

SSCI 683 (Section 35790): Principles of Spatial Data Analysis

Units: 4

Term—Day—Time: Spring 2024, Fridays 11 a.m. – 1:50 p.m.

Location: SOS B43

Instructor: An-Min Wu, Ph.D.

Office: AHF B55B

Office Hours: Mondays 4 - 5 p.m. and Wednesdays 3 – 4 p.m. in-person or via zoom – please contact me via email in advance to ensure I will be available in the format you’d wish to meet. Also available most days between 9 a.m. – 5 p.m. by appointment.

Contact Info: anminwu@usc.edu, (213) 740-2876

Library Help: Andrzej (Andy) Rutkowski

Office: VKC Library 36B

Office Hours: By appointment

Contact Info: arutkows@usc.edu

IT Help: Myron Medalla

Office: AHF B56B

Office Hours: By appointment

Contact Info: spatial_support@usc.edu

Course Scope and Purpose

This course explores theoretical foundations, methods, techniques, and software systems for spatial data analysis. The course aims to provide students with the fundamental knowledge and hands-on skills necessary to investigate research questions, with a focus on population and health problems, using current spatial analytic approaches. Including fundamental spatial concepts and the core technical components, this course intends to explore a broad range of principle spatial analysis methods, including exploratory spatial data analysis, remote sensing, spatial statistics, and network and locational analysis. The latest research in a variety of topics related to population, health, and place that are central to spatial analysis are also examined. Students will gain an in-depth understanding and hands-on experience in the ways to explore a variety of applications through a combination of homework, presentations and projects. Students will learn about the wide variety of geospatial data and analytical tools available, including how to find relevant data and transform it as needed so that it can be used for solving specific socio-economic challenges and problems.

Learning Objectives

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

- Describe key theoretical concepts of spatial analysis approaches.
- Evaluate spatial analysis approaches and techniques for working on research that investigates places and their roles in shaping environmental exposures, health-related impacts and outcomes, and the efficacy of health care delivery systems.
- Analyze spatial problems by applying appropriate and relevant spatial analysis techniques.

Prerequisite(s): None.

Co-Requisite (s): Students must be enrolled in an existing USC PhD program

Concurrent Enrollment: None

Recommended Preparation: Some experience in GIS software or GIS coursework (e.g. SSCI 581) is strongly recommended; contact the instructor if you have no prior experience in GIS.

Class Conduct

Harassment, sexual misconduct, interpersonal violence, and stalking are not tolerated by the university. All faculty and most staff are considered Responsible Employees by the university and must forward all information they receive about these types of situations to the Title IX Coordinator. The Title IX Coordinator is responsible for assisting students with supportive accommodations, including academic accommodations, as well as investigating these incidents if the reporting student wants an investigation. The Title IX office is also responsible for coordinating supportive measures for transgender and nonbinary students such as faculty notifications, and more. If you need supportive accommodations you may contact the Title IX Coordinator directly (titleix@usc.edu or 213-821-8298) without sharing any personal information with me. If you would like to speak with a confidential counselor, Relationship and

Sexual Violence Prevention Services (RSVP) provides 24/7 confidential support for students (213-740-9355 (WELL); press 0 after hours)

Generative AI Tools such as ChatGPT, DALL-E, Bard and others are now part of the cultural landscape. As in your professional lives, there will be times when using these tools is appropriate and others when there is more benefit to not using them. We will work together to determine the opportunities and responsibilities of using these tools. Some guideline principles in this course include:

- All work should be original and created specifically for the given assignment. You are responsible for the accuracy and originality of any material submitted.
- You should be the authors of all text submitted. In assignments that are collaborative in nature, that group of students will be the co-authors and have all associated responsibilities.
- Academic integrity policies regarding the use of generative AI tools will apply to every assignment.
- The extent to which using a generative AI tool is appropriate will be identified for each assignment. Please note that such use will differ for each assignment.
- Any generative AI text should be treated as source material and should be appropriately cited. In other words, if someone else (or something else) wrote the text, a citation is necessary. You will be asked to further cite not just the source, but how you used these tools. This extra step is reflective of future professional standards and responsibilities.
- Any generative AI image or graphic should be appropriately cited.

