

Pre-Engineering Transfer Courses

Key Courses for ME Program at CSU, Fresno Updated 20 Nov 2019			Clovis Community College	College of Sequoias	Fresno City College	Reedley College	West Hills College	Merced College	Modesto College	Bakersfield College
<b>Fundamentals Core</b>	<b>Notes</b>	<b>GE Area</b>								
Written Communication (3 semester units)		GE A2 Written Comm	ENGL 1A - Reading and Composition (4)	ENGL 1 College Reading and Composition (4)	ENGL 1A Reading and Composition (4)	ENGL 1A - Reading and Composition (4)	ENG 1A Composition and Reading (3)	ENGL -1A College Composition and Reading (4)	ENGL 101 Composition and Reading (3) or ENGL 100 Intensive Reading, Writing, and Reasoning (5)	ENGL B1A Expository Composition (3)
Oral Communication (3 semester units)		GE A1 Oral Com	COMM 1 Public Speaking (3) or COMM 4 Persuasion (3) or COMM 8 Group Comm (3)	COMM 1 Fundamentals of Public Speaking (3) COMM 7 Persuasion (3) or COMM 8 Group Communication (3)	COMM 1 Introduction to Public Speaking (3) or COMM 4 Persuasion (3) or COMM 8 Group Communication (3)	COMM 1 Public Speaking (3) or COMM 4 Persuasion (3) or COMM 8 Group Communication (3)	COM 1 Elements of Public Speaking (3) or COM 4 Small Group Dynamics and Presentation (3)	COMM -1 Fundamentals of Speech (3)	COMM 100 Fundamentals of Public Speaking (3) or COMM 110 Persuasion (3)	COMM B1 Public Speaking (3) or COMM B4 Persuasive (3) or COMM B8 Small Group Communication (3)
MATH 75 Calculus 1 (4 semester units)	C or better	GE B4 Quant Reason	MATH 5A Math Analysis I (5)	MATH 75 Calculus 1 (5)	MATH 5A Mathematical Analysis I (5)	MATH 5A Math Analysis I (5)	MATH 1A Introduction to Calculus (5)	MATH-4A Calculus I (4)	MATH 171 Calculus: First Course (4)	MATH B6A Analytic Geometry and Calculus I (4)
MATH 76 Calculus 2 (4 semester units)	C or better			MATH 76 Calculus 2 (4 semester units)	MATH 5B Mathematical Analysis II (4)	MATH 5B Math Analysis II (4)	MATH 1B Calculus with Applications (5)	MATH-4B Calculus II (4)	MATH 172 Calculus: Second Course (4)	MATH B6B Analytic Geometry and Calculus II (4)
MATH 77 Calculus 3 (4 semester units)	C or better			MATH 77 Calculus 3 (5)	MATH 6 Mathematical Analysis III (4)	MATH 6 Math Analysis III (5)	MATH 2A Multivariate Calculus (4)	MATH-4C Multivariable Calculus (4)	MATH 173 Calculus: Third Course (4)	MATH B6C Calculus III (4)
MATH 81 Differential Equation (3 semester units)	C or better			MATH 81 Diff Eq (5)	MATH 7 Introduction to Differential Equations (4)	MATH 17 Differential Equations and Linear Algebra (5)	MATH 2B Differential Equations (4)	MATH-6 Elementary Differential Equations (3) and MATH-8 Linear Algebra (3)	MATH 174 Introduction to Linear Algebra and Differential Equations (5)	MATH B6D Ordinary Differential Equations (3)
PHYS 4A Physics 1 Lecture (3 semester units)	C or better			PHYS 4A Physics for Scientists and Engineers (4) (3 Lect+1 Lab)	PHYS 5 Physics for Sci & Eng (5) (3 Lect+1 Lab) & PHYS 6 Physics for Sci & Eng (5) (3 Lect+1 Lab) &	PHYS 4A Physics for Scientists and Engineers (4) (3 Lect+1 Lab)	PHYSICS 4A Classical Mechanics (4) (3 Lect+1 Lab)	PHYS-4A Physics I (4) (3 Lect + 1 Lab)	PHYS 101 Gen Physics: Mech (4) and PHYS 102 & Gen Physics: Waves, Thermo & Optics (4) and PHYS 103 Gen Physics Elect, Mag, & Mod Physics (4)	PHYS B4A Mechanics and Wave Motion (4) (3 lec + 1 lab)
