Name: _____   Student ID: _____

Course Number & Title (units)	Prerequisites†
Complete ALL of the following preparatory subject matter courses:	
ECS 20: Discrete Mathematics for Computer Science (4)	*a 'C-' or better in MAT 16A or 17A or 21A*
ONE (1) of the following series options in its entirety: *mixing of courses between series is not allowed*	

□ ECS 36 Series:
    ECS 36A: Programming & Problem Solving (4)
    ECS 36B: Software Development & Object-Oriented Programming in C++ (4)
    ECS 36C: Data Structures, Algorithms, & Programming (4)
    OR
	ECS 36A: a 'C-' or better in ECS 32A, or must satisfy computer science placement exam
	ECS 36B: a 'C-' or better in ECS 36A
	ECS 36C: a 'C-' or better in ECS 20 and in ECS 36B

□ ECS 32/34 Series:
    ECS 32A: Introduction to Programming or ECS 36A: Programming & Problem Solving (4)
    ECS 32B: Introduction to Data Structures (4)
    ECS 32C: Implementation of Data Structures in C (4)
    ECS 34: Software Development in UNIX & C++ (4)
	ECS 32A: none
	ECS 32B: a 'C-' or better in ECS 32A or 36A
	ECS 32C: a 'C-' or better in ECS 32B
	ECS 34: a 'C-' or better in ECS 32C

ECS 50: Computer Organization & Machine Dependent Programming (4)	*a 'C-' or better in ECS 34 or 36B*
MAT 21A: Calculus (4)	*must satisfy mathematics placement requirement*
MAT 21B: Calculus (4)	*a 'B' or better in MAT 17A, or a 'C-' or better in either MAT 21A or 21AH*
MAT 21C: Calculus (4)	*a 'B' or better in MAT 17B, or a 'C-' or better in MAT 16C or 17C or 21B or 21BH*

ONE (1) of the following:
    □ MAT 22A: Linear Algebra (3)
    □ MAT 27A: Linear Algebra with Applications to Biology (4)
    □ MAT 67: Modern Linear Algebra (4)
	MAT 22A : a 'C-' or better in MAT 16C or 17C or 21C or 21CH; ENG 6 or EME 5 or ECH 60 or MAT 22AL may be taken concurrently
	MAT 27A: a 'C-' or better in MAT 17C or 21C or 21CH
	MAT 67: a 'C-' or better in MAT 21C or 21CH

Complete THREE of the following courses:
Courses can be from any combination of subjects

Course Number & Title (units)	Prerequisites†
□ BIS 2A: Introduction to Biology - Essentials of Life on Earth (5)	*none*
□ BIS 2B: Introduction to Biology - Principles of Ecology & Evolution (5)	*none*
□ BIS 2C: Introduction to Biology - Biodiversity & the Tree of Life (5)	*a 'C-' or better in BIS 1B or 2B*
□ CHE 2A: General Chemistry (5)	*a score of 24 or higher on the chemistry placement exam*
□ CHE 2B: General Chemistry (5)	*a 'C-' or better in CHE 2A*
□ CHE 2C: General Chemistry (5)	*a 'C-' or better in CHE 2B or 2BH*
□ CHE 4A: General Chemistry for the Physical Sciences & Engineering (5)	*a score of 28 or better on the chemistry placement exam*
□ CHE 4B: General Chemistry for the Physical Sciences & Engineering (5)	*a 'C-' or better in CHE 4 or CHE 2AH; MAT 21B (may be taken concurrently)*
□ CHE 4C: General Chemistry for the Physical Sciences & Engineering (5)	*a 'C-' or better in CHE 4B or CHE 2B or CHE 2BH; MAT 21C (may be taken concurrently)*
□ PHY 9A: Classical Physics (5)	*MAT 21B or 21M*
□ PHY 9B: Classical Physics (5)	*PHY 9A; MAT 21C; MAT 21D (may be taken concurrently)*
□ PHY 9C: Classical Physics (5)	*PHY 9B; MAT 21D; MAT 22A or 27A (may be taken concurrently)*

Complete ALL of the following depth subject matter courses:

Course Number & Title (units)	Prerequisites†
ECS 122A: Algorithm Design & Analysis (4)	*ECS 20; ECS 32B or 36C*

ONE (1) of the following:
    □ ECS 120: Theory of Computation (4)*
    □ ECS 122B: Algorithm Design & Analysis (4)*
	ECS 120: ECS 20 or MAT 108
	ECS 122B: ECS 122A; ECS 34 or 36C

ECS 140A: Programming Languages (4)	*ECS 20; ECS 50; ECS 34 or 36C* ***recommended:** ECS 150*
ECS 150: Operating Systems & System Programming (4)	*ECS 34 or 36C; ECS 154A or EEC 170; not open to CS majors in pass one*
ECS 154A: Computer Architecture (4)	*ECS 50 or EEC 70*

ONE (1) of the following:
    □ ECS 132: Probability & Statistical Modeling for Computer Science (4)*
    □ MAT 135A: Probabiliy (4)*
    □ STA 131A: Introduction to Probability Theory (4)*
	ECS 132: ECS 20; MAT 21C; ECS 34 or 36B; MAT 22A or 27A or 67
	MAT 135A: MAT 21C; MAT 67 or 108
	STA 131A: a 'C-' or better in MAT 21C and in either MAT 22A or 27A or 67

	Course Number & Title (units)	Prerequisites†

Complete 7 courses from the following Computer Science Electives:
a minimum of 4 course must be ECS courses; at least 1 course must be a MAT or STA course

