

CLO and MSOE Mindset Curriculum Integration Grant (KEEN Grant)
Complete List of Course Integration Projects and Participation Information
Michelle Rieland, Project Coordinator

MSOE has now completed the third and final year of our KEEN (Kern Entrepreneurial Engineering Network) grant. The focus of this grant was on the integration of the Common Learning Outcomes (CLOs) Exhibit Curiosity, Think Critically, and Integrate Learning, and the MSOE Mindset, into courses that support our undergraduate students.

From Fall 2023 through Summer 2026, 75 unique MSOE faculty members have participated in the grant, impacting 146 undergraduate semester courses (188 total lab and lecture components), at MSOE. A total of 96 KEEN Cards on EngineeringUnleashed, as well as 20 Canvas Commons Modules were created as deliverables to present the work.

2023-2024 Academic Year Projects Completed

- Dr. Sebastian Berisha, *CSC 3310, Algorithms and Advanced Data Structures* – KEEN Card #4073
- Dr. Jennifer Bonniwell, *CPE 1500 Digital Logic* – KEEN Card #4332
- Dr. Donovan Brocker, *ELE 3111 Electronics II* – KEEN Card #6131
- Dr. Josh Carl, *ELE 2801 Bridge Digital Design and Procedural Programming* – KEEN Card #3944
- Dr. Eryn Hassemer, *BIO 2320 Cellular Microbiology* – KEEN Card #4339
- Dr. Olga Imas, *BME 3010 Medical Device Regulation and Standard* – KEEN Card #3637
- Dr. Andrew McAninch, *PHL 3208 Philosophy of Art* – KEEN Card #4215
- Dr. Anne-Marie Nickel, *CHM 1020 Chemistry II* – KEEN Card #4158
- Instr. Amy Murre, *FNA 2002 Drama and the Theater* – KEEN Card #4325
- Prof. Jayme Radomski, *CAE 1811 Introduction to the Built Environment* – KEEN Card #3965
- Dr. Derek Riley, *SWE 2710 Software Tools and Process* – KEEN Card #4131
- Dr. Christopher Taylor and Prof. Sean Jones, *CSC 1110 Software Development* – Canvas Commons
- Dr. Christopher Taylor and Prof. Sean Jones, *CSC 1120 Data Structures and Graphical Interfaces* – Canvas Commons
- Dr. Charles Tritt, *CSC 1310 Introduction to Programming with Python* – KEEN Card #4212
- Dr. Wujie Zhang, *BIE 3100 Cell Culture and Tissue Engineering* – KEEN Card #3709

Summer 2024 Projects Completed

- Dr. Patrick Comiskey and Dr. Nathan Patterson, *MEC 4871 Aerodynamics* – KEEN Card #4346
- Dr. Basel Elkhapery, *CAE 5840 Intro to AI in the Built Environment* – KEEN Card #4333
- Dr. Mark Fleming, *MEC 4874 Renewable and Sustainable Energy Systems* – KEEN Card #4347
- Dr. Kevin Hart, *MEC 2030 Mechanics of Materials* – KEEN Card #4378
- Dr. Eryn Hassemer, *BIE 2100 Principles and Applications of Biotechnology* – KEEN Card #4377
- Dr. Adam Livingston, *CPE 3600 Embedded Systems Design* – KEEN Card #4577
- Dr. Michael Sevier, *MEC 4060 Finite Element Methods* – KEEN Card #4364
- Dr. Robert Olsson, *PHY 1110 Physics I* – KEEN Card #4468
- Dr. Anand Vyas, *MEC 3320 Dynamic Systems* – KEEN Card #4345

