USC Viterbi
School of Engineering

TAC-170: You Are the Product: Introduction to Data Compliance

Units: 2
[SEMESTER] 110 minutes once per week
Location: [TBD]

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Catalogue Description
Data handling regulation requirements and best practices, system planning, and design for privacy-compliant business processes. Privacy ethics for management of Personally Identifiable Information.

Course Description
This course focuses on ethical data handling practices and understanding the implications of data collection and processing, preparing students for future responsibilities in their respective fields. It will explore the collection and use of Personally Identifiable Information (PII) by organisations. Through collaborative discussions and workshop style activities, students will analyze data management and ethical considerations in projects, including AI. Students will be empowered to become informed digital citizens, capable of navigating data privacy issues for organisations and themselves.

Learning Objectives
By the end of this course, students will be able to:
● Develop students' critical thinking skills related to privacy issues from multiple angles, exploring policy, cultural, and societal impacts, which would be mapped to real-world examples and regulations. These would then be critiqued and contrasted with their own proposals.
● Analyze and interpret the fundamentals of data privacy and ethics.
● Classify different data privacy with approaches to collecting and using personal data to understand their impact on users and society.
● Demonstrate best practices and frameworks for application of user data management.
● Prepare students for real-world application of skills related to data privacy and data ethics by discussing what is being done vs what could be done.

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

Concurrent Enrollment: NONE
Recommended Preparation: None.
Course Notes
Lecture and homework content to be posted on Brightspace

Technological Proficiency and Hardware/Software Required
Students will need a computer (laptop or desktop) and access to the internet. If you do not have access to a computer, please contact your instructor.

Students should have basic technical knowledge of their computer, including the ability to install software, download course material, and properly submit their assignments online. All software needed for the course is available for free.

Required Readings and Supplementary Materials
See the Readings column of the Course Schedule below.

Description of Assignments and How They Will Be Assessed
The assignments will be a combination of in-class and out-of-class exercises. They will typically involve some form of procedural work (instructions provided), with some reflection on the work performed including researching processes and procedures performed. All exercises will be graded on a point scale. There will be a midterm evaluation and a final presentation plus project, as noted in the schedule and Grading breakdown

Assignment Overview and Learning Objective Mapping

Assignment	Mapping to Learning Objectives
Homework 1 - Data Privacy Impact Assessment Produce a high-level data privacy Impact Assessment (DPIA) report for a fictionalized organization. It will be produced in alignment with industry-recognized frameworks. This should be no more than seven (7) pages, including the title page. The title page should also contain version control information. Templates will be provided.	• Prepare students for real-world application of skills related to data privacy and data ethics by discussing what is being done vs what could be done.
Homework 2 - Data journey diagram and description To produce a report that focuses on how data is input into a system, how it is transported, and where it is stored. For each of these information stages, students must detail the risks, countermeasures, and technologies that can be used. It is advised to make reference to the McCumberCube. There should also be a flowchart created alongside the report to aid the high-level overview of the flow of data.	• Prepare students for real-world application of skills related to data privacy and data ethics by discussing what is being done vs what could be done.
Homework 3 - Privacy Policy design and implementation guidance	• Develop students' critical thinking skills related to privacy issues from multiple angles, exploring policy, cultural, and

Students to produce a privacy policy for a fictionalized organization. It will be produced in alignment with industry-recognized frameworks. This should be no more than four (4) pages, including the title page, which should contain version control information. The audience is to be consumers, so it must be written in a clear manner, with explanations given to technical terms (such as 'encryption'). Such headings can also go in a glossary of terms section.	societal impacts, which would be mapped to real-world examples and regulations. These would then be critiqued and contrasted with their own proposals ● Analyze and interpret the fundamentals of data privacy and ethics. ● Classify different data privacy with approaches to collecting and using personal data to understand their impact on users and society. ● Prepare students for real-world application of skills related to data privacy and data ethics by discussing what is being done vs what could be done.
Homework 4 - Identifying AI systems collection and use of data Students will research where and how AI systems collect and use their data, then analyze these processes for how significant the impact of each is from the perspective of ethics and privacy. The audience of this analysis is to be consumers, so it must be written in a clear manner, with explanations given to technical terms (such as 'encryption'). Such headings can also go in a glossary of terms section.	● Develop students' critical thinking skills related to privacy issues from multiple angles, exploring policy, cultural, and societal impacts, which would be mapped to real-world examples and regulations. These would then be critiqued and contrasted with their own proposals ● Analyze and interpret the fundamentals of data privacy and ethics.
Homework 5 - Fairness assessment and harm mitigations Students will produce a fairness assessment report of a dataset, focusing on harms that may be enacted on susceptible groups. They will then take an additional step by recommending a process to mitigate those potential harms. This report will be no more than four (5) pages including the title page. The title page should also contain version control information. The audience of this report will be the C-suite of a fictional organization that they "work for". As such, it will be written in clear language at a fundamental level; technical discussion will be kept to a minimum.	● Develop students' critical thinking skills related to privacy issues from multiple angles, exploring policy, cultural, and societal impacts, which would be mapped to real-world examples and regulations. These would then be critiqued and contrasted with their own proposals ● Analyze and interpret the fundamentals of data privacy and ethics. ● Classify different data privacy with approaches to collecting and using personal data to understand their impact on users and society. ● Demonstrate best practices and frameworks for application of user data management.