Diversity and Inclusion – It is my intent that students from all diverse backgrounds and perspectives be well served by this course, that students’ learning needs be addressed both in and out of class, and that the diversity that students bring to this class be viewed as a resource, strength and benefit. It is my intent to present materials and activities that are respectful to everyone, and you are also expected to respect of others regardless of their race, ethnicity, gender identity and expressions, cultural beliefs, religion, sexual orientation, national origin, age, abilities, ideas and perspectives, or socioeconomic status. Your suggestions are encouraged and appreciated. Feel free to let me know ways to improve the effectiveness of the course for you personally or for other students.

Course Structure

The course will be delivered via multiple methods including lectures, class discussion, presentations and hands-on practice. For the majority of the class meetings, the class will start with a group discussion for the readings relating to the previous week topic & a lecture led by a fellow classmate for the first hour. The instructor will present the core topics for the second hour. The remaining time in the class will be hands-on practices related to the lecture topics covered or other in-class activities. Student participation is encouraged through reading discussions, hands-on practices, homework assignments, and class presentations.

Throughout the semester, hands-on practice and homework assignments provide students first-hand experience in spatial analysis using the software R and ArcGIS Pro, and reading

assignments help students evaluate and integrate the information acquired from the weekly readings. Students will design and conduct final projects to learn more in-depth spatial analysis approaches in a specific topic of research interest and demonstrate their ability to apply appropriate spatial analysis methods in resolving problems related to population, health and place.

Course Content Distribution and Synchronous Session Recordings Policies

USC has policies that prohibit recording and distribution of any synchronous and asynchronous course content outside of the learning environment.

Recording a university class without the express permission of the instructor and announcement to the class, or unless conducted pursuant to an Office of Accessibility Services (OSAS) accommodation. Recording can inhibit free discussion in the future, and thus infringe on the academic freedom of other students as well as the instructor. ([Living our Unifying Values: The USC Student Handbook](#), page 13).

Distribution or use of notes, recordings, exams, or other intellectual property, based on university classes or lectures without the express permission of the instructor for purposes other than individual or group study is prohibited. This includes but is not limited to providing materials for distribution by services publishing course materials. This restriction on unauthorized use also applies to all information, which has been distributed to students or in any way has been displayed for use in relationship to the class, whether obtained in class, via email, on the internet, or via any other media. ([Living our Unifying Values: The USC Student Handbook](#), page 13).

Technological and Communication Requirements

The course will be focused on using R and ArcGIS Pro. Students can access the software for course assignments using computing resources provided by the Spatial Sciences Institute. Students will be given login credentials and instructions to sign-in to the remote Spatial Sciences Institute Server for the required software. Every student must have the following technology requirements:

- A computer with a fast Internet connection.
- A functional webcam and a microphone.
- An up-to-date web browser to access the Server

If a student does not have access to any of these, please speak with the instructor at the start of the semester. Also, see the USC ITS Student Toolkit here:

<https://keep Teaching.usc.edu/students/student-toolkit/>

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 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.

Communications – 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 all day 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.

Required Readings and Supplementary Materials

The required textbooks for this course are:

- de Smith, Michael J., Michael F. Goodchild, and Paul A. Longley. 2021. *Geospatial analysis: a comprehensive guide to principles, techniques and software tools* (6th Ed.). Winchelsea, UK: Winchelsea Press. (Available online: <http://www.spatialanalysisonline.com/index.html>.)
- O'Sullivan, David, and David Unwin. 2014. *Geographic Information Analysis*, 2nd Edition. Hoboken, NJ: Wiley. (Available online via USC Libraries.)