PHY 4AL Physics 1 Laboratory (1 semester units)	C or better			PHYS 4A Physics for Scientists and Engineers (4) (3 Lect+1 Lab)	PHYS 5 Physics for Sci & Eng (5) (3 Lect+1 Lab) & PHYS 6 Physics for Sci & Eng (5) (3 Lect+1 Lab) &	PHYS 4A Physics for Scientists and Engineers (4) (3 Lect+1 Lab)	PHYSICS 4AL Classical Mechanics (4) (3 Lect+1 Lab)	PHYS -4A Physics I (4)	PHYS 101 Gen Physics: Mech (4) and PHYS 102 & Gen Physics: Waves, Thermo & Optics (4) and PHYS 103 Gen Physics Elect, Mag, & Mod Physics (4)	PHYS B4A Mechanics and Wave Motion (4) (3 lec + 1 lab)
PHY 4B Physics 2 Lecture (3 semester units)	C or better			PHYS 4B Physics for Scientists and Engineers (4) (3 Lect+1 Lab)	PHYS 6 Physics for Sci & Eng (5) (3 Lect+1 Lab) & PHYS 7 Physics for Sci & Eng (5) (3 Lect+1 Lab) &	PHYS 4B Physics for Scientists and Engineers (4) (3 Lect+1 Lab)	PHYSICS 4B Electricity, Magnetism and Waves (4) and PHYSICS 4C Thermodynamics, Optics and Modern Physics (4)	PHYS-4B & Physics II (4) and PHYS-4C Physics III (4)	PHYS 101 Gen Physics: Mech (4) and PHYS 102 & Gen Physics: Waves, Thermo & Optics (4) and PHYS 103 Gen Physics Elect, Mag, & Mod Physics (4)	PHYS B4B Heat, Electricity and Magnetism (4)
PHY 4C Physics 3 (3 semester units)	C or better			PHYS 4C Physics for Scientists and Engineers (4) (3 Lect+1 Lab)		PHYS 4C Physics for Scientists and Engineers (4) (3 Lect+1 Lab)	PHYSICS 4B Electricity, Magnetism and Waves (4) and PHYSICS 4C Thermodynamics, Optics and Modern Physics (4)	PHYS-4B & Physics II (4) and PHYS-4C Physics III (4)	PHYS 101 Gen Physics: Mech (4) and PHYS 102 & Gen Physics: Waves, Thermo & Optics (4) and PHYS 103 Gen Physics Elect, Mag, & Mod Physics (4)	PHYS B4C Optics and Modern Physics (4)
CHEM 1A Chemistry 1 Lecture (3 semester units)	C or better	GE B1 Phys Science	CHEM 1A General Chemistry (5)	CHEM 1Gen Chem (5)	CHEM 1A General Chemistry (5)	CHEM 1A General Chemistry (5)	CHEM 1A General Chemistry I (5)	CHEM-4A General Chemistry I (5)	CHEM 101 General Chemistry 1 (5)	CHEM B1A General Chemistry (5)
CHEM 1AL Chemistry 1 Lab (2 semester units)	C or better	GE B3 Lab	CHEM 1A General Chemistry (5)	CHEM 1Gen Chem (5)	CHEM 1A General Chemistry (5)	CHEM 1A General Chemistry (5)	CHEM 1A General Chemistry I (5)	CHEM-4A General Chemistry I (5)	CHEM 101 General Chemistry 1 (5)	CHEM B1A General Chemistry (5)
Life Science (3 semester units)	C or better	GE B2 Life Science		BIOL 3 Introduction to Life Science (4)	BIOL 20 Frontiers in Biology (4)	BIOL 3 Introduction to Life Science (4)	BIO 15 Biology for Education (3)	BIOL-4A Fundamentals of Biology: The Cell and Evolution (4) OR BIOL-1 General Biology for Non-Majors (4)	BIO 111 General Biology (4)	BIOL B11 Concepts of Biology (4)
Humanities (3 semester units)		GE C2 Humanities		PHIL 1C Ethics (3)	PHIL 5 Ethics	PHIL 1C Ethics (3)	PHIL 3 Ethics (3)	PHIL -5 Contemporary Ethical Issues (3)		
