USC Viterbi
School of Engineering

## Course ID and Title:

ISE 617 / CSCI 617: Machine Learning for/with Mixed-Integer Optimization

**Units:** 4

**Term—Day—Time:** Mon/Wed 12:00 - 1:50 pm

**Location:** DMC 203


**Instructor:** Andres Gomez (ISE) and Bistra Dilkina (CS)

**Office:** TBD

**Office Hours:** TBD

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**Teaching Assistant:**

**Office:** TBD

**Office Hours:** TBD

**Contact Info:** TBD

### Catalogue Description

Machine learning and mixed integer optimization (MIO) to solve problems in artificial intelligence (AI) and machine learning (ML). Leveraging AI/ML to improve MIO solvers.

### Course Description

The course will cover recent results on combining the strengths of Machine Learning (ML)/ Artificial Intelligence (AI) and Mixed-Integer Optimization (MIO) technologies. It will discuss how MIO can be used to enhance AI methods in settings with scarce and unreliable data, in high-stakes situations where interpretability and fairness play fundamental roles, and when tackling engineering problems requiring human-AI collaborations. The course will also discuss how AI can be used to improve solving MIO problems, using it to learn ML-based alternatives to key heuristic components of MIO solvers such as branching, understand the key structural properties of a given instance, learn effective configurations of MIO solvers and predict the performance of a given algorithm, thus improving decision-making throughout the solution process.

### Learning Objectives

After completing this course, students will be able to

1. Formulate and solve AI/ML problems using MIO technology.
2. Apply different ML techniques in the context of mixed-integer optimization.
3. Read and write a paper at the intersection of AI/ML and MIO.

**Prerequisite(s):**

**Co-Requisite(s):**

**Concurrent Enrollment:**

**Recommended Preparation:**

- Optimization (at the level of CSCI 675, ISE 630, or ISE 631).

- Machine learning (at the level of CSCI 567, ISE 568, CSCI 467, EE 460, ISE 529, or CSCI 559) using Python.

## Required Readings and Supplementary Materials

**All required readings can be downloaded from the USC libraries websites.**

Week 2: Mixed-integer optimization:

1. Bixby, Robert, and Edward Rothberg. "Progress in computational mixed integer programming--a look back from the other side of the tipping point." Annals of Operations Research 149.1 (2007): 37.
2. Bixby, Robert E. "A brief history of linear and mixed-integer programming computation." Documenta Mathematica 2012 (2012): 107-121.
3. Kronqvist, Jan, David E. Bernal, Andreas Lundell, and Ignacio E. Grossmann "A review and comparison of solvers for convex MINLP." Optimization and Engineering 20 (2019): 397-455.
4. Lodi, A. (2013). The heuristic (dark) side of MIP solvers. In Hybrid metaheuristics, pages 273–284. Springer.

Week 3-4: ML-guided MIP Intro

1. Prouvost, A., Dumouchelle, J., Scavuzzo, L., Gasse, M., Ch´etelat, D., and Lodi, A. (2020). Ecole: A gym-like library for machine learning in combinatorial optimization solvers. arXiv preprint arXiv:2011.06069.
2. Distributional MIPLIB: a Multi-Domain Library for Advancing ML-Guided MILP Methods. W Huang, T Huang, AM Ferber, B Dilkina, arXiv 2024
3. Machine learning augmented branch and bound for mixed integer linear programming. Scavuzzo, L., Aardal, K., Lodi, A., and Yorke-Smith, N. (2024). arXiv preprint arXiv:2402.05501.

Week 4-5: MIO for Regression:

1. Atamturk, Alper, and Andrés Gómez. "Safe screening rules for l0-regression from perspective relaxations." International conference on machine learning. Proceedings of the International Conference on Machine Learning (2020).
2. Bertsimas, Dimitris, Angela King, and Rahul Mazumder. "Best subset selection via a modern optimization lens." The Annals of Statistics (2016): 813-852.
3. Günlük, Oktay, and Jeff Linderoth. "Perspective reformulations of mixed integer nonlinear programs with indicator variables." Mathematical programming 124 (2010): 183-205.
4. Hazimeh, Hussein, Rahul Mazumder, and Ali Saab. "Sparse regression at scale: Branch-and-bound rooted in first-order optimization." Mathematical Programming 196.1-2 (2022): 347-388.