	● Prepare students for real-world application of skills related to data privacy and data ethics by discussing what is being done vs what could be done.
Final Project - Privacy-Focused Implementation Guidebook 10% for the in-class presentation 20% for the implementation guidebook You are working as a data protection officer (DPO) for a medium-sized USA-based e-commerce organization. Write a guidebook for a new intern who will be working with you. It must summarize key concepts of this class, and be written to suit the audience's level. It is to be 5 minutes per student, with a Q and A at the end for the group as a whole. Creation of this will require you to call upon content from the entire semester. It will be taken in the class time. ● Define the importance and need for data privacy compliance. ● Describe regulations to adhere to. ● Describe how the data are being collected in the context of privacy. ● Detail function steps to limit, protect, and store personal data. ● Detail what happens when there is a breach. ● Describe practical ways data can be cleansed and appropriately anonymised. ● Analyze risks coming from sensitive features in the data, and how to mitigate these risks. An overview of the guidebook will form the in-class final presentation.	● Develop students' critical thinking skills related to privacy issues from multiple angles, exploring policy, cultural, and societal impacts, which would be mapped to real-world examples and regulations. These would then be critiqued and contrasted with their own proposals ● Analyze and interpret the fundamentals of data privacy and ethics. ● Classify different data privacy with approaches to collecting and using personal data to understand their impact on users and society. ● Prepare students for real-world application of skills related to data privacy and data ethics by discussing what is being done vs what could be done.

Grading Breakdown

Item	% of grade
Homework 1 - Data Privacy Impact Assessment	10%
Homework 2 - Data journey diagram and description	10%
Homework 3 - Privacy Policy design and implementation guidance	10%
Homework 4 - Identifying AI systems collection and use of data	10%
Homework 5 - Fairness assessment and harm mitigations	10%
Midterm	15%
Final Project - Privacy-Focused Implementation Guidebook and presentation	30% (10% presentation, 20% Guidebook)
Quizzes and in-class discussions	5%
TOTAL	100

Assignment Submission Policy

The Assignments will be posted on Brightspace under the "Assignments" section. Each Assignment will include instructions, a due date, and a link for electronic submission. Assignments must be submitted using this link. Do not email your assignments to the instructor, Learning Assistants, or graders. TurnItIn may be utilized for some assignments.

Unless otherwise noted, all Assignment assignments are due the following Friday after they are released, by 11:59:59 PM. The Final will be during the USC Finals period on the day and time specified by the university.

Course-Specific Policies

It is your responsibility to submit your assignments on or before the due date and verify that they have been successfully submitted. Assignments turned in up to 24 hours late will have 25% of the total points deducted from the graded score. Assignments turned in between 24 and 48 hours late will have 50% of the total points deducted from the graded score. After two days, submissions will not be accepted and you will receive no credit for the assignment.

The Learning Assistants and graders are not authorized to grant an extension on any assignment. Any extensions must be requested of the instructor in writing and confirmed in writing.

Attendance

You are expected to be in class, on time, and distraction-free. As this class meets once a week - and it is comprised of both lecture material and in-class activities - any student who misses more than two classes is in danger of failing the course. Please see the instructor immediately if you have missed at least two class meetings.

Academic Integrity

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 in the subsequent "Statement on Academic Conduct and Support Systems" section.

For this class, you are expected to submit work that demonstrates your individual mastery of the course concepts. In-class presentations will require group work and you will be expected to work cooperatively on your presentation delivery

If found responsible for an academic violation, students may be assigned university outcomes, such as suspension or expulsion from the university, and grade penalties, such as an "F" grade on the assignment, exam, and/or in the course.

Please ask the instructor if you are unsure about what constitutes unauthorized assistance on an exam or assignment, or what information requires citation and/or attribution.

