

UNDERGRADUATE AND PROFESSIONAL MAJOR CHANGE BULLETIN NO. 3

Fall 2026

---COURSES---

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	101	New	--N/A--	Introduction to Artificial Intelligence 3 Interdisciplinary introduction to AI for all majors; history, data, machine learning, neural networks, language, vision, generative AI, robotics, agents, and applications; hands-on no-code exploration, evaluation of AI outputs and limitations, and responsible use. No prior programming or advanced mathematics required. Typically offered Fall. Syllabus: https://wsu.instructure.com/courses/1951402	8-27
AI	102	New	--N/A--	Ethics, Safety, and Responsible AI 3 Ethics, safety, and societal dimensions of artificial intelligence including application of ethical theories and responsible-AI frameworks to data, bias, privacy, transparency, human oversight, generative-AI risks, misuse, accountability, and governance through case analysis and a practical AI risk-and-impact audit. Typically offered Spring. Syllabus: https://wsu.instructure.com/courses/1951403	8-27
AI	141	New	--N/A--	Programming Fundamentals I 4 (3-3) Course Prerequisite: MATH 108, 171, 172, 182, 201, 202, 216, or 220, each with a C or better, CPT S 111 with a B+ or better, a min ALEKS math placement score of 78%, or by permission with an AP Exam in Cpt S Principles or Cpt Sci A with a 4 or	8-27

				better. Core concepts of computational thinking and programming in Python with generative AI integrated as a programming and learning tool. Typically offered Fall. Syllabus: https://wsu.instructure.com/courses/1951399	
AI	142	New	--N/A--	Programming Fundamentals II 4 (3-3) Course Prerequisite: AI 141 with a C or better. Object-oriented design, key data structures, Big-O analysis, recursion, and concurrency using Python and incorporating generative AI. Typically offered Spring. Syllabus: https://wsu.instructure.com/courses/1951400	8-27
AI	217	New	--N/A--	Theory of Computation for AI 3 Course Prerequisite: AI 142 or CPT S 122 with a C or better. Formal and discrete foundations of artificial intelligence: logic, proof, combinatorics, graphs, trees, automata, formal languages, grammars, Turing machines, decidability, reductions, and computational complexity; applications to AI representation, language, agents, and computational limits. Typically offered Fall. Syllabus: https://wsu.instructure.com/courses/1951405	8-27
AI	240	New	--N/A--	Foundations for Artificial Intelligence 3 Course Prerequisite: AI 142 or CPT S 122 with a C or better; MATH 225 with a C or better. Mathematical, representational, and computational foundations of artificial intelligence, including formulation and implementation of AI problems using symbolic and numerical representation, linear algebra, tensors, contemporary AI frameworks, automatic differentiation, optimization,	8-27

				evaluation, and reproducible computational workflows. Typically offered Fall. Syllabus: https://wsu.instructure.com/courses/1951404	
AI	260	New	--N/A--	Computer Systems for AI 3 Course Prerequisite: AI 101 with a C or better; AI 142 with a C or better. Computer systems principles for executing AI workloads efficiently; logic and data representation; assembly language; processor organization; pipelining; memory and cache hierarchies; memory management; scheduling; I/O; networking; concurrency; system telemetry; bottleneck analysis; performance optimization; and architectural trends. Typically offered Fall. Syllabus: https://wsu.instructure.com/courses/1951401	8-27
AI	337	New	--N/A--	Machine Learning Operations and AI Systems Engineering 3 Course Prerequisite: AI 142 with a C or better; AI 260 with a C or better; CPT S 322 with a C or better. Design, deployment, operation, and maintenance of production machine learning systems, including reproducible data and model pipelines, versioning, experiment tracking, registries, orchestration, containerization, CI/CD, cloud deployment, monitoring, drift, scalability, reliability, testing, security, privacy, governance, and responsible AI. Typically offered Spring. Syllabus: https://wsu.instructure.com/courses/1951410	8-27
AI	401	New	--N/A--	Multimodal AI and Foundation Models 3 Course Prerequisite: AI 240 with a C or better; AI 434 with a C or better; AI 437 with a C or better. Principles and methods for	8-27

				multimodal AI and foundation models across text, images, audio, video, and sensor data, including multimodal alignment and fusion, contrastive learning, cross-modal projection, vision-language models, retrieval, orchestration, adaptation, evaluation, robustness, safety, privacy, bias, and responsible AI. Typically offered Fall. Syllabus: https://wsu.instructure.com/courses/1951406	
AI	402	New	--N/A--	Multiagent Systems 3 Course Prerequisite: AI 240 with a C or better. Formal models and algorithms for systems of interacting autonomous agents; game-theoretic foundations; cooperation, competition, coordination, communication, negotiation, decentralized decision making, multiagent learning, emergent behavior, tool-enabled agent collaboration, performance and risk evaluation, and real-world applications. Typically offered Fall. Syllabus: https://wsu.instructure.com/courses/1951407	8-27
AI	403	New	--N/A--	Natural Language Processing and Conversational AI 3 Course Prerequisite: AI 240 with a C or better. Natural language processing and conversational AI: text processing, language and sequence modeling, attention, transformers, diffusion and flow-based models, classification, information extraction, question answering, summarization, generation, fine-tuning, prompting, retrieval-augmented generation, dialogue, evaluation, safety, and responsible AI. Typically offered Spring. Syllabus: https://wsu.instructure.com/courses/1951408	8-27

