

UNIVERSITY OF THE PACIFIC – SCHOOL OF ENGINEERING & COMPUTER SCIENCE

MSES Undergraduate Prerequisites Guidelines

Undergraduate courses MSES students must have completed prior to or during their MSES studies for the given concentration.

Students interested in computer science

Data Structures (COMP 53)
One semester of calculus
Statistics
Discrete Mathematics (COMP 47)
Algorithms (COMP 157)
Computing Theory (COMP 147)
Operating Systems (COMP 173)
Programming Languages (COMP 141)

Students interested in electrical engineering

Calculus III (MATH 55)
ODE (MATH 57)
Data Structures (COMP 053)
Electric Circuits (ECPE 041/041L)
Digital Design (ECPE 071/071L)
Systems Analysis (ECPE 121)
Electronics (ECPE 131/131L)
Physics II (PHYS 55)

Students interested in computer engineering

Calculus III (MATH 55)
ODE (MATH 57)
Discrete Math for Computer Science (COMP 047)
Data Structures (COMP 053)
Electric Circuits (ECPE 041/041L)
Digital Design (ECPE 071/071L)
Systems Analysis (ECPE 121)
Microcontrollers (ECPE 172)

Students interested in engineering management

Three semesters math (incl Calculus II-MATH 53)
Prob & Statistics (MATH 37 or MATH 39)
Computer Programming (ENGR 19 or COMP 51)
Project Decision Making (EMGT 170)
Engineering Project Management (EMGT 174)

Students interested in structural engineering

Calculus III (MATH 55)
Computer Programming (ENGR 19)
ODE (MATH 57)
Physics I (PHYS 53)
Statics (ENGR 20)
Mechanics of Materials (ENGR 121)
Introduction to Structural Engineering (CIVL 100)

Students interested in environmental engineering

Calculus III (MATH 55)
Chemistry (CHEM 24)
Computer Programming (ENGR 19)
ODE (MATH 57)
Statics (ENGR 20)
Fluid Mechanics I/L (CIVL 130/L)
Intro to Environmental Engineering (CIVL 132)

Students interested in mechanical engineering

Calculus III (MATH 55)
ODE (MATH 57)
Mech. Engr. Graphics (MECH 015)
Electric Circuits (ECPE 041/041L)
Computer Programming (ENGR 19)
Statics (ENGR 20)
Materials Science (ENGR 45)
Instrumentation (ENGR 110)
Dynamics (ENGR 120)
Mechanics of Materials (ENGR 121)
Thermodynamics (ENGR 122)