

Northwestern McCORMICK SCHOOL OF ENGINEERING

Computer Science

Academics

Course Listings

Please view the following document with last year's courses:

[2021-22 Course Listing](#)

[2022-23 Course Listing](#)

Fall 2019, EECS have been separated into two departments - ECE & CS.

- Here is [ECE Course Listing](https://www.mccormick.northwestern.edu/electrical-computer/courses/) (<https://www.mccormick.northwestern.edu/electrical-computer/courses/>) - **To request permission number email CE_EE course Permission** (<mailto:eecspermissions@northwestern.edu>)
- **To request permission number email - CS course Permission** (mailto:CS-Permissions_Advising@northwestern.edu) or **CAESAR catalogue** (<https://caesar.northwestern.edu/>)
- [How to register CS 399, 499 and/or 590](#)

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SEARCH

Course	Course Title	Fall 2023	Winter 2024	Spring 2024	Summer 2024
COMP_SCI 110 (descriptions/110.html)	Intro to Computer Programming (descriptions/110.html)	10-10:50 MWF Horn	10-10:50 MWF (2 sections) Bain	10-10:50 MWF (Bain) or 9:30-10:50 TuTh (Kuzmanovic)	10-11 MW & 10-11:20 F (9 weeks) Mamakos
COMP_SCI 111 (descriptions/111.html)	Fundamentals of Computer Programming I (descriptions/111.html)	1-1:50 or 2-2:50 MWF Bain	11-11:50 MWF Sood	1-1:50 MWF Sood	2-3:30 TuTh Hedayati
COMP_SCI 150 (descriptions/150.html)	Fundamentals of Computer Programming 1.5 (descriptions/150.html)	12-12:50 MWF Compton & Kurdia	1-1:50 MWF (2 sections) Kurdia	11-11:50 MWF Kurdia	9-12pm MTWThF (2 weeks) Kurdia
COMP_ENG 203 (descriptions/203.html)	Intro to Computer Engineering (descriptions/203.html)	MTuWF 11-11:50 Joseph	MTuWF 11-11:50 Zhou		
COMP_ENG 205 (descriptions/205.html)	Fundamentals of Computer System Software (descriptions/205.html)		MTWF 2:00-2:50 Joseph		

Course	Course Title	Fall 2023	Winter 2024	Spring 2024	Summer 2024
COMP_SCI 211 (descriptions/211.html)	Fundamentals of Computer Programming II (descriptions/211.html)	12:30-1:50 TuTh Hummel	9:30-10:50 or 2-3:20 TuTh Hummel	2-3:20 TuTh (2 sections) Hummel	
COMP_SCI 212 (descriptions/212.html)	Mathematical Foundations of CS Part 1: Discrete mathematics for computer science (descriptions/212.html)	9:30-10:50 TuTh Evert	3-3:50 MWF Evert	9:30-10:50 MW Dong	
COMP_SCI 213 (descriptions/213-20.html)	Intro to Computer Systems (descriptions/213-20.html)	12:30-1:50 TuTh Ghena	2-3:20 TuTh (2 sections) Ghena	2-3:20 TuTh Hardavellas	
COMP_SCI 214 (descriptions/214.html)	Data Structures and Algorithms (descriptions/214.html)	11-12:20 TuTh (2 sections) St-Amour	11:00-12:20 TuTh (2 sections) Bhagavatula	11:00-12:20 TuTh (2 sections) St-Amour	
COMP_SCI 217 (descriptions/217.html)	Data Management and Information Processing (descriptions/217.html)	9:30-10:50 TuTh Hu	12:30-1:50 TuTh Hu		
COMP_SCI 260, 460 (descriptions/260-460.html)	Introduction to Law and Digital Technologies (descriptions/260-460.html)			2:00-3:20 M Linna & Villasenor (Lab: 3:30-4:50 M (Discussion))	
COMP_SCI 262 (descriptions/262.html)	Mathematical Foundations of CS Part 2: Continuous mathematics for computer science (descriptions/262.html)			9:30-10:50 TuTh Vijayaraghavan	
COMP_SCI 295, 396, 496 (descriptions/295-396-496.html)	AI and Experimental Narrative (descriptions/295-396-496.html)			3:30-4:50 TuTh Horswill	
COMP_SCI 296 (descriptions/296-1.html)	AI and International Security (descriptions/296-1.html)			9:30-10:50 MW Subrahmanian	
COMP_SCI 298 (descriptions/298-1.html)	CS Research Track Program (descriptions/298-1.html)	1-3:50 F Hedayati			
COMP_SCI 301 (descriptions/301.html)	Introduction to Robotics Laboratory (descriptions/301.html)		12:30-3:20 TuTh Argall		
COMP_ENG 303 (descriptions/303.html)	Advanced Digital Design (descriptions/303.html)	TuTh 12:30-1:50 Gu		TuTh 3:30-4:50 Gu	
COMP_SCI 307 (descriptions/307.html)	Introduction to Cryptography (descriptions/307.html)	9:30-10:50 TuTh Wang			