AI / CPT S	436 / 536	New	--N/A--	Distributed Machine Learning 3 Course Prerequisite: AI/CPT S 437 with a C or better; MATH 220 or 225 with a C or better; STAT 360 with a C or better. 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	New	--N/A--	Generative AI 3 Course Prerequisite: AI/CPT S 437 with a C or better; AI/CPT S 440 with a C or better. 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. (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	446	New	--N/A--	Agentic AI 3 Course Prerequisite: AI 240 with a C or better; OR CPT S 321, 322, or 355 with a C or better; junior standing. Design and development of software systems using agentic AI; AI-assisted	8-27

				development workflows; agent architectures, orchestration, coordination, and production pipelines; tool integration and Model Context Protocol; workflow reliability and evaluation; and project-based applications in web, mobile, game, data science, and machine learning systems. (Crosslisted course offered as AI 446, CPT S 446.) Typically offered Fall. Syllabus: https://wsu.instructure.com/courses/1959015	
AI	449	New	--N/A--	AI Hardware Accelerators and Edge AI 3 Course Prerequisite: AI 260 or CPT S 260 with a C or better. Architecture, design, and optimization of AI hardware accelerators and edge systems, including GPUs, TPUs/NPUs, FPGAs, memory hierarchies, dataflow, interconnects, parallelism, quantization, pruning, sparsity, compression, hardware-software co-design, deployment, and evaluation of performance, energy, accuracy, security, and reliability. Typically offered Spring. Syllabus: https://wsu.instructure.com/courses/1951409	8-27
AI / CPT S	474 / 574	New	--N/A--	Reinforcement Learning 3 Course Prerequisite: AI or CPTS 437 with a C or better; MATH 220 or 225 with a C or better; STAT 360 with a C or better. 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	8-27

				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	
BME	440	New	--N/A--	Bioinstrumentation 3 (2-3) Course Prerequisite: E E 262. Principles, design, and implementation of instrumentation applicable to biomedical devices. Typically offered Fall. Syllabus: https://wsu.instructure.com/courses/1957948	8-27
BME	441 / 541	New	--N/A--	Biomechanics 3 Course Prerequisite: CE 211 with C or better; MATH 315 with C or better. 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	442	New	--N/A--	Bioelectric Phenomena and Devices 3 (2-3) Course Prerequisite: BME 440 with C or better. The electrophysiology of excitable tissues (neurons and muscle) and human health applications involving recording activity or stimulating these tissues; Integration of engineering principles with neural physiology for design and analysis of biomedical devices. Typically offered Spring.	8-27

				Syllabus: https://wsu.instructure.com/courses/1959155	
BME	455	New	--N/A--	Metabolic Engineering 3 (2-3) Course Prerequisite: BME 210 or CHE 211, each with a C or better; MATH 315 with a C or better. Introduction to the application of molecular biology, recombinant DNA technology, mathematical techniques, and engineering principles to the metabolism of organisms to create cellular factories for desired bioproducts. Typically offered Spring. Syllabus: https://wsu.instructure.com/courses/1958110	8-27
BME	456 / 556	New	--N/A--	Protein Engineering 3 Course Prerequisite: BME 321 with C or better. 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 Course Prerequisite: BME 455 with C or better. 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
BME	476	New	--N/A--	Synthetic Biology and Microbial Engineering 3 Course Prerequisite: BME 455. Introduction to the principles and tools used to understand, analyze, and engineer microbial systems across multiple biological scales with examples highlighting applications in health,	8-27

				sustainability, biomanufacturing, and environmental biotechnology. Typically offered. Typically offered Spring. Syllabus: https://wsu.instructure.com/courses/1958237	
CHEM	160	New	--N/A--	Nuclear Safety 1 Course Prerequisite: CHEM 101 or CHEM 105, or concurrent enrollment. Introduction to a nuclear safety culture, radiation safety, obtaining dosimetry, and the basic principles of nuclear safety and working/learning in a nuclear environment. Typically offered Fall. Syllabus: https://wsu.instructure.com/courses/1959408	8-27
CHEM	163	New	--N/A--	Reactor Operations Lab 3 (1-6) Course Prerequisite: CHEM 162 with a C or better. Nuclear reactor theory, facility licensing, emergency planning, training, response, policies, and procedures from the previous courses through hands on training, lab reports, and oral examinations to finalize preparation for the U.S. NRC Licensing Exam. Typically offered Summer Session. Syllabus: https://wsu.instructure.com/courses/1959413	5-27
CHEM	360	New	--N/A--	Nuclear and Radiochemistry 3 Course Prerequisite: CHEM 101 or CHEM 105, or concurrent enrollment. Nuclear theory, nuclear physics, nuclear structure, radiation safety, radiation effects on matter, detection of radioactive material, nuclear reactions, production and separation of radionuclides, and nuclear fuel cycle. Typically offered Fall. Cooperative: Open to UI degree-seeking students. Syllabus: https://wsu.instructure.com/courses/1959484	8-27