Supplementary readings will be assigned from various sources and will be accessed via the USC Library's electronic collections and/or provided by the instructor via Blackboard, including:

- Adams, Marc A., Lawrence D. Frank, Jasper Schipperijn, Graham Smith, James Chapman, Lars B. Christiansen, Neil Coffee et al. 2014. "International variation in neighborhood walkability, transit, and recreation environments using geographic information systems: the IPEN adult study." *International journal of health geographics* 13, (1): 1-17.
- Ali, Muhammad Zeeshan, Hone-Jay Chu, & Thomas J. Burbey. 2020. "Mapping and predicting subsidence from spatio-temporal regression models of groundwater-drawdown and subsidence observations." *Hydrogeology Journal*, 28(8), 2865-2876.
- Baker, David M., and Alain-Jacques Valleron. 2014. "An open source software for fast grid-based data-mining in spatial epidemiology (FGBASE)." *International journal of health geographics* 13, (1): 46.
- Barreto, Moises Colares, Doris Kosminsky, and Claudio Esperança. 2018. "Hexagonal hierarchical cartogram: Towards a thematic map of Brazil." *InfoDesign-Revista Brasileira de Design da Informação* 15 (1): 45-62.
- Bartesaghi-Koc, Carlos, Paul Osmond, and Alan Peters. 2022. "Innovative use of spatial regression models to predict the effects of green infrastructure on land surface temperatures." *Energy and Buildings* 254: 111564.

- Brazil, N. 2021. "The multidimensional clustering of health and its ecological risk factors." *Social Science & Medicine*, 113772.
- Burdick, K. J., Rees, C. A., Lee, L. K., Monuteaux, M. C., Mannix, R., Mills, D., Hirsh, M. P., & Fleegler, E. W. 2023. Racial & ethnic disparities in geographic access to critical care in the United States: A geographic information systems analysis. *PloS One*, 18(11), e0287720–e0287720. <https://doi.org/10.1371/journal.pone.0287720>
- Choi, Hyungyun and Ho Kim. 2017. "Analysis of the relationship between community characteristics and depression using geographically weighted regression." *Epidemiology and Health*, 39.
- Dogru, Ahmet Ozgur, Ruusa Magano David, Necla Ulugtekin, Cigdem Goksel, Dursun Zafer Seker, and Seval Sözen. 2017. "GIS based spatial pattern analysis: Children with Hepatitis A in Turkey." *Environmental research* 156: 349-357.
- Gibson, L., Engelbrecht, J., & Rush, D. 2019. Detecting historic informal settlement fires with sentinel 1 and 2 satellite data-Two case studies in Cape Town. *Fire Safety Journal*, 108, 102828.
- Hanna-Attisha, Mona, Jenny LaChance, Richard Casey Sadler, and Allison Champney Schnepf. 2016. "Elevated blood lead levels in children associated with the Flint drinking water crisis: a spatial analysis of risk and public health response." *American Journal of Public Health* 106 (2): 283-290.
- Harris, Nancy L., Elizabeth Goldman, Christopher Gabris, Jon Nordling, Susan Minnemeyer, Stephen Ansari, Michael Lippmann et al. 2017. "Using spatial statistics to identify emerging hot spots of forest loss." *Environmental Research Letters* 12(2): 024012.
- Hohl, Alexander, Minrui Zheng, Wenwu Tang, Eric Delmelle, and Irene Casas. 2017. "Spatiotemporal point pattern analysis using Ripley's K function." In *Geospatial data science: techniques and applications*. CRC Press, Boca Raton, FL.
- Jean, N., Burke, M., Xie, M., Davis, W. M., Lobell, D. B., & Ermon, S. 2016. Combining satellite imagery and machine learning to predict poverty. *Science*, 353(6301), 790-794.
- Jiang, Hong, and J. Ronald Eastman. 2000 "Application of fuzzy measures in multi-criteria evaluation in GIS." *International Journal of Geographical Information Science* 14, (2): 173-184.
- Kelly-Schwartz, A. C., J. Stockard, S. Doyle, & M. Schlossberg. 2004. "Is sprawl unhealthy? A multilevel analysis of the relationship of metropolitan sprawl to the health of individuals." *Journal of Planning Education and Research*, 24(2), 184-196.
- Kwan, Mei-Po. 2018. "The limits of the neighborhood effect: Contextual uncertainties in geographic, environmental health, and social science research." *Annals of the American Association of Geographers* 108 (6): 1482-1490.
- Langford, Mitchel, Gary Higgs, and Richard Fry. 2016. "Multi-modal two-step floating catchment area analysis of primary health care accessibility." *Health & place* 38: 70-81.

