SOFTWARE ENGINEERING ELECTIVES

NOTE: For prerequisites, please check the current Course Catalog - https://catalog.iastate.edu/azcourses/

COURSE #	TITLE	CREDITS
S E 329 x: CPR E	Software Project Management	3
S E 342 x: COM S	Principles of Programming Languages	3
S E 362 x: COM S	Object-Oriented Analysis and Design	3
S E 409 x: COM S	Software Requirements Engineering	3
S E 412 x: COM S/CPR E	Formal Methods in Software Engineering	3
S E 416 x: CPR E	Software Evolution and Maintenance	3
S E 417 x: COM S	Software Testing	3
S E 419 x: CPR E	Software Tools for Large Scale Data Analysis	4
S E 422X	Cloud Computing - Software Development	3
COM S 410/510	Distributed Development of Software	3
COM S 413/513	Foundations and Applications of Program Analysis	3
COM S 415/515	Software System Safety	3
COM S 440/540	Principles and Practice of Compiling	3
CPR E 414	Introduction to Software Systems for Big Data Analytics	4

SUPPLEMENTAL ELECTIVES

NOTE: For prerequisites, please check the current Course Catalog - https://catalog.iastate.edu/azcourses/

Any SE Elective can be used to fill this requirement.

COURSE #	TITLE	CREDITS
C E 388 x: A B E/E E	Sustainable Engineering and International Development	3
COM S 252	Linux Operating System Essentials	3
COM S 327	Advanced Programming Techniques	3
COM S 331 x: LING	Theory of Computing	3
COM S 336	Introduction to Computer Graphics	3
COM S 418/518	Introduction to Computational Geometry	3
COM S 421 x: MATH	Logic for Mathematics and Computer Science	3
COM S 424 x: CPR E/MATH	Introduction to High Performance Computing	3
COM S 425 x: CPR E	High Performance Computing for Scientific and Engineering Applications	3
COM S 430	Concurrent Programming in Practice	3
COM S 433/533	Molecular Programming of Nanoscale Devices and Processes	3
COM S 435/535	Algorithms for Large Data Sets: Theory and Practice	3
COM S 437	Computer Game and Media Programming	3
COM S 444 x: BCB/BCBIO/ BIOL/CPR E/ GEN	Bioinformatic Analysis	4
COM S 454/554 x: CPR E	Distributed Systems	3
COM S 455/555	Simulation: Algorithms and Implementation	3
COM S 461/561	Principles and Internals of Database Systems	3
COM S 472/572	Principles of Artificial Intelligence	3
COM S 474/574	Introduction to Machine Learning	3
COM S 476/576	Motion Strategy Algorithms and Applications	3
COM S 477/577	Problem Solving Techniques for Applied Computer Science	3
COM S 481	Numerical Methods for Differential Equations	3
COM S 486	Fundamental Concepts in Computer Networking	3
COM S 487/587	Network Programming, Applications and Research Issues	3
COM S 490	Independent Study	1-2 NOTE: Can only apply 2 credits to supplemental electives
COM S 575 x: CPR E, HCI	Computational Perception	3

SUPPLEMENTAL ELECTIVES

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Any SE Elective can be used to fill this requirement.

COURSE #	TITLE	CREDITS
CPR E 288	Embedded Systems I: Introduction	4
CPR E 388	Embedded Systems II: Mobile Platforms	4
CPR E 418 x: E E	High Speed Systems Engineering Measurement and Testing	4
CPR E 426/526 x: COM S	Introduction to Parallel Algorithms and Programming	4
CPR E 430/530 x: CYB E	Network Protocols and Security	3
CPR E 431	Basics of Information System Security	3
CPR E 450/550	Distributed Systems and Middleware	3
CPR E 458/558	Real Time Systems	3
CPR E 483	Hardware Software Integration	4
CPR E 488	Embedded Systems Design	4
CPR E 489	Computer Networking and Data Communications	4
CPR E 490	Independent Study	1-2 NOTE: Can only apply 2 credits to supplemental electives
M E 484/584 x: WLC	Technology, Globalization, and Culture	3
SE 490	Independent Study	1-2 NOTE: Can only apply 2 credits to supplemental electives
STAT 483/583	Empirical Methods of Computational Sciences	3
STAT 484/584	Computer Processing of Scientific Data	3
STAT 486/586	Introduction to Statistical Computing	3