

B.S. in Applied Mathematics

For use with the 2016-2018 General Catalog

PREPARATORY COURSES (42 - 52 units): Plan to complete these by the end of sophomore year.

Class	21A	21B	21C	21D	[22A and 108] or [67]	22B	25	ECS 30	ECS 40
Grade									

Classes	One 2-quarter sequence from: PHY 9AB; BIS 2AB; CHE 2AB; ECN 1AB; STA 32, 100, or other <u>approved</u> applied preparatory class.								
Class/Grade									

MATLAB Requirement:

Choose one of the following:	MAT 22AL (1 unit)	EME 5 (4 units)	ENG 6 (4 units)	Other MATLAB experience
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DEPTH COURSES (47 units): Plan to complete these classes during your junior and senior years

Class	Fall	Winter	Spring	Summer I, II	Adviser Comments
119A	119A	119A /			
Real Analysis	125A /	125A /	125A /	125A	
Real Analysis		125B /	125B /	125B	
128A, B, or C	128A /	128B /	128C /		Choose any 2 quarters of the 128 series.
128A, B, or C	128A /	128B /	128C /		
135A	135A /	135A /	135A /		
150A	150A /			150A	
185A		185A /			
Enrichment¹					
Enrichment¹					
Upper Div. Non-Math²					
Capstone³					

¹ **Enrichment:** Choose any 2 upper-division MAT classes from MAT 111 to MAT 185B (excluding MAT 180).

² **Upper Division Non-Math:** Choose any one of the classes below. Keep in mind these classes may have prerequisites and may not be offered every quarter, so be sure to check the General Catalog/Schedule Builder.

- ATM 120, 121A, 121B, 128; CHE 110A, 110B, 110C; EEC 130A, 130B; ECI 114, 153; ECN 122, 140; ECS 120, 122A, 127; EME 115; ESP 150A; EVE 102; GEL 150A; LIN 177; PHY 104A, 104B, 104C, 105A, 105B, 108; 110A, 110B, 110C, 112, 115A, 115B, 116A, 116B; STA 131B, 131C, 141

³ **Capstone:** Choose one of the following: MAT 189 (Advanced Problem Solving); MAT 180 (Special Topics); MAT 192 (Internship); or MAT 194 (Undergrad Thesis). Consult an adviser if you would like to satisfy this requirement by completing an internship or an undergraduate thesis. You should plan to complete the capstone during your final year.

When are classes offered?

- Academic Year: <https://www.math.ucdavis.edu/courses/academic-schedule>
- Summer Session: <https://www.math.ucdavis.edu/courses/summer>

B. S. in Applied Mathematics Courses

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For additional classes not listed below (such as enrichment options), as well as for more detailed information (including course descriptions), please consult the **General Catalog** at <http://catalog.ucdavis.edu>.

Please note that the quarters that classes are offered are subject to change.

MAT classes:

	Title	Units	Prerequisite	Quarter Offered
21A	Calculus	4	Qualifying math placement exam score	F, W, S, SSI, SSII
21B	Calculus	4	21A or 21AH with C- or above; or 17A with B or above	F, W, S, SSI, SSII
21C	Calculus	4	21B, 21BH, 16C, or 17C with a C- or above; or 17B with a B or above	F, W, S, SSI, SSII
21D	Vector Analysis	4	21C or 21CH with C- or above (or 17C with B or above)	F, W, S, SSI, SSII
22A	Linear Algebra	4	21C or 21CH with C- or above; and ENG 6 or EME 5 or concurrent enrollment in MAT 22AL	F, W, S, SSI, SSII
22AL	MATLAB/Linear Algebra Computer Theory	1	16C, 17C, 21C, or 21CH	F, W, S, SSI, SSII
22B	Differential Equations	3	22A or 67 with C- or above	F, W, S, SSI, SSII
25	Advanced Calculus	4	21C or 21CH	F, W, S, SSII
67	Modern Linear Algebra	4	21C or 21CH with C- or above	F, W
108	Intro to Abstract Math	4	21B	F, W, S, SSII
119A	Ordinary Differential Equations	4	21D; 22B; 22A or 67	F, W
125A	Real Analysis	4	25	F, W, S, SSI
125B	Real Analysis	4	125A; 67 or both 22A and 108	W, S, SSII
128A	Numerical Analysis	4	21C; ECS 30	F
128B	Numerical Analysis in Solution of Equations	4	21C; 22A or 67; ECS 30	W
128C	Numerical Analysis in Differential Equations	4	22A or 67; 22B; ECS 30	S
135A	Probability	4	25 or 67 or 108	F, W, S
150A	Modern Algebra	4	67 or both 22A and 108	F, SSII
185A	Complex Analysis	4	67 or both 22A and 108; 125A	W

Classes outside of MAT:

	Title	Units	Prerequisite	Quarter Offered
ECS 30	Programming and Problem Solving	4	MAT 16A or 21A (may be taken concurrently); prior experience with basic programming concepts recommended	F, W, S
ECS 40	Software Development and Object-Oriented Programming	4	ECS 30 or the equivalent with a grade of C- or better	F, W, S
ENG 6	Engineering Problem Solving	4	MAT 16A, 17A or 21A, C- or above; MAT 16B, 17B or 21B, C- or above (may be taken concurrently)	F, W, S
EME 5	Comp. Programming for Engineering Applications	4	MAT 16A or 21A (may be taken concurrently)	F, W, S