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COMP_SCI 310 (descriptions/310.html)	Scalable Software Architectures (descriptions/310.html)	2-3:20 TuTh or 3:30-4:50pm MW Hummel		9:30-10:50 TuTh Hummel	
COMP_SCI 311 (descriptions/311.html)	Inclusive Making (descriptions/311.html)			11-12:20 MW Worsley	
COMP_SCI 312, 412 (descriptions/312-412.html)	Data Privacy (descriptions/312-412.html)	11-12:20 TuTh Bhagavatula		2-3:20 TuTh Bhagavatula	
COMP_SCI 313, 413 (descriptions/313-413.html)	Tangible Interaction Design and Learning (descriptions/313-413.html)			3:30-4:50 MW Horn	
COMP_SCI 314 (descriptions/314.html)	Technology & Human Interaction (descriptions/314.html)				
COMP_SCI 315, 415 (descriptions/315-415.html)	Design, Technology, and Research (descriptions/315-415.html)	12-2:50 F Zhang	12-2:50 F Zhang	12-2:50 F Zhang	
COMP_SCI 321 (descriptions/321.html)	Programming Languages (descriptions/321.html)	3:30-4:50 TuTh Dimoulas	11-12:20 TuTh Findler		
COMP_SCI 322 (descriptions/322.html)	Compiler Construction (descriptions/322.html)		5 -6:20 TuTh Campanoni		
COMP_SCI 323 (descriptions/323.html)	Code Analysis and Transformation (descriptions/323.html)	5-6:20 TuTh Campanoni			
COMP_SCI 324, 424 (descriptions/324-424.html)	Dynamics of Programming Languages (descriptions/324-424.html)			2-3:20 TuTh Dimoulas	
COMP_SCI 325 (descriptions/325.html)	Artificial Intelligence Programming (descriptions/325.html)	11-11:50 MWF Riesbeck			
COMP_SCI 326 (descriptions/326.html)	Introduction to the Data Science Pipeline (descriptions/326.html)			11-12:20 TuTh D'Arcy	
COMP_SCI 327 (descriptions/327-ckate.html)	Generative Methods (descriptions/327-ckate.html)	8-8:50 MWF Compton			
COMP_SCI 329 (descriptions/329.html)	HCI Studio (descriptions/329.html)	12:30-1:50 MW Jacobs	11-12:20 MW Zhang	9:30-10:50 MW O'Rourke	
COMP_SCI 330 (descriptions/330-1.html)	Human Computer Interaction (descriptions/330-1.html)	3:30-4:50 TuTh Kay			2-3:30 MW Banerjee (10 Wks) or 12-2 TuTh Lotsos (