CHEM	362	New	--N/A--	Health Physics and Radiation Shielding Laboratory 3 (1-6) Course Prerequisite: CHEM 361. Modern spectroscopic techniques for the analysis of radioactive materials to assess radiological hazards and provide radiation safety recommendations. Typically offered Fall. Cooperative: Open to UI degree-seeking students. Syllabus: https://wsu.instructure.com/courses/1959488	1-27
CHEM	461	New	--N/A--	Advanced Health Physics 3 Course Prerequisite: CHEM 101 or CHEM 105, or concurrent enrollment. How ionizing radiation affects the environment and human body, with an emphasis on radiation safety, utilizing critical thinking to address and lead in the safe handling of health physics scenarios. Typically offered Spring. Cooperative: Open to UI degree-seeking students. Syllabus: https://wsu.instructure.com/courses/1959489	1-27
CHEM	462	New	--N/A--	Advanced Health Physics Laboratory 3 (1-6) Course Prerequisite: CHEM 361. Modern spectroscopic techniques for the analysis of radioactive materials in health physics scenarios to assess radiological hazards and utilize critical thinking to provide radiation safety recommendations. Typically offered Spring. Cooperative: Open to UI degree-seeking students. Syllabus: https://wsu.instructure.com/courses/1959490	1-27
COMJOUR	250	New	--N/A--	Media Literacy 3 A hands-on introduction to reading media critically in the AI, including how to verify claims, spot bias and framing, tell human-made content from AI-generated content, and understand the algorithms shaping your feed. Recommended preparation: COM	8-27

				101. Typically offered Fall and Spring. Syllabus: https://wsu.instructure.com/courses/1953334	
CPT S / AI	<u>441/541</u>	New	--N/A--	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. Credit not granted for both CPT S/AI 441 and CPT S 541. Offered at 400 and 500 level. Typically offered Fall. Syllabus: https://wsu.instructure.com/courses/1874611	8-27
CRWR		New	--N/A--	New subject/prefix "CRWR" for Career-Ready, World Ready	1-27
CRWR	300	New	--N/A--	Career Narrative and Professional Portfolio 1 Course Prerequisite: Sophomore standing. Curating and articulating academic, cocurricular, and extracurricular experiences through a professional portfolio; reflect on learning, skills, and growth while using the CAS Career-Ready, World-Ready competencies to demonstrate readiness for future opportunities. Typically offered Fall, Spring, and Summer. Syllabus: https://wsu.instructure.com/courses/1959619	1-27
DATA	463	New	--N/A--	Machine Learning in Data and AI 3 Course Prerequisite: DATA 302, DATA 219, and STAT/DATA 360. Application of machine learning and artificial intelligence techniques to data analytics problems, including data preparation, predictive modeling, deep learning, generative AI, and model evaluation, with emphasis on explainability, fairness, privacy, and responsible AI use. Typically offered Fall and Spring.	1-27

				Syllabus: https://wsu.instructure.com/courses/1959694	
HISTORY	327	New	--N/A--	Introduction to Public History 3 An introduction to the field of public history through the study of museums, libraries, archives, historic preservation, and other areas where historians can work. Typically offered Odd Years - Fall. Syllabus: https://wsu.instructure.com/courses/1952785	8-27
MATH	301	Revise	Introduction to Mathematical Reasoning 3 Course Prerequisite: MATH 220, 225, or 230, each with a C or better. Mathematical arguments and the writing of proofs. Typically offered Fall, Spring, and Summer.	[M] Introduction to Mathematical Reasoning 3 Course Prerequisite: MATH 220, 225, or 230, each with a C or better. Mathematical arguments and the writing of proofs. Typically offered Fall, Spring, and Summer. Syllabus: https://wsu.instructure.com/courses/1957717	1-37
PHIL	190	New	--N/A--	How to Survive and Thrive in the World of AI 3 Practical reasoning skills for the more responsible and effective use of AI, including hands-on AI training. Typically offered Fall. Syllabus: https://wsu.instructure.com/courses/1959928	8-27
STAT	111	New	--N/A--	AI Unplugged 3 An exploration of how AI works - how it learns, recognizes patterns, makes predictions, creates images and text, recommends what you watch and listen to, and powers technologies you use every day - and how to use AI effectively. Typically offered Fall and Spring. Syllabus: https://wsu.instructure.com/courses/1957749/assignments/syllabus	8-27