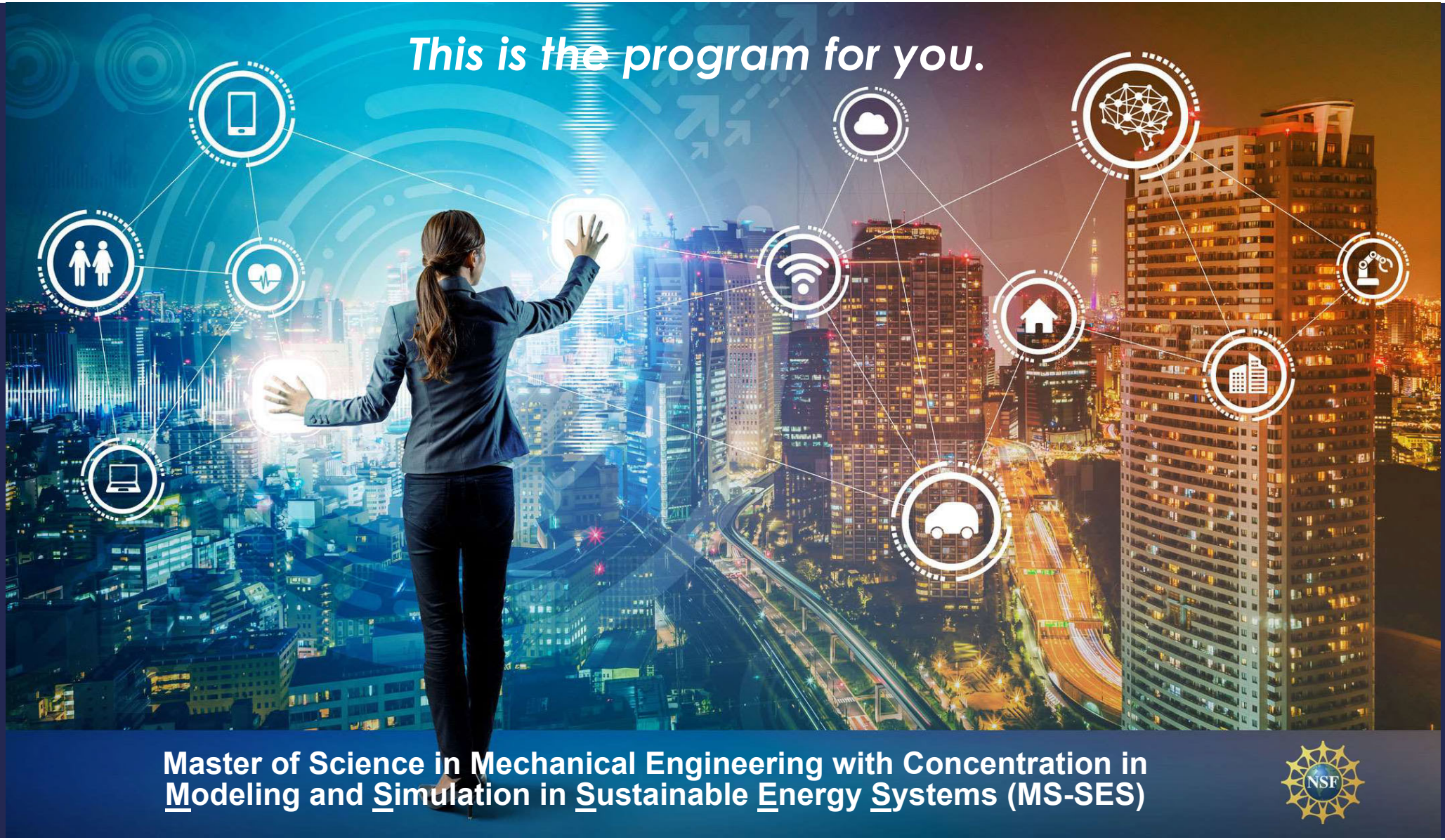
Are you motivated by acquiring emerging modeling and simulation skills and passionate about sustainable future?



STARTING IN FALL 2024

MS-SES Concentration Highlights

Funder

U.S. Department of Education

Multidiscipline Faculty

- Mechanical Engineering
- Electrical Engineering & Computer Science
- Teacher Education

CSU Cleveland State University

Project Partners

NASA, Energy & Manufacturing Companies

Program Themes

- Multidisciplinary Learning
- Design for Sustainability

New Courses

- Fundamentals of Modeling and Simulation
- Data-driven Modeling and Simulation
- Validation and Verification of Modeling and Simulation
- Project Design for Modeling and Simulation

See the Complete MS-SES Curriculum for Details

As of September 20, 2023

Master of Science in Mechanical Engineering with Modeling and Simulation Concentration in Sustainable Energy Systems (MSME-MS-SES)

Inaugural Semester Fall 2024

Semester One - Year One	**Cr.**	**Semester Two - Year One**	**Cr.**
MCE 501 Mechanical Engineering Analysis	4	MCE 505 Numerical methods in mechanical engineering	4
MCE 650 Mechanical Engineering Seminar	1	MCE 593 ST: Data-driven Modeling and Simulation	4
MCE 593 ST: Fundamentals of Modeling and Simulation	4		
Semester Total	9	*Semester Total*	8
Semester Three – Year Two	**Cr.**	**Semester Four – Year Two**	**Cr.**
MCE 593 Sustainable Energy	4	MCE elective in energy systems*	4
MCE 593 ST: Verification of Modeling and Simulation	4	MCE 698 Master's Project - Modeling and Simulation	4
Semester Total	8	*Semester Total*	8
Degree Total:	**33**		
General Notes:			

*Either MCE 501 or MCE 505 may be replaced by an elective, but one of them is required to fulfill the mathematics requirement for the master's degree. Electives can be any of the following existing courses: MCE 503 Modeling and Simulation in Mechatronics, MCE 521 Applied Thermodynamics, MCE 524 Applied Heat Transfer, MCE 530 Applied Fluid Mechanics, MCE 544 Applied Combustion Proc, MCE 610 Computational Fluid Flow & Heat transfer.

**For students in the 4+1 program, you will complete the remaining 21 credits to complete the requirements for the master's program with modeling and simulation specialization, After receiving the undergraduate degree.

*** Courses in Red will be the new courses to be offerred starting in Fall 2024 under MCE 593 Special Topics (ST). A permanent course designation will be assigned per the university curiculum approval process in the future.