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					8 Wks)
COMP_SCI 331 (descriptions/331.html)	Introduction to Computational Photography (descriptions/331.html)				11-12:20 TuTh (Sync: Class meets remotely) Schiffers
COMP_SCI 332 (descriptions/332.html)	Online Markets (descriptions/332.html)				
COMP_SCI 333 (descriptions/333.html)	Interactive Information Visualization (descriptions/333.html)	3:30-4:50 MW Hullman			
ELEC_ENG/COMP_ENG 334 (descriptions/334.html)	Fundamentals of Blockchains and Decentralization (descriptions/334.html)			TuTh 2-3:20 Guo	
COMP_SCI 335 (descriptions/335.html)	Intro to the Theory of Computation (descriptions/335.html)	5-6:20 TuTh Dong			
COMP_SCI 336 (descriptions/336.html)	Design & Analysis of Algorithms (descriptions/336.html)	11-12:20 TuTh Abhratanud	11-12:20 TuTh Makarychev & Avdiukhin	3:30-4:50 TuTh Avdyukhin	
COMP_SCI 337 (descriptions/337.html)	Intro to Natural Language Processing (descriptions/337.html)	3:30-4:50 MW Birnbaum			
COMP_SCI 338 (descriptions/338-1.html)	Practicum in Intelligent Information Systems (descriptions/338-1.html)	11-12:20 TuTh Hammond			
COMP_SCI 338 (descriptions/338-2.html)	Practicum in Intelligent Information Systems (descriptions/338-2.html)				
COMP_SCI 339 (descriptions/339.html)	Intro to Databases (descriptions/339.html)	2-3:20 TuTh Rogers	3:30-4:50 MW Crotty	5-6:20 TuTh Rogers	
COMP_SCI 340 (descriptions/340.html)	Introduction to Computer Networking (descriptions/340.html)	9:30-10:50 TuTh Carisimo	12:30-1:50 TuTh Kuzmanovic		
COMP_SCI 341 (descriptions/341.html)	Social Networks Analysis (descriptions/341.html)			3:30-6:20 Th Contractor	Remote/ Asynchronous (5 weeks) Contractor
COMP_SCI 341 (descriptions/341-sa.html)	Social Networks Analysis (CS 341-SA) (descriptions/341-sa.html)				Study Abroad (5 weeks) Contractor
COMP_SCI 343 (descriptions/343.html)	Operating Systems (descriptions/343.html)			12:30-1:50	

Course	Course Title	Fall 2023	Winter 2024	Spring 2024	Summer 2024
343.html)	343.html)			TuTh Ghena	
COMP_SCI 344 (descriptions/344.html)	Design of Problem Solvers (descriptions/344.html)				
COMP_SCI 345 (descriptions/345.html)	Distributed Systems (descriptions/345.html)			11-12:20 TuTh Bustamante	
COMP_ENG 346 (descriptions/346.html)	Microprocessor System Design (descriptions/346.html)	TuTh 3:30-4:50 Ghena (Lab: F 1-2:50 OR F 3-4:50pm)	MW 12:30-1:50 Xia		
COMP_SCI 347, 447 (descriptions/347-447.html)	Conversational AI (descriptions/347-447.html)			3:30-4:50 TuTh Forbus	
COMP_SCI 348 (descriptions/348.html)	Intro to Artificial Intelligence (descriptions/348.html)	11-12:20 MW Alam	11-12:20 MW Alam	3:30-4:50 MW Birnbaum	
COMP_SCI 349 (descriptions/349.html)	Machine Learning (descriptions/349.html)	11-12:20 MW Demeter	12:30-1:50 TuTh Wood-Doughty	9:30-10:50 TuTh Wood-Doughty	9:00-10:30 MW (Hybrid: Remote component and in-person mtgs) Kang
COMP_SCI 350 (descriptions/350.html)	Introduction to Computer Security (descriptions/350.html)				3:30-6pm MTuWTh (3 weeks) Kavousi
COMP_SCI 351-1 (descriptions/351-1.html)	Intro to Computer Graphics (descriptions/351-1.html)		9-9:50 MWF Tumblin		
COMP_SCI 351-2 (descriptions/351-2.html)	Intermediate Computer Graphics (descriptions/351-2.html)				
COMP_SCI 354 (descriptions/354.html)	Computer System Security (descriptions/354.html)		3:30-4:50 MW Chen		
COMP_SCI 355 (descriptions/355.html)	Digital Forensics and Incident Response (descriptions/355.html)			3:30-4:50 MW Chen	
COMP_ENG 361 (https://www.mccormick.northwestern.edu/electrical-computer/academics/courses/descriptions/361.html)	Computer Architecture I (https://www.mccormick.northwestern.edu/electrical-computer/academics/courses/descriptions/361.html)	MW 12:30-1:50 Joseph			
COMP_ENG 362 (descriptions/362.html)	Computer Architecture Project (descriptions/362.html)		TuTh 11-12:20 Joseph		
COMP_ENG 365, 465	Internet-of-Things Sensors,				