Week 5-6: MIO for Classification:

1. Aghaei, Sina, Andrés Gómez, and Phebe Vayanos. "Strong optimal classification trees." Forthcoming in Operations Research (2024).
2. Bertsimas, Dimitris, and Jack Dunn. "Optimal classification trees." Machine Learning 106 (2017): 1039-1082.
3. Brooks, Paul J. “Support vector machines with the ramp loss and the hard margin loss.” Operations Research (2011): 467-479
4. Shi, Mingfei, Kaixun Hua, Jiayang Ren and Yankai Cao. “Global optimization of K-center clustering.” Proceedings of the 39th International Conference on Machine Learning (2022).

5. Ustun, Berk, and Cynthia Rudin. "Learning Optimized Risk Scores." Journal of Machine Learning Research. 20.150 (2019): 1-75.
6. Verwer, Sicco, and Yingqian Zhang. "Learning optimal classification trees using a binary linear program formulation." Proceedings of the AAAI conference on artificial intelligence (2019).

Week 7.1: MIO for Robustness and Outliers

1. Bertsimas, Dimitris, Jack Dunn, Colin Pawlowski, and Ying Daisy Zhuo. "Robust classification." INFORMS Journal on Optimization 1.1 (2019): 2-34.
2. Bertsimas, Dimitris, and Rahul Mazumder. "Least quantile of squares regression via modern optimization." The Annals of Statistics 42.6 (2014): 2494-2525.
3. Gómez, Andrés. "Outlier detection in time series via mixed-integer conic quadratic optimization." SIAM Journal on Optimization 31.3 (2021): 1897-1925.
4. Insolia, Luca, Ana Kenney, Francesca Chiaromante and Giovanni Felici. "Simultaneous feature selection and outlier detection with optimality guarantees." Biometrics (2022):1592-1604.
5. Zioutas, Georgios, and Antonios Avramidis. "Deleting outliers in robust regression with mixed integer programming." Acta Mathematicae Applicatae Sinica 21 (2005): 323-334.

Week 7.2: MIO for Graphical Models

1. Gómez, Andrés, Shaoning Han and Leonardo Lozano. "Real time solution of quadratic optimization problems with banded matrices and indicator variables". Forthcoming in Operations Research (2025).
2. Liu, Peijing, Salar Fattahi, Andrés Gómez, and Simge Küçükyavuz. "A graph-based decomposition method for convex quadratic optimization with indicators." Mathematical Programming (2022): 1-33.

Week 8: MIO for ML Emerging Topics

1. TBD

Week 9: MIP Algorithm Configuration and Runtime prediction

1. Hutter, Frank, et al. "ParamILS: an automatic algorithm configuration framework." Journal of Artificial Intelligence Research 36 (2009): 267-306. [link]
2. Hutter, F., Xu, L., Hoos, H. H., & Leyton-Brown, K. (2014). Algorithm runtime prediction: Methods & evaluation. Artificial Intelligence, 206, 79-111.
3. Lawless, Connor, et al. "LLMs for cold-start cutting plane separator configuration." CPAIOR'25. [link]

Week 10: ML for MIP Branching

1. Learning to branch in mixed integer programming, E. B. Khalil, P. Le Bodic, L. Song, G. Nemhauser, B. Dilkina, AAAI 2016
2. Learning to Branch, Maria-Florina Balcan, Travis Dick, Tuomas Sandholm, Ellen Vitercik, ICML 2018.
3. Exact Combinatorial Optimization with Graph Convolutional Neural Networks. Maxime Gasse, Didier Chételat, Nicola Ferroni, Laurent Charlin, Andrea Lodi. NeurIPS 2019.
4. Solving mixed integer programs using neural networks. Nair, V., Bartunov, S., Gimeno, F., Von Glehn, I., Lichocki, P., Lobov, I., O'Donoghue, B., Sonnerat, N., Tjandraat-madja, C., Wang, P., et al. arXiv 2020. arXiv preprint arXiv:2012.13349.
5. Learning backdoors for mixed integer programs with contrastive learning. Cai, J., Huang, T., and Dilkina, B. ECAI 2024.

