Direct Transfer Track: Associate in Applied Science in Engineering Fundamentals with Concentration in Aerospace Engineering to Bachelor of Science in Engineering in Aerospace Engineering

Bulletin Year: 2024-2025

This course plan provides a recommended sequence for this major. For detailed degree requirements, please refer to the University of South Carolina Bulletin. Additionally, reach out to your academic advisor at Midlands Technical College for assistance in navigating coursework in your MTC program of study. Your University of South Carolina advisor will help with course selection and planning for upcoming semesters after transfer.

Course Subject and Title	Credit Hours	Min. Grade	USC Equivalent Course	USC Degree Applicability
Semester One (14 Credit Hours)				
COL 101 College Orientation	1		Non-transferable	Not Applicable
ENG 101 English Composition I	3	C	ENGL 101 Critical Reading & Composition	CC- CMW
CHM 110 College Chemistry I	4	C	CHEM 111 General Chemistry I and CHEM 111L General Chemistry Lab	CC-SCI
MAT 110 College Algebra (7-week course) *	3	C	MATH 111 Basic College Mathematics	Pre-req/ Elective
MAT 111 College Trigonometry (7-week course) *	3	C	MATH 112 Trigonometry	Pre-req/ Elective
EGR 270 Introduction to Engineering	3	C	ENCP 101 Intro to Engineering	PR
Semester Two (14 Credit Hours)				
MAT 140 Analytical Geometry and Calculus II	4	C	MATH 142 Calculus II	CC-ARP
ENG 102 English Composition II	3	C	ENGL 102 Rhetoric and Composition	CC-CMW/INF
CHM 111 College Chemistry II	4	C	CHEM 112 General Chemistry I and CHEM 112L General Chemistry I Lab	PR
EGR 275 Intro to Engineering/Computer Graphics	3	C	ENCP 102 Intro to Engineering II	PR
Summer (14 Credit Hours)				
PSC 201 American Government	3	C	POLI 201 American National Government	CC-GSS/VSR, Founding Documents
MAT 141 Analytical Geometry and Calculus II	4	C	MATH 142 Calculus II	CC-ARP
HIS 101 Western Civilization to 1689 or HIS 102 Western Civilization Post 1689 or HIS 201 American History: Disc to 1877 or HIS 202 American History: 1877 to Present	3	C	HIST 101 Eur Civ: Ancient-Mid17th Cent or HIST 102 Eur Civ: From Mid-17th Cent or HIST 111 US History to 1865 or HIST 112 US History since 1865	CC-GHS
PHY 221 University Physics I	4	C	PHYS 211 Essentials of Physics I and PHYS 211L Essentials of Physics I Lab	CC-SCI
Semester Three (17 Credit Hours)				
EGR 274 Engineering App of Numerical Methods	3	C	ENCP 201 Intro to Applied Numerical Methods	PR
EGR 260 Engineering Statics	3	C	ENCP 200 Statics	PR
MAT 240 Analytical Geometry and Calculus III	4	C	MATH 241 Vector Calculus	PR-Supporting Course
PHY 222 University Physics II	4	C	PHYS 212 Essentials of Physics II w/Lab	Not Applicable
MUS 105 Music Appreciation or ART 101 Art History & Appreciation or THE 101 Introduction to Theatre	3	C	MUSC 110 Introduction to Music or ARTE 101 Introduction to Art or THEA 200 Understanding & App. Theatre	CC-AIU
Semester Four (16 Credit Hours)				
MAT 242 Differential Equations	4	C	MATH 242 Elem. Differential Equations	PR-Supporting Course
EGR 264 Intro to Engineering Mechanics of Solids	3	C	ENCP 260 Intro to the Mechanics of Solids	PR
EGR 266 Engineering Thermodynamics Fundamentals	3	C	ENCP 290 Thermodynamic Fundamentals	PR
EGR 262 Dynamics	3	C	ENCP 210 Dynamics	MR
EGR 209 Statistics for Engineers	3	C	STAT 509 Statistics for Engineers	MR
Semester Five (15 Credit Hours)				
AESP 265 Aerodynamics I Incompressible Flow (fall only)	3			MR
ELCT 220 Electrical Engr. For Non-Majors or (ELCT 221 Circuits)	3			PR
EMCH 371 Materials	3			MR
EMCH 308 Intro. to Finite Element Stress Analysis	3			MR
MATH 344 Applied Linear Algebra	3			PR
Semester Six (15 Credit Hours)				
AESP 361 Aerospace Laboratory I spring only	3			MR
AESP 365 Aerodynamics II Compressible Flow	3			MR
AESP 350 Aerospace Systems spring only	3			MR
EMCH 330 Mechanical Vibrations or (ENCP 330)	3			MR
EMCH 577 Aerospace Structures I	3			MR
Semester Seven (15-18 Credit Hours)				
AESP 314 Energy Power and Propulsion fall only	3			MR
AESP 362 Aerospace Laboratory II fall only	3			MR
AESP 415 Aircraft Design	3			MR
AESP 420 Flight and Orbital Mechanics	3			MR
Carolina Core GFL	0-3			CC-GFL
Aerospace Engineering Elective	3			PR

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Semester Eight (12-18 Credit Hours)				
AESP 428 Design I spring only	3			MR
AESP 466 Flight Dynamics and Control spring only	3			MR
Aerospace Engineering Elective	3			PR
Aerospace Engineering Elective	3			PR
Carolina Core GFL	0-3			CC-GFL
Carolina Core CMS	0-3			CC-CMS

* Credit hours received for MAT 110 or MAT 111 may reduce additional elective hours needed and Students may place into and begin with MAT 140.

University Requirements: Bachelor's degree-seeking students must meet Carolina Core (general education) requirements. For more information regarding these requirements, please visit the Carolina Core page on the University website.

Codes:			
CC	Carolina Core	**CC-INF**	Carolina Core – Information Literacy
CC-AIU	Carolina Core-Aesthetic and Interpretive Understanding	**CC-INT**	Carolina Core – Integrative Course
CC-ARP	Carolina Core-Analytical Reasoning and Problem-Solving	**CC-SCI**	Carolina Core – Scientific Literacy
CC-CMS	Carolina Core-Effective, Engaged, and Persuasive Communication: Spoken Component	**CC-VSR**	Carolina Core – Values, Ethics, and Social Responsibility
CC-CMW	Effective, Engaged, and Persuasive Communication: Written Component	**CR**	College Requirement
CC-GFL	Carolina Core-Global Citizenship and Multicultural Understanding: Foreign Language	**MR**	Major Requirement
CC-GHS	Carolina Core – Historical Thinking	**PR**	Program Requirement
CC-GSS	Carolina Core – Social Sciences	**FD**	Founding Documents