

Earth and Space Exploration BS Course Prerequisites

Course prefix	Course Name	Hours	Semester Offered	Prerequisites
SES 121	Earth, Solar System and Universe I	3	F	
SES 123	Earth, Solar System and Universe I Lab	1	F	SES 121 with C or better if completed
SES 122	Earth, Solar System and Universe II	3	S	SES 121 with C or better
SES 124	Earth, Solar System and Universe II Lab	1	S	SES 123 with C or better; Pre- or co-requisite: SES 122 with C or better if completed
SES 126	Exploration of the Universe	3	S	SES 121 with C or better; Pre- or co-requisite: MAT 170, 171, 210, 251, 265, or 270 with C or better if completed
SES 128	Exploration of the Universe Lab	1	S	SES 123 with C or better; Pre- or co-requisite: SES 126 with C or better if completed
SES 230	Coding for Exploration	3	F	AST 111 or GLG 101 or SES 121 with C or better; Pre- or corequisite(s): MAT 265 or 270 with C or better if completed
SES 350	Engineering Systems and Experimental Problem Solving	3	F	AST 301 with C or better OR MAT 267, 272, or 275 with C or better; PHY 131; PHY 132 (OR PHY 151) with C or better
SES 401	SESE Colloquium	1	F, S	Minimum 45 hours
SES 410	Senior Exploration Project I	3	F	Earth and Space Exploration BS major; ENG 101, 105 or 107 with C or better; minimum senior standing
SES 411	Senior Exploration Project II	3	S	ENG 101, ENG 105 or ENG 107; SES410
AST/GLG/SES electives (2)	Various course options	6	F, S	Two courses minimum worth 3 credits each. Courses must be upper division (300-400 level)

Students must complete FOUR of the following SES branch options (12 credits total):				
AST 321	Intro to Planetary and Stellar Astrophysics	3	F	AST 301 with C or better OR MAT 266 or 271 with C or better; PHY 121 and 122 (or PHY 150) with C or better
AST 322	Intro to Galactic and Extragalactic Astrophysics	3	S	AST 301 with C or better OR MAT 266 or 271 with C or better; PHY 121 and 122 (or PHY 150) with C or better
GLG 310	Structural Geology	3	F	GLG 101 or SES 121 with C or better; MAT 170, 171, 210, 251, 265, or 270 with C or better
GLG 321	Mineralogy	3	F	CHM 113 (or both CHM 111 and 117 or 114) with C or better; MAT 170, 210, 265 or 270 with C or better
GLG 418	Geophysics	3	F	MAT 272 or 267 with C or better; PHY 131 with C or better; PHY 132 with C or better OR MAT 272 or 267 with C or better; PHY 151 with C or better
GLG 424	Petrology	3	S*	GLG 321 with C or better (GLG 424 will be offered Fall 2022 then will switch to a spring offering beginning Spring 2024)
GLG 471	Hydrology	3	F	CEE 341 or MEE 340 or GLG 362 with C or better; Credit is allowed for only CEE 440 or CEE 545 or CEE 598 (Hydrology) or GLG 471 or GLG 490 (Hydrology)
GLG 481	Geochemistry	3	F, S	BCH 341, CHM 341, CHM 346, or GLG 321 with C or better; Credit is allowed for only CHM 481 or GLG 481
GLG 490	Special Topics: Remote Sensing	3	F	
SES 311	Essentials of Astrobiology	3	S	BIO 181 (or 188), CHM 113 or PHY 121; MAT 265 or MAT 270
SES 330	Electronics Instrumentation	4	F	EEE 202 with C or better; MAE 201 or 212 with C or better; PHY 131 and 132 (or PHY 151) with C or better
SES 405	Exploration Systems Engineering	3	S	MAT 266 or 271 with C or better; PHY 121 and 122 (or PHY 150) with C or better

Related math and science requirements:				
CHM 114	General Chemistry for Engineers	4	F, S, SS	CHM 101 with C or better or ALEKS score of 61 or higher OR Pre- or co-requisite(s): MAT 170, 171, 210, 251, 265, or 270 with C or better if completed
MAT 265 or MAT 270	Calculus for Engineers I or Calculus with Analytic Geometry I	3-4	F, S, SS	MAT 170 or 171 with C or better or ALEKS score of 76 or higher; Credit is allowed for only MAT 265 or MAT 270
MAT 266 or MAT 271	Calculus for Engineers II or Calculus with Analytic Geometry II	3-4	F, S, SS	MAT 265 or 270 with C or better; Credit is allowed for only MAT 266 or 271
MAT 267 or MAT 272	Calculus for Engineers III or Calculus with Analytic Geometry III	3-4	F, S, SS	MAT 266 or 271 with C or better; Credit is allowed for only MAT 267 or 272
MAT 275	Modern Differential Equations	3	F, S, SS	MAT 266 or MAT 271 with a C or better; Credit is allowed for only MAT 274 or 275
PHY 121	University Physics I: mechanics	3	F, S, SS	MAT 265 or MAT 270 with a C or better; Pre or Co-req: MAT 266 or MAT 271 with C or better if completed
PHY 122	University Physics Laboratory I	1	F, S, SS	Pre- or Co-requisite: PHY 121 with C or better if completed
PHY 131	University Physics II: elec.&mag.	3	F, S, SS	MAT 266 or 271 with C or better; PHY 121 with C or better; Pre- or corequisite(s): MAT 267 or 272 with C or better if completed
PHY 132	University Physics Laboratory II	1	F, S, SS	Pre or Co-req: PHY131 with C or better if completed

Codes for semester offerings: F=fall, S=spring, SS=summer session

Special note: This handout is intended as a helpful tool for schedule planning. However, students and advisors should consult the course catalog for official course information as pre-requisites and course offerings are constantly evolving.