

University of San Diego Shiley-Marcos School of Engineering

B.S. Computer Science Degree Checklist (2023/24 catalog)

Complete	Core Curriculum	Course that Satisfies Requirement	Units
	First Year Writing (CFYW)	FYW 150	3
	Mathematical Reasoning (CMRP)	MATH 150	
	Second Language Competency		3 to 9
	Lower-Division Theological and Religious Inquiry (FTRI)		3
	Upper-Division Theological and Religious Inquiry (FTRI)		3
	Philosophical Inquiry (FPHI)		3
	Ethical Inquiry (FETI)		3
	Scientific and Technological Inquiry (ESTI)		
	Historical Inquiry (EHSI)		3
	Social and Behavioral Inquiry (ESBI)		3
	Literary Inquiry (ELTI)		3
	Artistic Inquiry (EARI)		3
	Diversity, Inclusion, Social Justice (FDD1)		
	Diversity, Inclusion, Social Justice (FDD2 or FDG2)		
	Advanced Writing (CADW)		
	Oral Communication (CORL)		3
	Quantitative Reasoning (CQUR)		
	First Year Integration (CINL)	LLC Course	
	Advanced Integration (CINT)	COMP 492	
Complete	Math/Science Courses	Prerequisites/(Corequisites)	
	MATH 150 - Calculus I	MATH 115 credit or placement in MATH 130 or higher	4
	MATH 151 - Calculus II	MATH 151 (C- or better)	4
	MATH 260 - Foundations of Higher Math or MATH 262 - Discrete Math	MATH 150	3
	MATH 320 - Linear Algebra	MATH 262 (C- or better)	3
	ISYE 330 - Engineering Probability and Statistics	MATH 151	3
	Natural Science		6
Complete	Computer Science Core Courses	Prerequisites/(Corequisites)	23
	COMP 110 - Computational Problem Solving (was COMP 150)	MATH 115 credit or placement in MATH 130 or higher	3.5
	COMP 120 - Programming Abstractions and Methodologies	COMP 110 (C- or better)	3.5
	COMP 230 -Advanced Computational Problem Modeling	COMP 120 (C- or better) , MATH 262 (C- or better)	3.5
	COMP 280 - Introduction to Computer Systems	COMP 120 (C- or better)	3.5
Complete	Computer Science Required Courses	Prerequisites/(Corequisites)	14
	COMP 305 - Object-Oriented Design and Programming	COMP 230 or COMP 285 (C- or better)	3
	COMP 370 - Automata, Commutability and Formal Languages	(COMP 230 or 285) (C- or better)& MATH 262 (C- or better)	3
	COMP 480 - Algorithms	(COMP 230 or 285) (C- or better)& MATH 262 (C- or better)	3
	COMP 491 - Senior Project I	COMP 305	3
	COMP 492 - Senior Project II	COMP 491	3
Complete	Systems Courses (2 required)	Prerequisites/(Corequisites)	12
	COMP 300 - Principles of Digital Hardware	COMP 280 (C- or better) & MATH 262 (C- or better)	3.5
	COMP 310 - Operating Systems	COMP 280 (C- or better)	3.5
	COMP 375 - Networking	COMP 280 (C- or better)	3.5
Complete	Computer Science Elective Courses choose 9 units		7
	COMP 340 - Numerical Analysis	MATH 151 (C- or better), COMP 110 (C- or better)	
	COMP 341 - Numerical Analysis II	MATH 250, MATH 320,(MATH 330) COMP 340 (all C- or better)	
	COMP 345 - Database Management Systems Design	COMP 230 or COMP 285 (C- or better)	
	COMP 350 - Computer Graphics	MATH 320 & (COMP 230 or 285) (C- or better)	
	COMP 360 - Principles of Programming Languages	(COMP 230 or 285) (C- or better)& MATH 262 (C- or better)	
	COMP 365 - Principles of Information Security	COMP 280 (C- or better)	
	COMP 380 - Neural Networks	(COMP 230 or 285) (C- or better)& MATH 262 (C- or better)	
	COMP 382 - Introduction to Data Mining	COMP 230 (C- or better) & ISYE 330 (C- or better)	
	COMP 421 - Embedded Software Development	COMP 280 (C- or better)	
	COMP 422 - Advanced Embedded Software Development	COMP 421 (C- or better)or GENG 421 (C- or better)	
	COMP 494 - Special Topics		
	COMP 499 - Independent Study	Permission of Instructor	
	CYBR 501 - Intro to Cybersecurity Concepts and Tools	permission of chair	
	CYBR 502 - Cybersecurity Network Defense	CYBR 501 (C- or better)	
	total degree units		124