

B.S. Civil Engineering



Required Core CEVE Courses

Total: 24 hours

CEVE 101 (F)	Fundamentals of CEE	3
CEVE 211 (F)	Engineering Mechanics	3
CEVE 310 (F)	Principles of Environmental Eng.	3
CEVE 311 (S)	Mechanics of Solids and Struct.	3
CEVE 312 (S)	Strength of Materials Lab.	1
CEVE 363 (F)	Fluid Mechanics	3
CEVE 401 (F)	Environmental Chem. & Lab ^a	4
CEVE 470 (F)	Principles Soil Mechanics ^b	4
CEVE 480 (S)	Senior Design ^c	3
CEVE 481 (F)	Introduction to Senior Design ^c	1

- Select 12 credit hours for your Focus Area below
- Select 6 credit hours from each of the three remaining Areas.

Required Science and Math Courses and Suggested Electives listed on the back page.

Overall Hours

Core Courses	24 hrs
Focus Area Courses	18 hrs
Focus Area Specialization Courses	12 hrs
General Math & Science	40-41 hrs
Distribution including FWIS	24 hrs
Open/Free Electives/LPAP***	15 hrs
Total	133-134 hrs

CEVE Focus Area I Environmental Engineering

(Mason Tomson*)

CEVE 302 (F)	Sustainable Design	3
CEVE 307 (S)	Energy and the Environment	3
CEVE 308 (S)	Air Pollution Control**	3
CEVE 404 (S)	Atmospheric Particulate Matter**	3
CEVE 406 (S)	Environmental Law**	3
CEVE 411 (F)	Atmospheric Processes	3
CEVE 434 (F)	Contaminant Fate and Transport	3
CEVE 444 (F)	Environmental Microbiology & Ecology	3

CEVE Focus Area II Hydrology and Water Resources

(Philip Bedient*)

CEVE 412 (S)	Hydrology & Water Resources Eng.	3
CEVE 418 (F)	Quantitative Hydrogeology	3
CEVE 420 (F)	(520) Environmental Restoration	3
CEVE 512 (S)	Advanced Hydrology and Hydraulics	3
CEVE 518 (S)	Contaminant Hydrogeology	3

CEVE Focus Area III Structural Engineering and Mechanics

(Satish Nagarajaiah*)

CEVE 304 (S)	Structural Analysis	3
CEVE 400 (S)	Advanced Mechanics of Materials	3
CEVE 405 (S)	Steel Design	3
CEVE 407 (F)	Reinforced Concrete Design	3
CEVE 408 (F)	Structures Lab.	1
CEVE 427 (F)	computational Struc. Mech. & FEM	3
CEVE 476 (F)	Structural Dynamic Systems	3

CEVE Focus Area IV Urban Infrastructure, Reliability & Mngmnt

(Leonardo Dueñas-Osorio*)

CEVE 313 (S)	Risk & Uncertainty in Urban Sys.	3
CEVE 424 (F)	(524) Time Dependent Systems	3
CEVE 452 (S)	Urban Transportation Systems	3
CEVE 460 (F)	Bridge Eng. & Extreme Events**	3
CEVE 479 (F)	Eng. Project Management	3
CEVE 492 (F)	(592) Modeling & Analysis of Networked Systems.**	3

^a For Areas I and II, CEVE 401 is required and CEVE 470 is an Area IV elective.

^b For Areas III and IV, CEVE 470 is required and CEVE 401 is an Area I elective.

^c Senior Design is now over 2 semesters as 481/480.

* Faculty that is authorized to approve required CEVE Area hours.

** Offered alternating years.

*** See list of suggested electives (not required) on the back.

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Department of Civil and Environmental Engineering - Rice University MS-318, 6100 Main St, Houston, Texas 77251
Phone: 713-348-4949 Fax: 713-348-5268 ceve@rice.edu

Required Science and Math Courses

ESCI 301	or EBIO 325 or BIOC 201	3-4
CAAM 210	Introduction to Engineering Comp	3
CAAM 335	Matrix Analysis (or MATH 354 or MATH 355)	3
CHEM 121/123	General Chemistry Laboratory I	3/1
CHEM 122/124	General Chemistry Laboratory II	3/1
MATH 101	Single Variable Calculus I	3
MATH 102	Single Variable Calculus II	3
MATH 211	Ordinary Differential Equations	3
MATH 212	Multivariable Calculus	3
PHYS 101	Mechanics with Lab	4
PHYS 102	Electricity and Magnetism with Lab	4
STAT 312	Probability and Statistics or equivalent	3

Suggested Electives

Any CEVE course from Focus Areas or 500 Level Courses

CEVE 314	Sustainable Water Purification	2
CEVE 320	Ethics and Engineering Leadership	3
CEVE 417	Finite Element Analysis	3
CEVE 424	Time-dependent Reliability of Eng. Systems	3
CEVE 454	Computational Fluid Mechanics	3
CEVE 490	Special Study and Research	3
CEVE 499	Special Topics	1-12
ARCH 317	(617) Landscape & Site Strat. Houston	3
CHEM 211	Organic Chemistry I	3
ECON 100	Principles of Economics	3
ECON 445	Managerial Economics	3
STAT 385	Methods for Data Analysis	3
CAAM 336	Diff Equations in Sci & Eng.	3
CAAM 378	Intro to O.R. and Optimization	3
CAAM 420	Computational Science I	3
CAAM 453	Numerical Analysis I	3
CAAM 471	Linear and Integer Programming	3
MECH 343	Modeling of Dynamic Systems	4
MECH 412	Vibrations	3

CEVE 500 Level Courses

Any 500 Level Course can be a Recommended Elective

CEVE 500	Advanced Mechanics of Materials	3
CEVE 501	Environmental Chemistry	3
CEVE 502	Sustainable Design	3
CEVE 503	Nonlinear Finite Element Analysis	3
CEVE 504	Atmospheric Particulate Matter	3
CEVE 505	Engineering Project Management	3
CEVE 509	Hydrology and Water Resources Eng.	3
CEVE 510	Principles of Environmental Eng.	3
CEVE 511	Atmospheric Processes	3
CEVE 514	Advanced Hydrology & Hydraulics	3
CEVE 518	Contaminant Hydrogeology	3
CEVE 519	Elasticity, Plasticity and Damage Mech.	3
CEVE 520	Env. Remediation Technologies	3
CEVE 524	Time-dependent syst. Reliability Methods	3
CEVE 527	Computational Structural Mech. & FEM	3
CEVE 528	Engineering Economics	3
CEVE 529	Ethics and Engineering Leadership	3
CEVE 530	Concrete Building Design	3
CEVE 533	Nanoscience and Nanotechnology	3
CEVE 534	Fate and Transport of Contaminants	3
CEVE 535	Phys.Chem.Processes Water Qual. Control	3
CEVE 536	Environmental Biotechnology	3
CEVE 538	Computational Nanoscience	3
CEVE 540	Steel Building Design	3
CEVE 544	Environmental Microbiology & Ecology	3
CEVE 550	Environmental Organic Chemistry	3
CEVE 554	Finite Elemnt Methods in Fluid Mechanics	3
CEVE 560	Bridge Eng. & Extreme Events	3
CEVE 570	Foundation Engineering	3
CEVE 576	Structural Dynamic Systems	3
CEVE 580	Molecular Biology Methods	3
CEVE 590	MCEE Special Study	3
CEVE 592	Modeling & Analysis Urban Sys	3

Accredited by the Engineering Accreditation Commission of ABET, www.abet.org.



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