- Levi, S., Hauthal, E., Mukherjee, S., & Ostermann, F. O. 2024. Visualizing Emoji Usage in Geo-Social Media Across Time, Space, and Topic. *Frontiers in Communication*, 9, 1303629.
- Liu, S., Wu, A. M., & Ho, H. C. 2023. Spatial variability of diurnal temperature range and its associations with local climate zone, neighborhood environment and mortality in Los Angeles. *Urban Climate*, 49, 101526.
- Liu, Qiannan, Zhiyun Ouyang, Ainong Li, and Weihua Xu. 2016. "Spatial Distribution Characteristics of Biomass and Carbon Storage in Forest Vegetation in Chongqing Based on RS and GIS." *Nature Environment and Pollution Technology* 15 (4): 1381.
- Louis, Valérie R., Revati Phalkey, Olaf Horstick, Pitcha Ratanawong, Annelies Wilder-Smith, Yesim Tozan, and Peter Dambach. 2014. "Modeling tools for dengue risk mapping-a systematic review." *International Journal of Health Geographics* 13 (1): 50.
- Ma, Jing, Chunjiang Li, Mei-Po Kwan, and Yanwei Chai. 2018. "A Multilevel Analysis of Perceived Noise Pollution, Geographic Contexts and Mental Health in Beijing." *International journal of environmental research and public health* 15, no. 7: 1479–.
- Mobley, Lee R., Tzy-Mey Kuo, Matthew Urato, Sujha Subramanian, Lisa Watson, and Luc Anselin. 2012. "Spatial heterogeneity in cancer control planning and cancer screening behavior." *Annals of the Association of American Geographers* 102 (5): 1113-1124.
- Mulrooney, Timothy, Kathi Beratan, Christopher McGinn, and Benjamin Branch. 2017. "A comparison of raster-based travel time surfaces against vector-based network calculations as applied in the study of rural food deserts." *Applied geography* 78: 12-21.
- Nilsson, Pia. 2014. "Natural amenities in urban space – A geographically weighted regression approach." *Landscape and Urban Planning* 121: 45-54.
- Perchoux, Camille, Basile Chaix, Ruben Brondeel, and Yan Kestens. 2016. "Residential buffer, perceived neighborhood, and individual activity space: New refinements in the definition of exposure areas–The RECORD Cohort Study." *Health and Place* 40: 116-122.
- Shi, Xun, Jennifer Alford-Teaster, Tracy Onega, and Dongmei Wang. 2012. "Spatial access and local demand for major cancer care facilities in the United States." *Annals of the Association of American Geographers* 102(5): 1125-1134.
- Spencer, John, and Gustavo Angeles. 2007. "Kernel density estimation as a technique for assessing availability of health services in Nicaragua." *Health Services and Outcomes Research Methodology* 7: 145-157.
- Spielman, Seth E., and John R. Logan. 2013. "Using high-resolution population data to identify neighborhoods and establish their boundaries." *Annals of the Association of American Geographers* 103 (1): 67-84.