Breadth/US History (3 semester units)		GE D1 Breadth/US History		HIST 11 History of the US to 1877 (3) or HIST 12 History of the US from 1877 (3)	HIST 17 People of the US to 1877 or HIST 18 People of the US from 1877 (3)	HIST 11 History of the US to 1877 or HIST 12 History of the US from 1877	HIST 11 History of the US to 1877 (3) or HIST 12 History of the US from 1877 (3)	HIST -17A United States History and United States Constitution (3) or HIST -17B United States History and California State and Local Government (3)	HIST 101 History of the United States to 1877 (3) or HIST 102 History of the United States Since 1865 (3)	HIST B17A History of the United States (3) or HIST B17B History of the United States Since 1870 (3)
Breadth/US Government (3 semester units)		GE D2 Breadth/US Government		POLSCI 2 American Government (3)	POLS 5 Federal, State and Local Government (3)	POLSCI 2 American Government (3)	POLSCI 2 American Government (3)	POSC-1 Essentials of the American Political System (3)	POLSC 101 American Politics (3)	POLS B1 American Government: National, State and Local (3)
Breadth/Social Sciences (3 semester hours)		GE D3 Breadth/Social Sciences		ECON 1B Microeconomics (3) or ECON 1A Macroeconomics (3)	ECON 40 Principles of Micro Econ or ECON50 Principles of Macro Econ	ECON 40 Introduction to Microeconomics or ECON 50 Introduction to Macroeconomics (3)	ECON 1B Microeconomics (3) or ECON 1A Macroeconomics (3)	ECON-1 Introduction to Microeconomics (3) or ECON-2 Introduction to Macroeconomics (3)	ECON 102 Principles of Microeconomics (3) or ECON 101 Principles of Macroeconomics (3)	ECON B1 Principles of Economics-Micro (3) OR ECON B2 Principles of Economics-Macro (3)
Multicultural/International (3 semester units)		M/I Multicultural/International								
Upper Division Writing Skills (0-3 semester units)										

Pre-Engineering Transfer Courses

Core Courses for ME Program at CSU, Fresno		Clovis Community College	College of Sequoias	Fresno City College	Reedley College	West Hills College	Merced College	Modesto College	Bakersfield College
<b>Engineering Core</b>									
	<b>Notes</b>								
ME 01 Freshman Design 1 (1 semester units)	C or better	ENGR 10 Introduction to Engineering (2)	ENGR 110 Introduction to Engineering (1)	ENGR 10 Introduction to Engineering (2)	ENGR 10 Introduction to Engineering (2)	ENGR 10 Introduction to Engineering (1)			
ME 02 Computer Applications in ME (1 semester units)	C or better	IS 15 Computer Concepts (3)	COMP 5 Computer Concepts (4)	CIT 15 Computer Concepts (3)	IS 15 Computer Concepts (3)	CIS 7 Computer Concepts (3)			
ME 26 Introduction to Graphics (3 semester units)	C or better	ENGR 2 Engineering Graphics (4)	ENGR 1 Engineering Graphics (3)	ENGR 2 Graphics (3)	ENGR 2 Engineering Graphics (4) (2 Lecture + 6 Lab)	ENGR 20 Engineering Graphics (3)		ENGR 127 Engineering Graphics (4)	
ME 31 Intro to Materials (3 semester units)	C or better	ENGR 4 Engineering Materials (3)	ENGR 3 Engineering Materials (4) (3 Lect +1 Lab)	ENGR 4 Engineering Materials (3)	ENGR 4 Engineering Materials (3 )	ENGR 31 Engineering Materials (3)	ENGR-45 Engineering Materials (4)		ENGR B45 Properties of Materials (3)
