ENGINEERING

Associate in Science Degree

Engineers are significant and valuable members of our society that are relied upon to generally produce solutions through the utilization, design, and development of a plethora of technologies. With the increasingly high demand for qualified engineers in the workforce, this program allows those in the local community the opportunity to fill a vital role. Upon completion of the Associate in Science in Engineering, students will have obtained the skills and preparation necessary to transfer into an Engineering program at a four-year university, and ultimately seek employment as an engineer. Some graduates may also pursue entry-level positions in the engineering field. Students completing the program will be knowledgeable in aspects of engineering utilized in the many different fields of engineering along with a strong foundation in mathematics and physics; structural analysis, circuitry, CAD, programming, material composition, and general systems and applications of engineering in the modern world. Through group projects and laboratory assignments, students will also develop collaboration skills as well as practical hands on skills widely used in the fields of engineering such as, but not limited to; the use of oscilloscopes, electrical motor design and production, circuit building, structural design, strength testing, and generally analyzing the pertinent physical properties of a given system. *For more information contact: Justin Miller (805) 678-5094 jwmiller@vcccd.edu.*

Required Core Courses		Units
ENGR R101	Introduction to Engineering	2.0
MATH R120	Calculus with Analytic Geometry I ***Prerequisites: MATH R115 or MATH R116 or MATH R117 or placement as determined by the college's multiple measures assessment process**	5.0
MATH R121	Calculus with Analytic Geometry II ***Prerequisites: MATH R120**	5.0
MATH R122	Calculus with Analytic Geometry III ***Prerequisites: MATH R121**	5.0
MATH R143	Differential Equations ***Prerequisites: MATH R121**	3.0
PHYS R131	Physics for Scientists and Engineers 1 ***Prerequisites: MATH R120**	5.0
PHYS R132	Physics for Scientists and Engineers 2 ***Prerequisites: MATH R121 and PHYS R131**	5.0

Choose a minimum of one course from the following support courses as appropriate to satisfy requirements for the intended transfer institution (3-5 units minimum):

CHEM R120	General Chemistry I ***Prerequisites: CHEM R110 and MATH R015 or MATH R005 or MATH R014 or MATH R033 or placement as determined by the college's multiple measures assessment process**	5.0
CHEM R122	General Chemistry II ***Prerequisites: CHEM R120**	5.0
CHEM R130	Organic Chemistry I ***Prerequisites: CHEM R122**	5.0
CHEM R132	Organic Chemistry II ***Prerequisites: CHEM R130**	5.0
MATH R134	Linear Algebra ***Prerequisites: MATH R121**	3.0
PHYS R133	Physics for Scientists and Engineers 3 ***Prerequisites: MATH R122 and PHYS R132**	5.0

Choose a minimum of four Engineering courses as appropriate to satisfy requirements of the intended transfer institution (8-12 units minimum):

ENGR R130	Engineering Statics ***Prerequisites: PHYS R131 and MATH R121**	3.0
ENGR R135	Dynamics	3.0

	***Prerequisites: ENGR R130**	
ENGR R140	Materials Science and Engineering ***Prerequisites: PHYS R131 and CHEM R120**	3.0
ENGR R140L	Materials Science and Engineering Lab ***Prerequisites: PHYS R131 and CHEM R120 and ENGR R140 or concurrent enrollment**	1.0
ENGR R148	Programming and Problem-Solving in MATLAB ***Prerequisites: MATH R120**	3.0
ENGR R150	Engineering Graphics and Design ***Prerequisites: MATH R116**	3.0
ENGR R160	Electronic Circuits and Devices ***Prerequisites: MATH R143 and PHYS R132**	3.0
ENGR R160L	Electronic Circuits and Devices Laboratory ***Prerequisites: ENGR R160 or concurrent enrollment**	1.0

Total Required Major Units	**41-47**
Oxnard College General Education	29
Double-Counted Units	-(6)
Free Electives Required	+ 0.0
Total units required for the A.S. Degree	**64-70**