Week 11: ML for MIP Meta-heuristics

1. Learning a large neighborhood search algorithm for mixed integer programs. Sonnerat, N., Wang, P., Ktena, I., Bartunov, S., and Nair, V. arXiv 2021
2. Learning large neighborhood search policy for integer programming. Wu, Y., Song, W., Cao, Z., and Zhang, J. NeurIPS 2021
3. Searching large neighborhoods for integer linear programs with contrastive learning. Huang, T., Ferber, A. M., Tian, Y., Dilkina, B., and Steiner, B. ICML 2023
4. Accelerating Primal Solution Findings for Mixed Integer Programs Based on Solution Prediction. Ding, J.-Y., Zhang, C., Shen, L., Li, S., Wang, B., Xu, Y., & Song, L. AAAI 2020. https://doi.org/10.1609/aaai.v34i02.5503
5. A GNN-guided predict-and-search framework for mixed-integer linear programming. Han, Q., Yang, L., Chen, Q., Zhou, X., Zhang, D., Wang, A., Sun, R., and Luo, X. ICLR 2022
6. Contrastive predict-and-search for mixed integer linear programs. Huang, T., Ferber, A. M., Zharmagambetov, A., Tian, Y., and Dilkina, B. ICML 2024

Week 12: MIO for Artificial Neural Networks:

1. Anderson, Ross, Joey Huchette, Will Ma, Christian Tjandraatmadja, and Juan Pablo Vielma. "Strong mixed-integer programming formulations for trained neural networks." Mathematical Programming 183.1-2 (2020): 3-39.
2. Khalil, Elias B., Amrita Gupta, and Bistra Dilkina. "Combinatorial Attacks on Binarized Neural Networks." International Conference on Learning Representations.
3. Serra, Thiago, Christian Tjandraatmadja, and Srikumar Ramalingam. "Bounding and counting linear regions of deep neural networks." International Conference on Machine Learning (2018).
4. Tjandraatmadja, Christian, Ross Anderson, Joey Huchette, Will Ma, Krunal Kishor Patel, and Juan Pablo Vielma. "The convex relaxation barrier, revisited: Tightened single-neuron relaxations for neural network verification." Advances in Neural Information Processing Systems 33 (2020): 21675-21686.

Week 13: ML for MIP Branch-and-Bound: beyond branching

1. Learning to run heuristics in tree search. Khalil, E. B., Dilkina, B., Nemhauser, G. L., Ahmed, S., and Shao, Y. IJCAI 2017
2. Learning to cut by looking ahead: Cutting plane selection via imitation learning. Paulus, M. B., Zarpellon, G., Krause, A., Charlin, L., and Maddison, C..In ICML, 2022
3. Deza, Arnaud, Elias B. Khalil, Zhenan Fan, Zirui Zhou, and Yong Zhang. "Learn2Aggregate: Supervised Generation of Chv\'atal-Gomory Cuts Using Graph Neural Networks." arXiv preprint arXiv:2409.06559 (2024).
4. Learning to compare nodes in branch and bound with graph neural networks. A. Labassi, Didier Chételat, and Andrea Lodi. NeurIPS 2024

Week 14: ML for Combinatorial Optimization

1. Dai, Hanjun, et al. “Learning combinatorial optimization algorithms over graphs.” NeurIPS’17. [link]
2. Veličković, Petar, et al. “Neural execution of graph algorithms.” ICLR’20. [link]
3. Combinatorial Optimization and Reasoning with Graph Neural Networks. Quentin Cappart, Didier Chételat, Elias B. Khalil, Andrea Lodi, Christopher Morris, Petar Veličković, JMLR 2023
4. Sun, Zhiqing, and Yiming Yang. “Difusco: Graph-based diffusion solvers for combinatorial optimization.” NeurIPS’23. [link]

## Description of Assignments and How They Will Be Assessed

The course will consist of 4 homework sets and a final project.

## Project Description

A key component of the course will be to get a hands-on experience in using a combination of AI and MIO technologies. Projects will be done alone or in small teams (1-3). Projects will be graded based on their novelty and technical results. Students will be expected to prepare project proposals early in the course, and give presentations of their projects/papers at the end of the course. The final project paper should have the structure of a conference paper with a problem statement, a literature review, approach, empirical results, and a discussion. A statement of author contributions (i.e. who did what) must be turned in with the final draft.

**Timeline**

- Week 3: Initial introduction of the project, identification of team members and project topics.
- Week 6: Proposal due (team members, topic, relevance to class, outline of possible approach).
- Week 10: Project mid-point report (presentation of formulations, preliminary computations).
- Week 15: Project presentation
- Final Exam: Project final report.

In addition to the timeline above, the teams are encouraged to communicate with the instructor often during the execution of the project.