- Vaz, Eric, Michael Cusimano, and Tony Hernandez. 2015. "Land use perception of self-reported health: Exploratory analysis of anthropogenic land use phenotypes." *Land Use Policy* 46: 232-240.
- VoPham, Trang, John P. Wilson, Darren Ruddell, Tarek Rashed, Maria M. Brooks, Jian-Min Yuan, Evelyn O. Talbott, Chung-Chou H. Chang, and Joel L. Weissfeld. 2015. "Linking pesticides and human health: A geographic information system (GIS) and Landsat remote sensing method to estimate agricultural pesticide exposure." *Applied Geography* 62: 171-181.
- Wang, W., Xiao, X., Qian, J., Chen, S., Liao, F., Yin, F., Zhang, T., Li, X., & Ma, Y. 2022. Reclaiming independence in spatial-clustering datasets: A series of data-driven spatial weights matrices. *Statistics in Medicine*, 41(15), 2939–2956. <https://doi.org/10.1002/sim.9395>
- Watson, Joss JW, and Malcolm D. Hudson. 2015. "Regional Scale wind farm and solar farm suitability assessment using GIS-assisted multi-criteria evaluation." *Landscape and urban planning* 138: 20-31.
- Wei, R., Rey, S., & Knaap, E. 2021. Efficient regionalization for spatially explicit neighborhood delineation. *International Journal of Geographical Information Science : IJGIS*, 35(1), 135–151. <https://doi.org/10.1080/13658816.2020.1759806>
- Weiss, D. J[†], A. Nelson, H. S. Gibson, W. Temperley, S. Peedell, A. Lieber, M. Hancher , E. Poyart, S. Belchior, N. Fullman and B. Mappin. 2018. "A global map of travel time to cities to assess inequalities in accessibility in 2015." *Nature* 553 (7688): 333.
- Yin, Chaohui, Man Yuan, Youpeng Lu, Yaping Huang, and Yanfang Liu. 2018. "Effects of urban form on the urban heat island effect based on spatial regression model." *Science of the Total Environment* 634: 696-704.
- Yu, Wenhao, Tinghua Ai, and Shiwei Shao. 2015. "The analysis and delimitation of Central Business District using network kernel density estimation." *Journal of Transport Geography* 45: 32-47.
- Zhang, Y., Mavoa, S., Zhao, J., Raphael, D., & Smith, M. 2020. The association between green space and adolescents' mental well-being: a systematic review. *International journal of environmental research and public health*, 17(18), 6640.

Description and Assessment of Assignments

There are several different types of assignments due nearly each week in our course that make up a significant part of your final grade. These different types of assignments are described below.

Lead Class Discussion - 1 worth a total of 12%: Each student will lead one class discussion on the assigned readings once during the semester. Class discussion will focus on the theory and application of the methods as presented in the weekly readings. Each student discussion leader prepares for a 15-minute opening statement presentation followed by 3 questions raised from the presentation material for class discussion.

Written Reflection on Reading/Class Discussion – A total of 15%. Students are expected to read all material outlined for each week before class, participating in in-class discussion led by a fellow classmate, and reflect on the material by responding to the questions asked by the discussion leader via online forum after class discussion within 72 hours. The number of the written reflection essays depends on the number of enrollment and therefore the number of lead class discussion for that semester. This written reflection aims to help the students evaluate and integrate the information acquired from the course readings and in-class discussion.

In-Class Engagement – a total of 12%. An in-class engagement grade for the semester will be assigned based upon student engagement in the class sessions including, but not limited to, in-class exercises, participations to in-class discussion, and feedback to student project ideas. Failure to attend, participate in class exercise, or not be adequately prepared to discuss the readings will lead to the assignment of a lower grade for that week.

Homework Assignments -- 3 worth a total of 24%: Students will be assigned a total of 3 homework assignments in this course. These hands-on assignments are to practice spatial analysis techniques explored in theory in the texts. You will analyze the data of your own choice using ArcGIS and/or R scripts, and write a short report to answer the questions in each assignment.

Final Project

To integrate your learning of all the material covered in the course, in the final project, each student will conduct an independent research project. You will design, undertake, and report on a spatial analysis research project that will be the context of different assignments throughout the semester. The four components of the project will be due at different times throughout the semester. The grading rubric for each project component will be provided at the time the assignment is released. The four final project components include:

Project Idea Presentation - 5%. An in-class presentation for your final project idea, including the spatial questions you would like to investigate, how you plan to solve them, the data to be used for analysis, and expected outcomes.

Proposal - 8%. A proposal document developed from the project idea presentation, your background research, and the feedback received.

Final Presentation - 10%. A final presentation during the final week of the class session.

Report - 16%. A written report in the format of a research paper on your final project methodology and outcomes.

Grading Breakdown

Assessments	Number	% Each	Total % of Grade
In-class engagement	-	-	12
Lead class discussion	1	10	10

Written reflection on reading/class discussion	5	3	15
Homework assignments	3	8	24
Project idea presentation	1	5	5
Project proposal	1	8	8
Project presentation	1	10	10
Project report	1	16	16
Total	-	-	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.

Students are expected to attend and participate in every class session and to complete and upload all assignments before the deadlines detailed in the Course Schedule. Late work will be assessed a penalty of 10% per day and zero grades will be assigned for work that is more than one week late.