2024-2025 Academic Year Projects Completed

- Dr. Patrick Comiskey, *MEC 3120 Fluid Mechanics* – KEEN Card #4679

- Dr. Matthew Frise, *PHL 3209 Philosophy of Religion* – KEEN Card #4681
- Dr. Brian Slaboch, *MEC 3040 Computer Aided Design of Machines* – KEEN Card #4691
- Prof. Sean Jones, *SWE 3411 Software Requirements and Architecture* – KEEN Card #4684
- Dr. James Lembke, *CSC 3511 Security and Networking* – KEEN Card #4682
- Dr. Derek Riley, *SWE 4901 Software Engineering Capstone I* – Canvas Commons
- Dr. Derek Riley, *CSC 4901 Computer Science Capstone I* – Canvas Commons
- Dr. Brian Slaboch, *MEC 2010 Engineering Mechanics I: Statics* – KEEN Card #4848
- Dr. Patrick Comiskey, *MEC 3130 Heat Transfer* – KEEN Card #5087
- Dr. Brian Faulkner, *ELE 2001, Electric Circuits I: Theory and Applications* – KEEN Card #4870
- Dr. Cynthia Barnicki, *MEC 3210 Material Science* – KEEN Card #4779
- Dr. Anne-Marie Nickel, *CHM 3850 Food Chemistry* – KEEN Card #4779
- Dr. Anne-Marie Nickel, *SCI 3750 Nanoscience and Nanotechnology* – KEEN Card #4823
- Dr. David Howell, *LIT 3001 Topics in Global Literature* – KEEN Card #4761
- Dr. David Howell, *LIT 1020 American Literature II* – KEEN Card #4761
- Dr. Adam Livingston, *CPE 2610 Embedded Systems* – Canvas Commons
- Dr. Nadya Shalamova, *UXD 3060 Professional Portfolio* – KEEN Card #5100
- Dr. Tammy Rice-Bailey, *UXD 4901 UX Senior Design* – KEEN Card #4807
- Prof. Jayme Radomski, *ARE 4901, CAE 4901, and CON 4901 Capstone 1 courses for Architectural, AECM, and Construction Management majors* – KEEN Card #4783

Summer 2025 Projects Completed

- Dr. Tammy Rice-Bailey, *TCM 2010 Interpersonal Communication* – KEEN Card #5355
- Dr. Tammy Rice-Bailey, *UXD 3010 UXD Research Methods*– KEEN Card #5205
- Dr. Patrick Comiskey, *MEC 4160 Computational Fluid Dynamics*– KEEN Card #5345
- Dr. Andrew McAninch, *PHL 3101 Ethics for Professional Managers and Engineers; PHL 3102 Ethics of Digital Technologies and AI; PHL 3103 Bioethics*– KEEN Card #5351
- Dr. Brian Slaboch, *MEC 2020 Engineering Mechanics II: Dynamics*– KEEN Card #5329
- Dr. Wujie Zhang and Dr. Lauren Beverung, *CBE 3200 Biopolymer and Nanomaterial Engineering*– KEEN Card #5387
- Dr. David Howell, *PHL XXXX Experiential Ethics (new course)* – KEEN Card #5414
- Dr. Milad Tatari, *MEC 3060 Design of Machine Components*– KEEN Card #5441
- Dr. Amirreza Lotfolahpour, *MEC 1602 Introduction to Solid Modeling and Design*– KEEN Card #5425
- Dr. Won Chul Song, *MTH 2480 Probability and Statistics*– KEEN Card #5546
- Dr. Mikayla Moody, *MEC 3220 Materials and Manufacturing Processes*– KEEN Card #5394
- Dr. Ruiyang Wang, *MEC 4310 Automatic Control Systems*– KEEN Card #5421
- Dr. Mark Fleming, *MEC 3140 Thermodynamics II*– KEEN Card #5543
- Dr. Ahmed Sayed, *BME 4410 Advanced Biomechanics*– KEEN Card #5583
- Dr. Jonathon Flynn, *SWE 3710 Software Development Laboratory I* – Canvas Commons
- Instr. Kristen Belan, *CVE 4201 Environmental Water and Law*– KEEN Card #5552
- Dr. Xi Song, *CAE 3501 Principles of Structural Engineering*– KEEN Card #5479
- Prof. Gage Christianson, *CON 3001 Principles of Construction Management* – Canvas Commons
- Dr. Salah Sarhat, *CAE 3521 Design of Reinforced Concrete Structures*– KEEN Card #4915
- Dr. John Bukowy, *CSC 4801 Data Science Practicum*– KEEN Card #5563
- Dr. Robert Hasker, *SWE 3720 Software Development Lab II*– KEEN Card #5556
- Dr. Jan Fertig, *SOC 1001 Foundations of Sociology* – Canvas Commons

