

GRADUATE MAJOR CHANGE BULLETIN NO. 2

Fall 2026

Course information under the heading titled *Current* will show strikethroughs for deletions, and text under *Proposed* will show underlines for additions. The column to the far right indicates the date each change becomes effective.

Subject	Course Number	New Revise Drop	Current	Proposed	Effective Date
AI / CPT S	436 / 536	New	--N/A--	Distributed Machine Learning 3 Course Prerequisite: CPT S 570. Distributed and federated machine learning; centralized and decentralized optimization; gradient and stochastic methods; FedAvg and methods for data and system heterogeneity; communication efficiency, personalization, client selection, differential privacy, robustness, fairness, and implementation on real datasets. (Crosslisted course offered as AI 436, CPT S 436.) Credit not granted for more than one of AI 436/536 or CPT S 436/536. Offered at the 400 and 500 level. Typically offered Spring. Syllabus: https://wsu.instructure.com/courses/1959001	8-27
AI/ CPT S	444 / 544	Revise	Generative AI 3 Course Prerequisite: CPT S 570. ~~Introduction to the foundations and modern advances of generative artificial intelligence, covering core models such as variational autoencoders, generative adversarial networks, normalizing flows, diffusion models, flow matching, and large language models, with emphasis on theoretical principles, algorithmic design, and real-world applications. Typically offered Spring.~~	Generative AI 3 Course Prerequisite: CPT S 570. <u>Foundations and modern advances in generative AI for text, images, video, and other data; variational autoencoders, generative adversarial networks, normalizing flows, diffusion models, flow matching, generative pretraining, and large language models; theoretical principles, implementation, evaluation, and applications.</u> (Crosslisted course offered as AI 444, CPT S 444.) Credit not granted for more than one of AI 444/544 or CPT S 444/544. Offered at the 400 and 500 level. Typically offered Fall. Syllabus: https://wsu.instructure.com/courses/1958994	8-27

AI / CPT S	474 / 574	New	--N/A--	Reinforcement Learning 3 Reinforcement learning and sequential decision-making: Markov decision processes; dynamic programming; value, policy, and temporal-difference methods; function approximation; deep reinforcement learning; bandits; safe and constrained learning; offline learning; imitation and inverse reinforcement learning; and learning from human feedback. (Crosslisted course offered as AI 474, CPT S 474.) Credit not granted for more than one of AI 474/574 or CPT S 474/574. Offered at the 400 and 500 level. Typically offered Fall. Syllabus: https://wsu.instructure.com/courses/1959004	8-27
BME / ME	441 / 541	New	--N/A--	Biomechanics 3 Mechanical behavior of biological and engineering materials, including relationships between external loads and internal stresses and strains within a structure and methods for the analysis of both rigid body and deformational mechanics applied to skeletal joints, limbs, and whole body movements with applications in the fields of orthopedics, tissue engineering, prosthetics, ergonomics and exercise science. Credit not granted for both BME 441 and BME/ME 541. Offered at the 400 and 500 level. Typically offered Spring. Syllabus: https://wsu.instructure.com/courses/1958263	8-27
BME	456 / 556	New	--N/A--	Protein Engineering 3 Integrating molecular biology and engineering sciences to analyze, change, and design the structure and function of proteins. Credit not granted for both BME 456 and 556. Offered at the 400 and 500 level. Typically offered Spring. Syllabus: https://wsu.instructure.com/courses/1958307	8-27

BME	475 / 575	New	--N/A--	Bioreactor Design and Separations 3 Introduction to bioreactor design and operation and processes for separations of bioproducts. Credit not granted for both BME 475 and 575. Offered at 400 and 500 level. Typically offered Spring. Syllabus: https://wsu.instructure.com/courses/1958342	8-27
CPT S	520	New	--N/A--	Web Security 3 Comprehensive introduction to web security, covering the browser security model, web application vulnerabilities, authentication, cross-domain policies, client- and server-side attacks, online tracking, and modern defense strategies. Syllabus: https://wsu.instructure.com/courses/1900638	1-27
CPT S / AI	441 / 541	Revise	Computer Vision 3 Introduction to computer vision covering classical image analysis, fundamental machine learning, and modern deep neural networks, with applications to object detection, segmentation, video understanding, and generative models. Typically offered Fall.	Computer Vision 3 Introduction to computer vision covering classical image analysis, fundamental machine learning, and modern deep neural networks, with applications to object detection, segmentation, video understanding, and generative models. <u>Credit not granted for both CPT S/AI 441 and CPT S 541.</u> <u>Offered at 400 and 500 level.</u> Typically offered Fall. Syllabus: https://wsu.instructure.com/courses/1874611	8-27