	Course Number & Title (units)	Prerequisites†
□	ECS 120: Theory of Computation (4) *	ECS 20 or MAT 108
□	ECS 122B: Algorithm Design & Analysis (4) *	ECS 122A; ECS 34 or 36C
□	ECS 124: Theory & Practice of Bioinformatics (4)	ECS 32A or 36A or ENG 6; STA 12 or 13 or 13Y or 32 or 100 or 131A or MAT 135A or BIM 105; BIS 2A or MCB 10
□	ECS 127: Cryptography (4)	ECS 20 or MAT 108; ECS 32A or 36A
□	ECS 129: Computational Structural Bioinformatics (4)	BIS 2A or MCB 10; ECS 32A or 36A
□	ECS 130: Scientific Computation (4)	ECS 32A or ECS 36A or ENG 6; MAT 22A or 27A or 67
□	ECS 132: Probability & Statistical Modeling for Computer Science (4) *	ECS 34 or 36B; ECS 20; MAT 21C; MAT 22A or 27A or 67
□	ECS 140B: Programming Languages (4)	ECS 140A
□	ECS 142: Compilers (4)	ECS 140A; ECS 120
□	ECS 145: Scripting Languages & their Applications (4)	ECS 34 or 36C or instructor consent
□	ECS 152A: Computer Networks (4)	ECS 32B or 36C; ECS 132 or EEC 161 or MAT 135A or STA 32 or STA 120 or STA 131A
□	ECS 152B: Computer Networks (4)	ECS 150; ECS 152A or EEC 173A
□	ECS 152C: Advanced Topics in Computer Networks (4)	ECS 152A or EEC 173A
□	ECS 153: Computer Security (4)	ECS 150; ECS 152A or EEC 173A
□	ECS 154B: Computer Architecture (4)	ECS 154A or EEC 170 or EEC 180A
□	ECS 158: Programming on Parallel Architectures (4)	ECS 150
□	ECS 160: Software Engineering (4)	ECS 140A
□	ECS 161: Modern Programming Tools (4)	ECS 32B or 36B
□	ECS 162: Web Programming (4)	ECS 34 or 36B
□	ECS 163: Information Interfaces (4)	ECS 32B or 36C
□	ECS 164: Human-Computer Interaction (4)	none
□	ECS 165A: Database Systems (4)	ECS 32B or 36C
□	ECS 165B: Database Systems (4)	ECS 165A; ECS 34 or 36C
□	ECS 170: Introduction to Artificial Intelligence (4)	ECS 32B or 36C
□	ECS 171: Machine Learning (4)	ECS 32B or 36C; STA 032 or STA 131A or ECS 132; MAT 022A or MAT 027A
□	ECS 172: Recommender Systems (4)	ECS 32B or 36B; ECS 132 or STA 130A or STA 131A or ECN 140; MAT 22A or 27A or 67
□	ECS 173: Image Processing & Analysis (4)	a 'C-' or better in MAT 22A or 27A or 67; ECS 32B or 36C
□	ECS 174: Computer Vision (4)	ECS 32B or 36C
□	ECS 175: Computer Graphics (4)	ECS 34 or 36C; MAT 22A or 27A or 67
□	ECS 177: Scientific Visualization (4)	ECS 175
□	ECS 178: Geometric Modeling (4)	ECS 175
□	ECS 188: Ethics in an Age of Technology (4)	upper division standing; not open to CS majors in pass one
□	ECS 189: Special Topics (4)	instructor consent
□	ECS 191: Software Design Project (4)	ECS 160
□	ECS 192: Internship in Computer Science (3-5) **OR** ECS 199: Special Study (3-5)	varies; see department website
□	ECS 193A **AND** ECS 193B: Senior Design Project (6) - *counts as one course*	**ECS 193A:** ECS 160 (may be taken concurrently); senior standing; not open to CS majors in pass one; **ECS 193B:** ECS 193A IP or better; not open to CS majors in pass one
□	EEC 100: Circuits II (5)	a 'C-' or better in ENG 17; MAT 22B or 27B
□	EEC 171: Parallel Computer Architecture (4)	EEC 170 or ECS 154B
□	EEC 172: Embedded Systems (4)	EEC 100; EEC 170 or ECS 154A
□	EEC 180: Digital Systems II (5)	EEC 18 or 180A
□	ECN 122: Theory of Games & Strategic Behavior (4)	MAT 16A & 16B, or MATH 21A & 21B, or MAT 17A & 17B, or instructor consent
□	LIN 127: Text Processing & Corpus Linguistics (4)	none
□	LIN 177: Computational Linguistics (4)	instructor consent
□	PSC 120: Agent-Based Modeling (4)	none
□	STS 115: Data Sense & Exploration: Critical Storytelling with Analysis (4)	none
□	STA 131A: Introduction to Probability Theory (4) *	a 'C-' or better in MAT 21C and in either MAT 22A or 27A or 67
□	STA 131B: Introduction to Mathematical Statistics (4)	a 'C-' or better in STA 131A or MAT 135A; instructor consent
□	STA 141B: Data & Web Technologies for Data Analysis (4)	a 'C-' or better in STA 141A
□	STA 141C: Big Data & High Performance Statistical Computing (4)	a 'C-' or better in STA 141B, or a 'C-' or better in STA 141A and ECS 32A
□	STA 142A: Statistical Learning I (4)	a 'C-' or better in STA 141A, and in either STA 130A or STA 131A or MAT 135A
□	STA 142B: Statistical Learning II (4)	a 'C-' or better in STA 142A, and in either STA 130B or 131B
□	Any MAT course numbered between 100-189, excluding MAT 111* (3-4)	varies; see university catalog

†*Prerequisites are subject to change; consult the University Catalog (https://catalog.ucdavis.edu/) for the most recent updates*

*Completion of a core requirement will not satisfy an elective requirement simultaneously

✓**Total units required for CS major: 100-106**