**Project proposal (4%)**

Projects should relate to using ML for mixed integer optimization or MIO for solving a machine learning / AI task. It can relate to benchmarking methods against each other, applying the techniques to a new application domain, or developing a new (variant of a) technique within this space. We are open to a wide variety of types of projects. Come by during Office Hours to discuss your ideas EARLY!

The project proposal will be evaluated based on the following criteria:

1. Relevance to class topic
2. Clarity of the project proposal (1 page)
3. Feasibility of the proposed work based on data availability and proposed plan for solving the problem.

Concrete feedback will be given after the proposal to improve for next steps of the project.

**Presentation (8%)** The presentation should be approximately 15 minutes. It should describe the problem tackled, the proposed solution approach, the technical innovations and computational experiments performed.

**Final Report (25%)** The final report should be between 5 and 8 pages (single-spaced, 11pt times font or similar). It is due during the Final Exam Time Slot. It should have the structure of a conference paper with a problem statement, literature review, approach, empirical results, and a discussion. A statement of author contributions (i.e. who did what) must be turned in with the final draft.

The project midpoint report, final report and final project presentation will be evaluated based on:

1. Relevance to class topic.
2. Clarity of the report (~5-8 pages) and presentation.
3. Illustration of the concepts learned in class or from research papers in related areas.
4. Novelty of problem studied and of solution approach.

There is a lot of flexibility in the kind of projects completed.

**Project Grading Breakdown** The project will account for 47% of the final grade, distributed as follows: 25% - final report, 4% - proposal, 10% - Mid-point report; 8% - oral presentation and supporting material for the oral presentation (e.g., slides). All members of the group are expected to contribute to all components of the project. In case of uneven efforts reported in the statement of author contributions, less performing members of the group may be penalized accordingly.

## Homework Description

There will be one “coding” homework and three “paper review and presentation” homeworks.

**Coding homework (15%)** After the initial review of classical methods (week 2 and 3), the students will be tasked to implement individually these methods to solve practical MIO/ML problems. The homework will rely on standard libraries or software from the MIO or ML communities, and is designed to ensure that students have firsthand experience with the necessary tools to carry out the class projects.

**Paper review and presentation homeworks (30% total)** Each homework consists in preparing a paper beforehand, and either presenting it to the rest of the students via a short in-class discussion, or writing a report analyzing the paper with Q/A. The homework can be performed either individually or in groups of two, and each student will present in class at least once. The grade will be based on mastery of the contents of the paper and clarity of the presentation. These reviews will be scattered among the lecture days, based on student sign-ups for specific slots/papers.

## Participation

Class participation will be scored based on engagement in class discussion. Meaningful engagements include participation in Q&A (asking or answering questions from the instructor or other students), commenting on a paper being presented, or presenting project progress, engaging in discussions around project definition, etc. At least 6 meaningful class interactions are needed to get full participation score. Half of the participation points will be allocated during the first half of the course (i.e. by Session 15) and the remainder in the second half.

## Grading Breakdown

| **Assessment Tool (assignments)** | **% of Grade** |
|---|---|
| HW 1 | 15 |
| HW 2-4 | 30 |
| HW 3 | 10 |
| HW 4 | 10 |
| Project | 47 |
| Participation | 8 |
| **TOTAL** | 100 |

## Assignment Submission Policy

Assignments must be submitted via Brightspace by end of day on the day of the deadline.

## Academic Integrity for this Class

Unless otherwise noted, this course will follow the expectations for academic integrity as stated in the USC Student Handbook. The general USC guidelines on Academic Integrity and Course Content Distribution are provided later in this syllabus.

Class Recordings and Course Content Distribution: You may not record this class without the express permission of the instructor and all other students in the class. Distribution of any notes, recordings, exams, or other materials from a university class or lectures — other than for individual or class group study — is prohibited without the express permission of the instructor; violations will be considered an intentional act to facilitate or enable academic dishonesty and reported to the university.

***Use of Generative AI in this Course***

**Generative AI is permitted but limited as follows:** In this course, you are permitted to use artificial intelligence (AI)-powered programs to help you, but only on assignments that explicitly indicate a permitted use of AI. However:

- You should also be aware that AI text generation tools may present incorrect information, biased responses, and incomplete analyses; thus, their answers may not meet the standards of this course.
- To adhere to our university values, *you must cite any AI-generated material (e.g., text, images, and other content) included or referenced in your work and provide the prompts used to generate the content*. Using an AI tool to generate content without proper attribution will be treated as plagiarism and reported to the Office of Academic Integrity.