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(descriptions/365-465.html)	Systems, and Applications (descriptions/365-465.html)				
COMP_SCI 368, 468 (descriptions/368-468.html)	Programming Massively Parallel Processors with CUDA (descriptions/368-468.html)				
COMP_SCI 371 (descriptions/371.html)	Knowledge Representation and Reasoning (descriptions/371.html)		12:30-1:50 TuTh Forbus		
COMP_SCI 372, 472 (descriptions/372-472.html)	Designing and Constructing Models with Multi-Agent Languages (descriptions/372-472.html)			3:30-4:50 TuTh Wilensky	
COMP_SCI 376 (descriptions/376.html)	Game Design and Development (descriptions/376.html)	4-4:50 MWF Horswill			
COMP_SCI 377 (descriptions/377.html)	Game Development Studio (descriptions/377.html)		6-7:20 MW Zubek		
COMP_SCI 388 (descriptions/388.html)	Software Engineering Beyond Programming (descriptions/388.html)		11-12:20 TuTh St-Amour		
COMP_SCI 392 (descriptions/392.html)	Rapid Prototyping for Software Innovation (descriptions/392.html)	3-3:50 MWF Riesbeck			
COMP_SCI 394 (descriptions/394.html)	Agile Software Development (descriptions/394.html)		3:30-4:50 MW Riesbeck	9:30-10:50 MW (Riesbeck) or 9:30-10:50 TuTh (Warren)	
COMP_SCI 396 (descriptions/396-1.html)	Advanced Graphics Seminar: VR/AR Systems (descriptions/396-1.html)				
COMP_SCI 396 (descriptions/396-4.html)	Computing, Ethics, and Society (descriptions/396-4.html)				Remote/ Asynchronous Chavez
COMP_SCI 396 (descriptions/396-5.html)	Differential Privacy: from Foundations to Machine Learning (descriptions/396-5.html)			2-3:20 MW Dong	
COMP_SCI 396 (descriptions/396-6.html)	Intro to Web Development (descriptions/396-6.html)				Remote/ Asynchronous Chavez
COMP_SCI 396 (descriptions/396-9.html)	Social AR/VR Studio (descriptions/396-9.html)				
COMP_SCI 396 (descriptions/396-9.html)	Modeling Relationships with			3:30-4:50 TuTh	

Course	Course Title	Fall 2023	Winter 2024	Spring 2024	Summer 2024
396-10.html)	Causal Inference (descriptions/396-10.html)			Wood-Doughty	
COMP_SCI 396 (descriptions/396-11.html)	Communicating Computer Science (descriptions/396-11.html)			3:30-4:50 MW Bain	
COMP_SCI 396 (descriptions/396-12.html)	Proving Properties of Programs with Mechanized Logic (descriptions/396-12.html)	11-11:50 MWF Findler			
COMP_SCI 396 (descriptions/396-14.html)	Introduction to Computational Linguistics (descriptions/396-14.html)		11-12:20 TuTh Voigt		
COMP_SCI 396 (descriptions/396-16.html)	Advanced Graphics Seminar (descriptions/396-16.html)				
COMP_SCI 396 (descriptions/396-17.html)	Advanced Offense and Defense in Cybersecurity (descriptions/396-17.html)	11-12:20 TuTh Xing			
COMP_SCI 396 (descriptions/396-19.html)	Natural & Artificial Vision (descriptions/396-19.html)			11-12:20 MW Alexander	
COMP_SCI 396 (descriptions/396-21.html)	TDD, Refactoring and Design Patterns for Software Engineering (descriptions/396-21.html)				
COMP_SCI 396 (descriptions/396-22.html)	Full Stack Software Engineering (descriptions/396-22.html)		5-6:20 MW Tse	5-6:20 MW Tse	
COMP_SCI 396 (descriptions/396-24.html)	Foundations of Security (descriptions/396-24.html)	3:30-4:50 TuTh Bhagavatula		11-12:20 TuTh Bhagavatula	
COMP_SCI 396 (descriptions/396-25.html)	Responsible Software Engineering (descriptions/396-25.html)		3:30-4:50 TuTh St-Amour		
COMP_SCI 396, 496 (descriptions/396-496-2.html)	Advanced Algorithm Design through the Lens of Competitive Programming (descriptions/396-496-2.html)	11-12:20 TuTh Avdyukhin			
COMP_SCI 396, 496 (descriptions/396-496-6.html)	Data Management Seminar (descriptions/396-496-6.html)		12:30-1:50 TuTh Rogers		
COMP_SCI 396, 496 (descriptions/396-496-7.html)	Foundations of Quantum Computing and Quantum Information (descriptions/396-496-7.html)		9:30-10:50 TuTh Vijayaraghavan		
COMP_SCI 396, 496 (descriptions/396-496-10.html)	Programming Languages Seminar (descriptions/		3:30-4:50 MW Dimoulas	10:30-1:30 M Findler	

