassment or discrimination, rights of protected classes, reporting options, and additional resources for students, faculty, staff, visitors, and applicants. The university prohibits discrimination or harassment based on the following *protected characteristics*: race, color, national origin, ancestry, religion, sex, gender, gender identity, gender expression, sexual orientation, age, physical disability, medical condition, mental disability, marital status, pregnancy, veteran status, genetic information, and any other characteristic which may be specified in applicable laws and governmental regulations. The university also prohibits sexual assault, non-consensual sexual contact, sexual

misconduct, intimate partner violence, stalking, malicious dissuasion, retaliation, and violation of interim measures.

Reporting Incidents of Bias or Harassment - (213) 740-5086 or (213) 821-8298

usc-advocate.symplicity.com/care_report

Avenue to report incidents of bias, hate crimes, and microaggressions to the Office of Equity and Diversity |Title IX for appropriate investigation, supportive measures, and response.

The Office of Disability Services and Programs - (213) 740-0776

dsp.usc.edu

Support and accommodations for students with disabilities. Services include assistance in providing readers/notetakers/interpreters, special accommodations for test taking needs, assistance with architectural barriers, assistive technology, and support for individual needs.