Course Schedule: A Weekly Breakdown

	Topics	Readings & Assignments	Deliverables
Module 1: Concept Framework for Spatial Data Analysis			
Week 1 1/12	Introduction to course & spatial analysis conceptual framework	de Smith et al. (2018) Ch. 2 O’Sullivan & Unwin (2014) Ch.1 Perchoux et al. (2016)	
Week 2 1/19* *Monday, 1/16 is university holiday	Spatial analysis conceptual framework II & Geospatial data analysis potentials and problems	O’Sullivan & Unwin (2014) Ch.2 Spielman and Logan (2013) Wei et al. (2021) Kwan (2018) Homework Assignment 1	Sign-up for class presentations
Week 3 1/26	Maps for spatial analysis and processes	O’Sullivan & Unwin (2014) Ch.3 & 4 Barreto et al. (2018) Levi et al. (2024) Mobley et al. (2012)	
Module 2: Exploratory Analysis for Spatial Data			
Week 4 2/2	Point pattern analysis: density-based and distance-based	de Smith et al. (2018). Ch. 5-§5.2 & §5.4 Spencer and Angeles (2007) Yu et al. (2015)	

	Topics	Readings & Assignments	Deliverables
		Hohl et al. (2017)	
Week 5 2/9	Spatial autocorrelation and local statistics	O'Sullivan & Unwin (2014) Ch.7 & 8 Vaz et al. (2015) Harris et al. (2017) Dogru et al. (2017)	Homework Assignment 1: Friday, 2/9
Week 6 2/16	Classic regression for GIS and geographically weighted regression	de Smith et al. (2018). §5.6.1-5.6.3 Choi and Kim (2017) Nilsson (2014) Ali et al. (2020)	Project Idea Presentation/Discussion
Module 3: Scale and generalization of geospatial data			
Week 7 2/23* *Monday, 2/19 is university holiday	Multilevel linear regression	Kelly-Schwartz et al. (2004) Ma et al. (2018) Zhang et al. (2020) Homework Assignment 2	
Week 8 3/1	Spatial autoregressive models	De Smith et al. (2018). §5.6.3-5.6.4 Yin et al. (2018) Bartesaghi-Koc et al. (2022) Wang et al. (2022)	
Week 9 3/8	Surface and field analysis	O'Sullivan & Unwin (2014) §9.4-9.5 Baker and Valleron (2014) Mulrooney et al. (2017)	Project Proposal: due Friday, 3/8
* 3/10-3/17 is Spring Recess			
Module 4: Spatial Forecasting and Locational Intelligence			
Week 10 3/22	Suitability analysis: Weighted and fuzzy overlay	Jiang & Eastman (2000) Watson & Hudson (2015)	Homework Assignment 2: due Tuesday, 3/19
Week 11 3/29	Measures for accessibility on service areas	Weiss et al. (2018) Shi et al. (2012) Landford et al. (2016) Burdick et al. (2023) Homework Assignment 3	
Week 12			

	Topics	Readings & Assignments	Deliverables
4/5	Spatial network analysis (Guest speaker: TBA)	Adams et al. (2014) Brazil (2021)	
Week 13 4/12	Using remotely sensed data in GIS	Jean et al. (2016) Gibson et al. (2019) Liu et al. (2023)	
Week 14 4/19* *AAG week; schedule might change	Variogram & Spatial interpolations	O’Sullivan &Unwin (2014) §10.3- §10.4 de Smith et al. (2018). §6.5-§6.6 Louis et al. (2014) Hanna-Attisha et al. (2016)	Homework Assignment 3: due Tuesday, 4/16
Week 15 4/26* *Friday, 4/26 is the last day of class	Final Presentations		Final presentation during the class
Final Exam Week	TBD – Final report due date follows the University exam schedule		

Statement on Academic Conduct and Support Systems

Academic Integrity:

The University of Southern California is a learning community committed to developing successful scholars and researchers dedicated to the pursuit of knowledge and the dissemination of ideas. Academic misconduct, which includes any act of dishonesty in the production or submission of academic work, comprises the integrity of the person who commits the act and can impugn the perceived integrity of the entire university community. It stands in opposition to the university’s mission to research, educate, and contribute productively to our community and the world.