Course	Course Title	Fall 2023	Winter 2024	Spring 2024	Summer 2024
	396-496-10.html				
COMP_SCI 396, 496 (descriptions/396-496-13.html)	Security and Privacy Education (descriptions/396-496-13.html)				
COMP_SCI 396, 496 (descriptions/396-496-15.html)	Artificial Life (descriptions/396-496-15.html)		11-12:20 TuTh Kriegman		
COMP_SCI 396, 496 (descriptions/396-496-16.html)	AI for Science (descriptions/396-496-16.html)			3:30-6:10 Th Choudhary	
COMP_SCI 396, 496 (descriptions/396-496-18.html)	NUVention Media (descriptions/396-496-18.html)		9:30-12:20 Th Gilbert & Birnbaum		
COMP_SCI 396, 496 (descriptions/396-496-19.html)	Introduction to Kolmogorov Complexity (descriptions/396-496-19.html)				
COMP_SCI 396, 496 (descriptions/396-496-21.html)	Approximation Algorithms (descriptions/396-496-21.html)				
COMP_SCI 396, 496 (descriptions/396-496-24.html)	CS Education Research in the Community (descriptions/396-496-24.html)		7:30-8:50 TuTh Horn & Worsley		
COMP_SCI 396, 496 (descriptions/396-496-25.html)	Computing, Ethics, and Society (descriptions/396-496-25.html)		2-3:20 MW Araujo Melo & Chavez	9:30-10:50 TuTh Melo	
COMP_SCI 396, 496 (descriptions/396-496-26.html)	Computational Optics (descriptions/396-496-26.html)				
COMP_SCI 396, 496 (descriptions/396-496-28.html)	Misinformation and Disinformation in the Age of AI (descriptions/396-496-28.html)			12:30-3:20 Th Birnbaum & Gilbert	
COMP_SCI 396, 496 (descriptions/396-496-29.html)	Computing and Sustainability (descriptions/396-496-29.html)			3:30-4:50 TuTh Arora	
COMP_SCI 397 (descriptions/397-1.html)	Seminar in Statistical Language Modeling (descriptions/397-1.html)				
COMP_SCI 397 (descriptions/397-2.html)	Computer Science Education (descriptions/397-2.html)		6:30-9:20 M Horn		
COMP_SCI 397 (descriptions/397-3.html)	Topics in HCI and Design (descriptions/397-3.html)				
COMP_SCI 397, 497 (descriptions/397-497-2.html)	Advanced Topics in Compilers (descriptions/397-497-2.html)			5-6:20pm TuTh Campanoni	
COMP_SCI 397, 497 (descriptions/397-497-3.html)	Sports, Technology and Learning (descriptions/397-497-3.html)			12:30-1:50 MW Worsley	