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.

Use of Generative AI in this Course
Generative AI is not permitted: Since creative, analytical, and critical thinking skills are part of the learning outcomes of this course, all assignments should be prepared by the student working individually or in groups as described on each assignment. Students may not have another person or entity complete any portion of the assignment. Developing strong competencies in these areas will prepare you for a competitive workplace. Therefore, using AI-generated tools is prohibited in this course, will be identified as plagiarism, and will be reported to the Office of Academic Integrity.

Course Evaluations

There will be a course evaluation that occurs at the end of the semester. It is an important review of your experience in the class, and will ensure that any concerns are noted, as well as knowing what you enjoyed about the class, into the overall improvement of the course.

Course Schedule

All homework assignments are due Friday by 11:59 PM PT. Dates will be posted to Brightspace

Week	Topics	Readings	Assigned work	Due
1	Introduction Data Privacy and Ethics Part 1 Introduction to data collection and big data	Information Security and Privacy - Rethinking Governance Models		
2	Data Privacy and Ethics Part 2 Societal impact of data misuse Introduction to AI ethics and considerations	Bletchley Declaration	**In-class quiz on key readings**	In class
3	Data Privacy Regulations and Compliance Part 1 - Introduction to data regulations including GDPR, PECR and CCPA - Roles and responsibilities - Rights of Individuals - Data Protection Impact Assessment (DPIA)	GDPR Guide DPIA Guide	**Homework 1 Creating a Data Protection Impact Assessment**	End of Week 5
4	Data Privacy Regulations and Compliance part 2 - Special categories of personal data - Introduction to implementation of GDPR regulation (interactive class/presentation pitches) - Transfer of Personal Data to International organisations - remote working - The role of the Data Protection Officer (DPO) - Future of Data protection	FTC Privacy GDPR remote working	**In-class quiz on key readings**	In class
5	Data Privacy and Ethics in the Workplace - Employee monitoring, data breaches, and ethical considerations for employers - Data Privacy and Ethics in healthcare and education Family Educational Rights and Privacy Act (FERPA)	FERPA guide	**Homework 2 - data journey diagram and description**	End of Week 7
6	Privacy By Design - Understanding how personal data is collected, used and processed - Understanding access controls and roles for Iot Devices - IoT device management, IoT labelling scheme for PII - Mapping the data journey of a system	NIST IoT Policy CISA Secure By Design	**In-class quiz on key readings**	In class
7	Privacy and Security Policy Design and Implementation - Terms of service - Structure	SANS	**Homework 3 - Privacy Policy design and**	End of Week 9

	- Version control - Communication - Competence measuring - Learning management systems	NIST CIS Policy Template Framework	**implementation guidance**	
8	Midterm			
9	A Primer on Artificial Intelligence Part 1 - Reasoning and problem-solving - Knowledge representation - Planning and decision-making - Learning - Natural language processing (NLP) - Perception - Social intelligence	Can Artificial Intelligence Embody Moral Values? Ethics of Artificial Intelligence and Robotics		
10	A Primer on Artificial Intelligence Part 2 - Supervised and unsupervised learning applications - Computer Vision (CV) applications	The ethics of facial recognition technologies, surveillance, and accountability in an age of artificial intelligence	**Homework 4 - Identifying AI systems collection and use of data**	End of Week 12
11	Fairness in Data: Problems - Harms: allocation, erasure, quality-of-service, stereotyping	Assessing and Improving Fairness in AI systems	**In-class quiz on key readings**	In class
12	Fairness in Data: Solutions - Assessment - Harm mitigations - Statistical analysis: demographic parity difference	Harm Ratio: A Novel and Versatile Fairness Criterion	**Homework 5 - fairness assessment and harm mitigations**	End of Week 14
13	Fairness in Systems: Problems - Evaluation and aggregation bias - Facial recognition, policing, health care - Copyright	Can LLMs advance democratic values?	**Final Project:** **1. Presentation** **2. Guidebook**	1. Week 15 2. Final Exam time
14	Fairness in Systems: Solutions - Reinforcement learning from human feedback (RLHF) - Machine unlearning - Data poisoning	Reinforcement Unlearning, Adversarial Data Poisoning for Fake News Detection		
15	Final Project Presentations - Practical considerations for data collection, and labelling for an organization - Describing ethical considerations (summarizing everything covered)			

Finals Week	Final Project Due - Privacy-Focused Implementation Guidebook	USC Exam Period, refer to the final exam schedule in the USC Schedule of Classes https://classes.usc.edu.

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.

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).

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.