USC

ITP 366 – Blockchain: Advances & Use Cases
Units: 4
Spring 2025 Tuesdays & Thursdays 4:00-5:50PM
Location: OHE 540
Instructor: Eric Chung
Office: Bridge Hall 104H
Office Hours: Meetings in person or Zoom by appointment
Contact Info: chungeri@usc.edu

IT Help:
USC IT (ITS): *https://itservices.usc.edu/contact/*
Viterbi IT: *https://viterbi.usc.edu/resources/vit/contact-us.htm*

Course Description
This course is an in-depth analysis of the many advances and use cases that are enabled by blockchain technology. The course will identify the core differences between existing technologies and the emerging category of Web3 innovations, highlighting key improvements and current problem spaces. Through expert interviews, case studies, and community-reviewed publications, students will gain perspective into an exciting and not-so-distant future impacted by the mainstream adoption of blockchain technology.

Throughout the course, students will be exposed to innovation in both blockchain infrastructure and applications. Infrastructure topics include Layer 1 & 2 blockchains with various flavors in between, oracles that facilitate the movement of information in and out of blockchain networks, and methods to analyze the trove of data available on a global, transparent database. Application topics include the proliferation of NFTs as a cultural phenomenon, DAOs as a means of coordinating labor and capital towards a shared goal, and Defi as an evolution in the global transfer of value. Students should leave the course with a broad understanding of the major technical, social, and economic implications of blockchain as it matures from niche experiment to ubiquitous technology.

Learning Objectives
At the completion of this course, students will be able to:
- Define and articulate the various advances in blockchain technology
- Develop a thesis around the potential of a category of blockchain use cases
- Connect with subject matter experts and engage in thoughtful discussion

Prerequisite(s): ITP 256

Course Notes
Supplemental course content will be posted to Blackboard for use by all students. Discord will also be used as the primary real-time communications channel for the class.

Required Readings and Supplementary Materials
This class covers a great deal of territory, so no single book can cover it all. Content will be assigned in class to provide important domain knowledge.
Delphi Digital is an indispensable resource for research: https://members.delphidigital.io/

Description and Assessment of Assignments
Deliverables: Deliverables should be turned into Blackboard (if applicable) on time. Grading will be based on completeness, accuracy, and timeliness.

Participation
Students are expected to actively engage in classroom discussions and guest speaker sessions.

Grading Breakdown

Grading	The course is graded with the following weights:	
	Participation	10%
	Standups	10%
	Executive Summary	15%
	Mid-Semester Evaluation	15%
	Final Report	30%
	Presentation	10%
	Community Grading	10%
	TOTAL POSSIBLE	**100%**

Grading Scale
Course final grades will be determined using the following scale:

Letter grade	Corresponding numerical point range
A	93-100
A-	90-92
B+	87-89
B	83-86
B-	80-82
C+	77-79
C	73-76
C-	70-72
D+	67-69
D	63-66
D-	60-62
F	59 and below

Assignment Submission Policy
It is the responsibility of the student to make sure assignments are turned in on time. Make sure you follow the procedures outlined in each assignment (Blackboard submissions).

Late assignment submissions will be subject to a late penalty of 25% per day. No assignments will be accepted later than four days from the due date.

Grading Timeline
Assignments Grading will typically be completed within 7 days after submission. Any variations will be announced in class or on blackboard.

Attendance
Consistently missing class can be the basis for a lower grade. Students are advised to inform the instructor of foreseeable missed classes to be excused.

Zoom etiquette
Students are expected to have cameras on and actively engage during Zoom class sessions.

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 is in contrast to the university's mission to educate students through a broad array of first-rank academic, professional, and extracurricular programs and includes any act of dishonesty in the submission of academic work (either in draft or final form).

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 original work and prepared specifically for the course/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.

The impact of academic dishonesty is far-reaching and is considered a serious offense against the university 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.

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 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).

Course Schedule (Subject to Change)

	Topics
Week 1	**Web3 Synopsis**
Week 2	**Layer 1**
Week 3	**Layer 2 & Interoperability**
Week 4	**Infrastructure**
Week 5	**DeFi & Stablecoins**
Week 6	**Guest Lecture**
Week 7	**NFT**
Week 8	**DAO**
Week 9	**VanEck SCBC**
Week 10	**Crypto x AI**
Week 11	**DePin**
Week 12	**Onchain Analytics**
Week 13	**Contemporary Topic**
Week 14	**Workshopping**
Week 15	**Presentation Week**

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.