- Dr. Luis A. Rodriguez, *MEC 4470 Introduction to Robotics* – KEEN Card #5353
- Dr. Olga Imas, *BME 1010 Introduction to Biomedical Engineering* – KEEN Card #5551
- Dr. Katie Panciera, *HST 1021 Computing History* – KEEN Card #5443
- Dr. Charles Tritt, *BME 3310 Sensors, Actuators, and Interfaces* – KEEN Cards #5384, #5385, and #5386
- Dr. Chaucey Chandler, *IND 4330 Modern Manufacturing Processes* – Canvas Commons

2025-2026 Academic Year Projects Completed

- Dr. Icaro dos Santos, *BME 4410 Control Systems for Biomedical Applications* – Canvas Commons
- Dr. Candela Marini, *HON 2052 Honors Seminar II* – KEEN Card #5849
- Dr. Candela Marini, *SPN 1001 Elementary Spanish* – KEEN Card #5856
- Dr. Jung Lee, *CBE 3300 Bioinformatics* – KEEN Card #5858
- Instr. John Kellogg, *PSY 2010 Understanding Human Language* – KEEN Card #5861
- Dr. David Howell, *FNA 3001 Creative Writing* – KEEN Card #5835
- Dr. Devon Lantagne, *BME 2310 Embedded Systems for Biomedical Engineers* – Canvas Commons
- Dr. Nadya Shalamova, *UXD 1001 Human-Centered Design* – Canvas Commons
- Dr. Jeff LaMack, *BME 3610 Biomaterials* – KEEN Card #5882
- Dr. Olga Imas, *ECB 4801 AI for Emerging Applications Practicum* – KEEN Card #5846
- Dr. Ahmed Sayed, *BME 3710 Biomedical Instrumentation* – KEEN Card #5889
- Dr. Chunping Xie, *MTH 2310 Discrete Mathematics* – KEEN Card #5829
- Dr. Robert Olsson, *PHY 1120 Lab Physics II: Electricity, Magnetism, and Optics* – KEEN Card #6165
- Dr. Nazieh Massoud, *PHY 1120 Lecture Physics II: Electricity, Magnetism, and Optics* – KEEN Card #6165
- Dr. Lisa Jurgens and Dr. Heather Eggleston, *BIO 1110 Cell Biology and Genetics* – Canvas Commons
- Dr. Brian Slaboch, *MEC 1910 Computer Applications in Engineering* – KEEN Card #6251
- Dr. Charles Tritt, *BME 3510 Biotransport Phenomena* – KEEN Card #5384
- Dr. Ruiyang Wang, *MEC 3310 Instrumentation and Measurements* – KEEN Card #6253
- Dr. Douglas Grabenstetter, *IND 3400 Quality Systems* – KEEN Card #6047
- Dr. Kaylie Butt, *IND 3810 Process Modeling and Optimization* – KEEN Card #6168
- Dr. Tammy Rice-Bailey and Dr. Nadya Shalamova, *COM 2001 Writing for the STEM Disciplines* – Canvas Commons
- Dr. Nadya Shalamova, *UXD 1040 Design Thinking* – Canvas Commons
- Dr. Tammy Rice-Bailey, *TCM 2020 Communication Dynamics of High-Performance Teams* – KEEN Card #6025
- Dr. Chaucey Chandler, *IND XXXX New Special Topics Course* – Canvas Commons
- Dr. Ahmed Sayed, *BME 4910 Lasers: Medical Applications* – KEEN Card #6171
- Instr. Amy Murre, *LIT 1010 American Literature I* – KEEN Card #6162
- Dr. Leah Newman, *IND 4630 Product Design and Development Processes* – KEEN Card #6243
- Dr. Devon Lantagne, *ELE 4610 Advanced Programming for Electrical Engineers* – Canvas Commons
- Instr. John Kellogg, *HST 2022 German History* – KEEN Card #6256
- Dr. Amandeep Arora, *CHM 3650 Environmental Chemistry* – KEEN Card #6248
- Dr. Zachary Simmons, *PHY 3600 Lasers and Application* – KEEN Card #6169
- Dr. Serdar Ozturk, *CBE 4500 Process Engineering Lab* – KEEN Card #6045