ME 32 Intro to Materials Lab (1 semester units)	C or better		ENGR 3 Engineering Materials (4) (3 Lect +1 Lab)		ENGR 4L Engineering Materials Lab (1)		ENGR-45 Engineering Materials (4)		ENGR B45 Properties of Materials (3)
ME 95 Manufacturing Processes (2 semester units)	C or better			ENGR 11 Manufacturing Processes (3)					
CE 20 Statics (3 semester units)	C or better	ENGR 8 Statics (3 )	ENGR 2 Statics (3)	ENGR 8 Statics ( 3 )	ENGR 8 Statics (3)	ENGR 35 Vector Statics (3)	ENGR-15 Elementary Mechanics (Statics) (3)		ENGR B36 Engineering Mechanics- Statics (3)
ECE 91 Circuits Lecture (3 semester units)	C or better	ENGR 6 Electric Circuit Analysis with Lab (4 ) (3 Lect + 1 Lab)	ENGR 4 Electrical Circuits (4) (3 Lect+1 Lab)	ENGR 6 Circuits with Lab (4 ) (3 Lec +1 Lab )	ENGR 6 Electric Circuit Analysis with Lab ( 4 ) (3 Lect + 1 Lab)	ENGR 25 Electrical Circuits ( 3 )			
ECE 91L Circuits Laboratory (1 semester units)	C or better	ENGR 6 Electric Circuit Analysis with Lab (4 ) (3 Lect + 1 Lab)	ENGR 4 Electrical Circuits (4) (3 Lect+1 Lab)	ENGR 6 Circuits with Lab (4 ) (3 Lec +1 Lab )	ENGR 6 Electric Circuit Analysis with Lab ( 4 ) (3 Lect + 1 Lab)				
ECE 71 Computer Programming (3 semester units)	C or better	CSCI 40 Programming Concepts and Methodology I (4) or ENGR 40 Programming for Scientists and Engineers (4)	CSCI 1 Programming Concepts and Methods I (4)	CIT 66 Beginning Programming C++ (4) or CSCI 40 Programming Concepts and Methodology I (4)	CSCI 40 Programming Concepts and Methodology I (4) or ENGR 40 Programming for Scientists and Engineers (4)	ENGR 15 Engineering Computations (3)	CPSC-6 Programming Concepts and Methodology I (3) or ENGR-14 C++ Programming (3) or CPSC -6 - Programming Concepts and Methodology I (3)	CSCI 271 - Problem Solving and Programming I (3)	
<b>Mechanical Engineering Core</b>									
	<b>Notes</b>								
ME 112 Eng Mech: Dynamics (3 semester units)	C or better								
ME 115 Instr and Measurements (1 semester units)	C or better								
ME 136 Thermodynamics (3 semester units)	C or better								
ME 125 Eng Statistics & Experiment (3 semester units)	C or better								
CE 121 Eng Mech: Mech of Mat (3 semester units)	C or better								
ME 116 Fluid Mechanics (3 semester units)	C or better								
ME 118 Fluid Mechanics Lab (1 semester units)	C or better								
ME 134 Kinematics of Machinery (3 semester units)	C or better								
ME 140 Adv Eng Analysis (3 semester units)	C or better								
ME 145 Heat and Mass Transport (3 semester units)	C or better								
ME 156 Advanced Thermodynamics (3 semester units)	C or better								
ME 135 Sr Capstone Design 1 (3 semester units)	C or better								
ME 166 Energy Systems Design (3 semester units)	C or better								
ME 155 Sr Capstone Design 2 (3 semester units)	C or better								
Tech Elective 1 (3 units)	C or better								
Tech Elective 2 (3 units)	C or better								

Not Articulated for BSME in assist.org but available for credit With Approval/Permission of Academic Advisor