All students are expected to submit assignments that represent their own original work, and that have been prepared specifically for the course or section for which they have been submitted. You may not submit work written by others or “recycle” work prepared for other courses without obtaining written permission from the instructor(s).

Other violations of academic integrity include, but are not limited to, cheating, plagiarism, fabrication (e.g., falsifying data), collusion, knowingly assisting others in acts of academic dishonesty, and any act that gains or is intended to gain an unfair academic advantage.

The impact of academic dishonesty is far-reaching and is considered a serious offense against the university. All incidences of academic misconduct will be reported to the Office of Academic Integrity and could result in outcomes such as failure on the assignment, failure in the course, suspension, or even expulsion from the university.

For more information about academic integrity see [the student handbook](#) or the [Office of Academic Integrity's website](#), and university policies on [Research and Scholarship Misconduct](#). Please ask your instructor if you are unsure what constitutes unauthorized assistance on an exam or assignment, or what information requires citation and/or attribution.

Students and Disability Accommodations:

USC welcomes students with disabilities into all of the University's educational programs. The Office of Student Accessibility Services (OSAS) is responsible for the determination of appropriate accommodations for students who encounter disability-related barriers. Once a student has completed the OSAS process (registration, initial appointment, and submitted documentation) and accommodations are determined to be reasonable and appropriate, a Letter of Accommodation (LOA) will be available to generate for each course. The LOA must be given to each course instructor by the student and followed up with a discussion. This should be done as early in the semester as possible as accommodations are not retroactive. More information can be found at osas.usc.edu. You may contact OSAS at (213) 740-0776 or via email at osasfrontdesk@usc.edu.

Support Systems:

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

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

[988 Suicide and Crisis Lifeline](#) - 988 for both calls and text messages – 24/7 on call

The 988 Suicide and Crisis Lifeline (formerly known as the National Suicide Prevention Lifeline) provides free and confidential emotional support to people in suicidal crisis or emotional distress 24 hours a day, 7 days a week, across the United States. The Lifeline is comprised of a national network of over 200 local crisis centers, combining custom local care and resources with national standards and best practices. The new, shorter phone number makes it easier for people to remember and access mental health crisis services (though the previous 1 (800) 273-8255 number will continue to function indefinitely) and represents a continued commitment to those in crisis.

[Relationship and Sexual Violence Prevention Services \(RSVP\)](#) - (213) 740-9355(WELL) – 24/7 on call

Free and confidential therapy services, workshops, and training for situations related to gender- and power-based harm (including sexual assault, intimate partner violence, and stalking).

[Office for Equity, Equal Opportunity, and Title IX \(EEO-TIX\)](#) - (213) 740-5086

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.

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

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

[The Office of Student Accessibility Services \(OSAS\)](#) - (213) 740-0776

OSAS ensures equal access for students with disabilities through providing academic accommodations and auxiliary aids in accordance with federal laws and university policy.

[USC Campus Support and Intervention](#) - (213) 740-0411

Assists students and families in resolving complex personal, financial, and academic issues adversely affecting their success as a student.

[Diversity, Equity and Inclusion](#) - (213) 740-2101

Information on events, programs and training, the Provost's Diversity and Inclusion Council, Diversity Liaisons for each academic school, chronology, participation, and various resources for students.

[USC Emergency](#) - UPC: (213) 740-4321, HSC: (323) 442-1000 – 24/7 on call

Emergency assistance and avenue to report a crime. Latest updates regarding safety, including ways in which instruction will be continued if an officially declared emergency makes travel to campus infeasible.

[USC Department of Public Safety](#) - UPC: (213) 740-6000, HSC: (323) 442-1200 – 24/7 on call

Non-emergency assistance or information.

[Office of the Ombuds](#) - (213) 821-9556 (UPC) / (323-442-0382 (HSC)

A safe and confidential place to share your USC-related issues with a University Ombuds who will work with you to explore options or paths to manage your concern.

[Occupational Therapy Faculty Practice](#) - (323) 442-2850 or otfp@med.usc.edu

Confidential Lifestyle Redesign services for USC students to support health promoting habits and routines that enhance quality of life and academic performance.