- Dr. Faisal Shaikh, *CBE 4600 Bio Process Control* – KEEN Card #6240

Summer 2026 Projects Completed

- Dr. Christopher Taylor, *CSC 4902 Computer Science Capstone II* – Canvas Commons
- Dr. Christopher Taylor, *SWE 4902 Software Engineering Capstone II* – Canvas Commons
- Dr. Olga Imas, *ELE 3320 Digital Signal Processing* – KEEN Card #6509
- Dr. Chibuzo Ukegbu, *CYB 4721 Applied Penetration Testing* – KEEN Card #6560
- Dr. Faisal Shaikh, *CBE 1000 Introduction to Chemical and Biomolecular Engineering* – KEEN Card #6701
- Dr. Zhonghao Liao, *CYB 2311 Introduction to Applied Cryptography* – KEEN Card #6663
- Dr. Cynthia Barnicki, *MEC 4980 Special Topics Course* – KEEN Card #6429
- Dr. Nazieh Masoud, *PHY 3810 Introduction to Biophysics* – Canvas Commons
- Dr. Jung Lee, *CBE 2300 Informatics Computing* – KEEN Card #6677
- Dr. Chunping Xie, *MTH 2140 Differential Equations* – KEEN Card #6811
- Dr. Israa Azzam, *MEC 4770 Fluid Power Systems* – KEEN Card #6587
- Dr. Xiaoyi Hu, *MEC 4870 HVAC Systems Design* – KEEN Card #6809
- Dr. Zifang Kong and Dr. Yu-Sin Chang, *MTH 2450 Business Statistics and Analytics* – KEEN Card #6670
- Dr. Walter Schilling, *CYB 4911 Cybersecurity Micro Practicum* – KEEN Card #6377
- Dr. Mitzi Dobersek, *CAECM Professional Growth Courses* – KEEN Card #6542
- Dr. Mitzi Dobersek, *CAECM Principles Courses* – KEEN Card #6418
- Dr. Mitzi Dobersek, *CAECM Design Courses* – KEEN Card #6434

Additional Grant Funded Positions and Roles that Supported Curriculum Integration Work

Visiting Faculty Members

- Dr. Kevin Erb, DSAC
- Dr. Devon Lantagne, ECBE

Academic Support Specialists (now Academic Advisors)

- Will Willis, CAECM Department Academic Advisor
- Chris Carloni, School of Nursing Academic Advisor (non-grant funded)
- Reggie Walton, Mechanical and Industrial Engineering Department Academic Advisor
- Betty Albrecht, CBE and UX Academic Advisor
- Joey Reindl, MIE Department (Fall 2024 thru Spring 2025)
- Maxwell Artis-Demick, CBE and UX (Fall 2024 thru Fall 2025)

These faculty members served on one or more Project Review Teams during the grant period:

- Dr. Ahmed Sayed
- Dr. Anne-Marie Nickel
- Dr. Lauren Beverung
- Jayme Radomski
- Dr. Sebastian Berisha
- Dr. Andrew McAninch
- Dr. Wujie Zhang
- Dr. Mark Fleming
- Dr. Eryn Hassemer
- Dr. Robert Olsson

- Dr. Donovan Brocker
- Amy Murre
- Dr. Nathan Patterson
- Dr. James Lembke
- Sean Jones
- Dr. Brian Faulkner
- Dr. Adam Livingston
- Dr. Charles Tritt
- Dr. Anand Vyas
- Dr. Cynthia Barnicki
- Dr. Xi Song
- Dr. Jennifer Bonniwell
- Dr. Jonathon Flynn
- Dr. Kevin Hart
- Dr. Salah Sarhat
- Dr. Won Chul Song
- Dr. Mikayla Moody
- Dr. Lauren Beverung
- Dr. Jeff LaMack
- Dr. Brian Slaboch
- Dr. Jonathon Flynn
- Dr. Luke Weber
- Gene Wright