Course	Course Title	Fall 2023	Winter 2024	Spring 2024	Summer 2024
COMP_SCI 397, 497 (descriptions/397-497-4.html)	(Special Topics) Innovation in Journalism & Technology (descriptions/397-497-4.html)	2-3:50 TuTh Hammond & Wise	2-3:50 TuTh Wise & Hammond	2-3:50 TuTh Wise & Hammond	
COMP_SCI 397, 497 (descriptions/397-497-10.html)	Multimodal learning analytics and interaction analysis (descriptions/397-497-10.html)		11-12:20 TuTh Worsley		
COMP_SCI 397, 497 (descriptions/397-497-12.html)	Selected Topics in Computer Networks (descriptions/397-497-12.html)			12:30-1:50 TuTh Kuzmanovic	
COMP_SCI 397, 497 (descriptions/397-497-14.html)	Wireless and Mobile Health (mHealth) (descriptions/397-497-14.html)			5-6:20 TuTh Alshurafa & Pedram	11-12:30 MW Rothrock
COMP_SCI 397, 497 (descriptions/397-497-15.html)	Innovation Lab: Building Technologies for the Law (descriptions/397-497-15.html)				
COMP_SCI 397, 497 (descriptions/397-497-20.html)	Wireless Protocols for the Internet of Things (descriptions/397-497-20.html)			3:30-4:50 TuTh Ghena	
COMP_SCI 401 (descriptions/401.html)	Introduction to Graduate Studies in Computer Science (descriptions/401.html)	10-10:50 MWF Hullman			
COMP_SCI 409 (descriptions/409.html)	Swarms and Multi-Robot Systems (descriptions/409.html)	2-3:20 TuTh Rubenstein			
COMP_SCI 410 (descriptions/410.html)	Quadrotor Design and Control (descriptions/410.html)			12:30-3:20 Th Rubenstein	
COMP_SCI 440 (descriptions/440.html)	Advanced Networking (descriptions/440.html)				
COMP_SCI 445 (descriptions/445.html)	Internet-scale Experimentation (descriptions/445.html)		9:30-10:50 TuTh Bustamante		
COMP_SCI 446 (descriptions/446.html)	Kernel and Other Low-level Software Development (descriptions/446.html)				
COMP_SCI 449 (descriptions/449.html)	Deep Learning (descriptions/449.html)	9:30-10:50 TuTh Wood-Doughty	11-12:20 TTh Demeter	9:30-10:50 TuTh Pardo	
COMP_SCI 450 (descriptions/450.html)	Internet Security (descriptions/450.html)		9:30-10:50 MW Chen		
COMP_ENG 452 (descriptions/452.html)	Advanced Computer Architecture I (descriptions/452.html)		TuTh 2-3:20 Hardavellas		

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COMP_ENG 453 (descriptions/453.html)	Parallel Architectures (descriptions/453.html)			MW 3:30-4:50 Joseph	
COMP_ENG 456 (descriptions/456.html)	Modern Topics in Computer Architecture (descriptions/456.html)				
COMP_ENG 459 (descriptions/459.html)	VLSI Algorithmics (descriptions/459.html)	MW 2-3:20 S. Ogrenci			
COMP_SCI 469 (descriptions/469.html)	Machine Learning and Artificial Intelligence for Robotics (descriptions/469.html)	12:30-1:50 TuTh Argall			
COMP_SCI 474 (descriptions/474.html)	Probabilistic Graphical Models (descriptions/474.html)	3:30-4:50 TTh Wood-Doughty			
COMP_SCI 496 (descriptions/496-2.html)	Graduate Algorithms (descriptions/496-2.html)			11-12:20 Tu/Th Makarychev	
COMP_SCI 496 (descriptions/496-7.html)	The Design of Technological Tools for Thinking and Learning (descriptions/496-7.html)		2-4:50 W Wilensky & Kelter		
COMP_SCI 496 (descriptions/496-8.html)	Advanced Topics on Deep Learning (descriptions/496-8.html)			5-7:50 W Liu	
COMP_SCI 496 (descriptions/496-9.html)	Software and architecture for quantum computing systems (descriptions/496-9.html)			11-12:20 Tu/Th Smith	
COMP_SCI 496 (descriptions/496-15.html)	Special Topics In Data Systems Seminar (descriptions/496-15.html)			3-5:50 W Crotty	
COMP_SCI 496 (descriptions/496-20.html)	Engineering Modern Cryptographic Protocols (descriptions/496-20.html)			2-4:50 W Wang	
COMP_SCI 496 (descriptions/496-21.html)	Qualitative Reasoning Seminar (descriptions/496-21.html)				
COMP_SCI 496 (descriptions/496-23.html)	AI Perspectives: Symbolic Reasoning to Deep Learning (descriptions/496-23.html)				
COMP_SCI 496 (descriptions/496-24.html)	Visualization for Scientific Communication (descriptions/496-24.html)				
COMP_SCI 496 (descriptions/496-25.html)	Generative Deep Models (descriptions/496-25.html)		4-6:50 M Pardo		
COMP_SCI 496 (descriptions/496-26.html)	Foundations of Reliable Machine Learning (descriptions/496-26.html)	9:30-12:20 T Vijayaraghavan			

