

Computational Science and Engineering (CSE) Degree Plan
Accepted to the Oden Institute and seeking a PhD
Starting in the Fall 2023

CSE Graduation Requirements:

- CSE classes: <https://www.oden.utexas.edu/graduate-studies/courses/>
- ME classes: <https://nuclear.engr.utexas.edu/current-students/courses>

Degree Plan (~4 years):

				CSE Area	
-	Fall 2023				
	o	CSE 389C	Mathematical Modeling in Sci. and Eng. I	Robert Moser	C
	o	CSE 383C	Numerical Analysis: Linear Algebra	George Biros	B
	o	CSE 386M	Functional Analysis in Theoretical Mechanics	Leszek Demkowicz	A
-	Spring 2024				
	o	CSE 389D	Mathematical Modeling in Sci. and Eng. II	Feliciano Guistino	C
	o	CSE 383L	Numerical Analysis: Differential Equations	Bjorn Engquist	B
	o	CSE 386L	Mathematical Methods in Science & Engineering	Leszek Demkowicz	A
-	Summer 2024		Internship or Research in Austin		
-	August 2024:		Qualifying Exam for Doctoral Candidacy		
-	Fall 2024				
	o	CSE B	Area B Elective		B
	o	CSE 382M	Machine Learning and Data Sciences	Rachel Ward	
	o	CSE 393F	Finite Element Methods	Mary Wheeler	
	o	CSE 392	Parallel Algorithms in Scientific Computing	George Biros	
	o	CSE 380	Tools and Techniques of Computational Sci.	Karl Schultz	
	o	CSE 397	Nonlinear Static and Dynamic Finite Elements		
	o	ME 338D	Nuclear Reactor Theory I	Clarno	
	o	CSE 380M	Research	Clarno	
-	Spring 2025				
	o	CSE B	Area B Elective		B
	o	CSE C	Area C Elective		C
	o	CSE 393N	Numerical Methods for Flow and Transport	Robert Moser	
	o	CSE 397	Stability and Multiscale Methods in CFD	Thomas Hughes	
	o	CSE 397	Computational Methods for Inverse Problems	Omar Ghattas	
	o	CSE 397	Validation and UQ in Computational Models	Robert Moser	
	o	CSE 380M	Research	Clarno	
-	Summer 2025		Internship		
-	Fall 2025				
	o	CSE 397/ME 388F	Computational Methods in Radiation Transport	Clarno	C
	o	CSE A	Area A Elective		A
	o	CSE 397	Nonlinear Static/Dynamics FEA	Thomas Hughes	
	o	CSE 385M	Fast Algorithms: Theory and Practice	Per-Gunnar Martinsson	
	o	CSE 385N	Design and Analysis of Experiments	Bindu Viswanathan	
	o	CSE 393H	Advanced Theory of Finite Elements	Leszek Demkowicz	
	o	STA 380	Bayesian Deep Learning	Mingyuan Zhou	
	o	M 390	Coding Theory		
	o	CSE 380M	Research	Clarno	
-	January 2026				
	o	PhD Proposal Defense			
-	Spring 2026				
	o	CSE A	Area A Elective		A
	o	ME 680M	Research	Clarno; or 3 hours + Elective Course	
-	Summer 2026		Internship		
-	Fall 2026				
	o	ME 399W	Dissertation Writing	Clarno	
	o	ME 680M	Research	Clarno; or 3hours + Elective Course	

- Spring 2027
 - o ME 399W
 - o ME 680M
 - May 2027
 - o Graduation
- Dissertation Writing
Research
- Clarno
Clarno; or 3hours + **Elective Course**