# 2025-2026 Catalog Addendum

**Program Changes:**

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| CRTG-NREP: Graduate Certificate in Natural Resources and Energy Policy | Updated program title to Environment, Resources & Energy Policy |
| MSPHD-HYES: MS & PhD in Hydrologic Science & Engineering | Updated program requirement wording and core courses - Curriculum areas of emphasis consist of core courses, design/thesis, and electives. Core courses cover four areas of knowledge: Groundwater, Surface Water, Chemistry, and Contaminant Fate and Transport. Students take 12 credits of core courses as listed below. A grade of B- or better is required in all core courses for graduation. GEGN566, GEGN582, CEEN50, CEEN580. |
| MS-TEACH-NT: MSNT in STEM Education | Updated courses in Mathematics Teaching Specialty, removing SCED564/SCED565 and adding MAED564/MAED565; Updated courses in Computer Science Teaching, removing SCED564/SCED565/MAED505 or SCED515 and adding CSED564/CSED565/CSED530, CSED535 |
| XCRTG-CCUS: Carbon Capture, Utilization, and Storage | Updated program title to Carbon Capture, Utilization and Storage Certificate; Updated program description to: The Graduate Certificate in Carbon Capture, Utilization and Storage (CCUS) is a fully online program designed to provide targeted, graduate-level training in the fundamentals of CCUS. It offers a flexible entry point for professionals or students seeking to build specialized expertise without committing to a full master's degree. The certificate program requires three 3-credit graduate courses identified below: two required courses and the option to choose an elective course. Updated Elective Course Options, removing SYGN598 and adding CCUS522, CCUS525, CCUS530, CCUS598, and PEGN506. |
| XMS-CCUS-NT: Masters in Carbon Capture, Utilization, and Storage | Updated program title to Master of Science (Non-Thesis) in Carbon Capture, Utilization and Storage; Updated program description to: The program offers two degree options in Carbon Capture, Utilization, and Storage (CCUS): a Graduate Certificate and a Master of Science (Non-Thesis). The Master of Science (Non-Thesis) in CCUS is a fully online degree that provides students with an interdisciplinary foundation in the science, technology, and policy dimensions of carbon capture, utilization, and storage. The program requires the completion of 30 graduate credits, consisting of three core courses and seven electives. The core courses introduce fundamental perspectives on climate change and sustainability, the political economy of the energy transition, and include a capstone project. Elective courses allow students to tailor the program to |

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| | their interests, with options spanning geological and non-geological CCUS, biological carbon capture and conversion, $CO_2$ reaction kinetics, Class VI well design and permitting, and related topics. This flexible curriculum equips graduates to address the technical, economic, and societal challenges of advancing CCUS technologies and strategies at scale. Updated elective course list, removing EDNS501/EDNS502 and adding PEGN506. |
| MS-DSCI-NT: MSNT in Data Science | Updated Professional Development Mini-Module (3 credits) course list, adding SYGN863, SYGN684, EBGN563, EBGN566, PHGN503, SYGN598 and removing EDNS544. |
| XMS-DSCI-NT: Masters in Data Science Online | Updated program title to Data Science Masters of Science (Non-Thesis) Online; Added Professional Development Mini-Module (comprised of three credits) listing EBGN563, SYGN598, and SYGN599. |
| MIN-ENGY: Minor in Energy | Moved ENGY200 as a required course to an elective course. |
| CRTG-GISG: Graduate Certificate in GIS & Geoinformatics | Added DSCI570 to course list. |
| XMS-GISG-NT: MSNT in GIS & Geoinformatics | Added DSCI570 to course list. |

**Course Changes:**

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| AMFG501: Additive Manufacturing | Updated course title to Additive Manufacturing Processes |
| CBEN304: Anatomy and Physiology | Added online modality |
| CBEN321: Genetics | Split course to lecture only; moved lab to separate course (CBEN331); updated credit hours to 3 |
| CSCI413: Advanced Data Science | Updated course title to Data Science for Computer Science |
| CSCI576: Deep Learning | Added cross-listed course DSCI576 |
| EDNS220: Problem Framing & Stakeholder Engagement | Updated course prerequisites to include HNRS105 or HRNS120 |
| EDNS315: Engineering for Social and Environmental Responsibility | Updated course prerequisites to include HNRS105 or HRNS120 |
| EDNS491: Capstone Design I | Updated course prerequisites to include BSDE students, EDNS 220 and Senior Standing |
| EENG311: Information Systems Science II | Added EENG310 and EENG391 as prerequisites. |
| EENG350: System Exploration and Engineering Design Lab | Updated course title to Electrical Engineering Integration and Design. |
| EENG393: FE on Integrated Circuits and Electronics Practicum | Updated course title to Field Session – Printed Circuit Board Design |
| EENG394: FE on Antennas and Wireless Communications | Updated course title to Field Sesson – Antennas and Wireless Communications |
| MAED505: Mathematical Practices and the Social Context of Mathematics | Added missing catalog description - This course provides teacher candidates an opportunity to develop the skills to promote students' mathematical identity and their understanding of mathematical practices and processes – mathematics is a community of inquiry-as articulated in the Colorado Academic Standards and Common Core. These skills will be modeled, practiced, and mastered in the context of authentic mathematical practices (e.g., the formation of the quadratic equation through maximization of orange production). Teacher candidates will engage as learners, reflect as practitioners, and finally develop their own 3-day mini-unit. To promote candidates' awareness of the social context of mathematics, candidates will explore the historical development of content and perspectives from diverse cultures. In addition, this course will prepare students to be able to communicate effectively in a variety of mediums (written, oral, and digital) as educators about mathematical processes and practices. |
| PHGN311: Introduction to Mathematical Physics | Removed CSCI250 as a prerequisite. |
| PHGN317: Semiconductor Circuits – Digital | Removed CSCI250 as a prerequisite. |
| PHGN384: Field Session Techniques in Physics | Removed CSCI250 as a prerequisite. |

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| ROBO554: Robot Mechanics: Kinematics, Dynamics, and Control | Updated course description - Mathematical representation of robot structures. Mechanical analysis including kinematics, dynamics, and design of robot manipulators. Representations for trajectories and path planning for robots. Fundamentals of robot control including linear, nonlinear and force control methods. Introduction to off-line programming techniques and simulation. Robotics students should register for ROBO554, not MEGN544. 3 hours lecture; 3 semester hours. |

**New Courses:**

CBEN331: Genetics Laboratory

CBEN421: Synthetic Biology

CEEN322: Construction Estimating, Planning & Scheduling

CHGN420/CHGN520: Physical Organic Chemistry

CSCI456: Network Science

CSCI476: Deep Learning

CSCI533: Planning for Sensing, Perception, and Coverage

CSCI537: Robotic Mapping and Localization

CSCI588: Introduction to Human Factors in Security and Privacy

DSCI576: Deep Learning

MEGN500: Introduction to Engineering Research

MEGN572: Mechanistic Understanding Across Scaled to Build Better Batteries

MNGN323: Introduction to Extractive Metallurgy

ROBO533: Planning for Sensing, Perception, and Coverage

ROBO537: Robotic Mapping and Localization

**Course Deactivations:**

AMFG591: Economic Considerations for Additive Manufacturing

EDNS205: Programming Concepts and Engineering Analysis

EDNS480: Anthropology of Development