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	496-26.html)				
COMP_SCI 496 (descriptions/396-496-27.html)	HCI Methods for Health Research (descriptions/396-496-27.html)				
COMP_SCI 496 (descriptions/496-29.html)	Advanced System Security (descriptions/496-29.html)			9-11:50 F Xing	
COMP_SCI 496 (descriptions/496-30.html)	Logic In AI (descriptions/496-30.html)				
COMP_SCI 496 (descriptions/496-31.html)	Computational Optics (descriptions/496-31.html)	9:30-10:50 TuTh Alexander			
COMP_SCI 496 (descriptions/496-32.html)	Modern Discrete Probability (descriptions/496-32.html)				
COMP_SCI 496 (descriptions/496-33.html)	Mathematical and Computational Foundations of Tensors and Applications (descriptions/496-33.html)			1-1:50 MWF Evert	
COMP_SCI 496 (descriptions/496-35.html)	Randomized Algorithms in Linear Algebra and Scientific Computing (descriptions/496-35.html)				
COMP_SCI 496 (descriptions/496-36.html)	Learning in Networks (descriptions/496-36.html)	11-12:20 MW Racz			
COMP_SCI 496 (descriptions/496-37.html)	Graduate Social Network Analysis (descriptions/496-37.html)	2-5 F Contractor			
COMP_SCI 496 (descriptions/496-38.html)	Mathematical Foundations of Machine Learning (descriptions/496-38.html)			5-7:50 Tu Liu	
COMP_SCI 496 (descriptions/496-39.html)	Academic Job Search (descriptions/496-39.html)	3-5 M Khuller			
COMP_SCI 496 (descriptions/496-40.html)	Transformative AI and the Learning Sciences (descriptions/496-40.html)	1-3:50 T O'Rourke			
COMP_SCI 496 (descriptions/496-41.html)	Advanced Topics in Modern Cryptography (descriptions/496-41.html)		9:30-10:50 TuTh Wang		
COMP_SCI 496 (descriptions/496-42.html)	Emerging Risks for Humans Interacting with Technologies (descriptions/496-42.html)			9:30-10:50 TuTh Evdokimov	

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COMP_SCI 497 (descriptions/497-3.html)	Digital Musical Instrument Design (descriptions/497-3.html)				
COMP_SCI 497 (descriptions/497-4.html)	The Design of Tools and Technologies for Computer Science Education (descriptions/497-4.html)				
COMP_SCI 497 (descriptions/497-6.html)	Deep Learning for Natural Language Processing (descriptions/497-6.html)			11-12:20 TuTh Demeter	
COMP_SCI 497 (descriptions/497-8.html)	Data Economics (descriptions/497-8.html)				
COMP_SCI 497 (descriptions/497-9.html)	Advanced Database Systems (descriptions/497-9.html)	3:30-4:50 MW Crotty			
COMP_SCI 497 (descriptions/497-10.html)	Learning Augmented Online Algorithms (descriptions/497-10.html)				
COMP_SCI 497 (descriptions/497-11.html)	Explanation and reproducibility in data-driven science (descriptions/497-11.html)		2-4:50 Th Hullman		
COMP_SCI 497 (descriptions/497-12.html)	Recent Highlights in Theoretical Computer Science (descriptions/497-12.html)				