Please review the instructions in each assignment for more details on how and when to use AI Generators for your submissions.

## Course Evaluations

In addition to the course evaluation that occurs at the end of the semester, we will have an informal course evaluation at the halfway point to allow for early course correction.

## Course Schedule

| **SPRING 2026** | Date | Topic | Assignments |
|---|---|---|---|
| week 1 | Jan 12 | Introduction | |
| | Jan 14 | General modeling | |
| week 2 | Jan 19 | **HOLIDAY MLK** | |
| | Jan 21 | Review of MIO methods | |
| week 3 | Jan 26 | Review of MIO methods | |
| | Jan 28 | Review of ML methods | **Reviews Sign-up** |
| week 4 | Feb 2 | Review of ML methods | **Project Team** |
| | Feb 4 | MIO for Regression | |
| week 5 | Feb 9 | MIO for Regression | **hw1 coding** |
| | Feb 11 | MIO for Classification methods | |
| week 6 | Feb 16 | **HOLIDAY President's** | |
| | Feb 18 | MIO for Classification methods | |
| week 7 | Feb 23 | MIO for Robustness and outliers | **Project proposal** |
| | Feb 25 | MIO for Graphical models | |
| week 8 | Mar 2 | Emerging topics in MIO for ML | |
| | Mar 4 | Emerging topics in MIO for ML | |
| week 9 | Mar 9 | Intro to ML-guided MIP solving + MIP Algorithm Configuration | |
| | Mar 11 | MIP Algorithm Configuration | |
| | Mar 16 | **USC SPRING BREAK** | |
| | Mar 18 | **USC SPRING BREAK** | |

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|---|---|---|---|
| week 10 | Mar 23 | ML for MIP Branching (GCNs) | |
| | Mar 25 | ML for MIP Branching (GCNs) | **Project Midpoint report** |
| week 11 | Mar 30 | ML for MIP Meta-heuristics (Contrastive Learning) | |
| | Apr 1 | ML for MIP Meta-heuristics (Contrastive Learning) | |
| week 12 | Apr 6 | MIO for Artificial Neural Networks | |
| | Apr 8 | MIO for Artificial Neural Networks | |
| week 13 | Apr 13 | ML for MIP BnB beyond branching | |
| | Apr 15 | ML for MIP BnB beyond branching | |
| week 14 | Apr 20 | ML for Combinatorial Optimization | |
| | Apr 22 | ML for Combinatorial Optimization | |
| week 15 | Apr 27 | Project presentations | **project presentation** |
| | Apr 29 | Project presentations | |
| EXAM WEEK | Refer to the final exam schedule in the USC *Schedule of Classes* at classes.usc.edu. | **Final project report due** | **Final project report** |

## Academic Integrity

The University of Southern California is foremost a learning community committed to fostering successful scholars and researchers dedicated to the pursuit of knowledge and the transmission of ideas. Academic misconduct — which includes any act of dishonesty in the production or submission of academic work (either in draft or final form) — is in contrast to the university's mission to educate students through a broad array of academic, professional, and extracurricular programs.

This course will follow the expectations for academic integrity as stated in the [USC Student Handbook](). All students are expected to submit assignments that are their own original work and prepared specifically for this course and section in this academic term. You may not submit work written by others or "recycle" work prepared for other courses without obtaining written permission from the instructor(s). Students suspected of engaging in academic misconduct will be reported to the Office of Academic Integrity.

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

Academic dishonesty has a far-reaching impact and is considered a serious offense against the university. Violations will result in a grade penalty, such as a failing grade on the assignment or in the course, and disciplinary action from the university itself, such as suspension or even expulsion.

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.

### 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 Student 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. 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 had been distributed to students or in any way had been displayed for use in relation to the class, whether obtained in class, via email, on the internet, or via any other media. Distributing course material without the instructor's permission will be presumed to be an intentional act to facilitate or enable academic dishonestly and is strictly prohibited. (Living our Unifying Values: The USC Student Handbook, page 13).

## Statement on University Academic and Support Systems

### 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.

### Student Financial Aid and Satisfactory Academic Progress:

To be eligible for certain kinds of financial aid, students are required to maintain Satisfactory Academic Progress (SAP) toward their degree objectives. Visit the Financial Aid Office webpage for undergraduate- and graduate-level SAP eligibility requirements and the appeals process.

### 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 consists 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) 740-2500*
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.