**DEPARTMENT OF ELECTRICAL AND COMPUTER ENGINEERING**

# APPROVED LISTING OF TECHNICAL ELECTIVE COURSES

**Spring 2020**

**NOTE**: Electives are governed by the approved list in effect at the time a course is taken. Students should check the current list before enrolling in a course to confirm that the course is an approved elective.

## No First Year Seminar course (1101) can be counted as a technical elective

## ENGINEERING SCIENCE

## ES 1063 Graphical Communication and Solid Modeling (1)

## ES 2110 Statics (3)

## ES 2120 Dynamics (3)

## ES 2310 Thermodynamics (3)

## ES 2330 Fluid Dynamics (3)

## ES 2410 Mechanics of Materials I (3)

## ES 3890 Engineering Honors Program Research Methods (3)

## ES 4580 Honors Undergraduate Research (3)

## ES 4920 Entrepreneurship for Engineers (3)

## COMPUTER SCIENCE

## COSC 1010 Introduction to Computer Science (4) or COSC 1015 Intro to Prog for Data Science (3) [Credit may not be earned for both COSC 1010 and COSC 1015]

## COSC 1030 Computer Science I (4) [Only if taken before EE 4075]

## COSC 1100 Computer Science Principles and Practice (3)

Plus all COSC courses ≥ 2000 level

**ELECTRICAL & COMPUTER ENGINEERING**

Any BE & EE course

**Architectural Engineering**

Any ARE course except ARE 3030 History of Architecture

**Chemical Engineering**

Any CHE course

**Civil Engineering**

Any CE course

**Mechanical Engineering**

Any ME course

**Petroleum Engineering**

Any PETE course

## MATH

MATH 2250 Linear Algebra (3)

MATH 2300 Discrete Structures (3)

MATH 3205 Analysis I: Elementary Real Analysis (3) MATH 3310 Applied Differential Equations II (3)

MATH 3340 Introduction to Scientific Computing (3)

MATH 3500 Algebra I: Introduction to Rings and Proofs (3) MATH 3700 Combinatorics (3)

MATH 4200 Analysis 2: Advanced Analysis (3)

MATH 4205 Analysis 3: Undergraduate Topics in Analysis (3) MATH 4230 Introduction to Complex Analysis (3)

MATH 4230 Introduction to Complex Analysis (3)

MATH 4255 Mathematical Theory of Probability (3)

MATH 4265 Introduction to the Theory of Statistics (3)

MATH 4340 Numerical Methods for Ordinary and Partial Differential Equations (3) MATH 4420 Advanced Logic (3)

MATH 4500 Matrix Theory (3)

MATH 4510 Algebra II: Introduction to Group Theory MATH 4520 Algebra III: Topics in Abstract Algebra MATH 4550 Theory of Numbers (3)

MATH 4600 Foundations of Geometry (3)

## PHYSICS

PHYS 2250 Thermodynamic Systems in Energy Science PHYS 2310 Physics Ill: Wave and Optics (4)

PHYS 2320 Physics IV: Modern Physics (3)

PHYS 4340 Semiconductor Materials and Devices (3)

Plus all Physics courses that have PHYS 1210 or PHYS 1310 or PHYS 1220 as a prerequisite

## STATISTICS

STAT 4220 Basic Engineering Statistics (3)

STAT 4255 Mathematical Theory of Probability (3)

STAT 4265 Introduction to the Theory of Statistics (3)