

Communications Systems Depth			
	FALL QUARTER	WINTER QUARTER	SPRING QUARTER
Year 1	MATH 18 ECE 5 or CHEM 6A ECE 15	MATH 20A CHEM 6A or ECE 5 ECE 25	MATH 20B PHYS 2A ECE 30
Year 2	MATH 20C PHYS 2B ECE 35	MATH 20D PHYS 2C ECE 45	MATH 20E PHYS 2D ECE 65
Year 3	ECE 100 ECE 101 Tech. Elective 1	ECE 102 ECE 109 Tech. Elective 2	ECE 107 ECE 153 Prof. Elective 1
Year 4	ECE 154A ECE 158A Prof. Elective 2	ECE 154B Tech. Elective 3 Tech. Elective 4	ECE 154C Design

PLEASE NOTE:

- All courses used to satisfy major requirements must be taken for a LETTER GRADE and completed with a C- or better.
- Depth courses are offered only once a year. Course offerings are subject to change.
- For a list of acceptable electives, go to:
<http://www.ece.ucsd.edu/undergraduate/ee-ep-electives>
- For personalized course plans, please set up an appointment with an advisor.
- *Due to six different college requirements, only major requirements are listed.*

MAJOR REQUIREMENTS

Lower Division Requirements

- | | |
|--|--|
| <input type="checkbox"/> CHEM 6A General Chemistry I | <input type="checkbox"/> MATH 18 Linear Algebra |
| <input type="checkbox"/> PHYS 2A Mechanics | <input type="checkbox"/> MATH 20A Calculus I |
| <input type="checkbox"/> PHYS 2B Electricity and Magnetism | <input type="checkbox"/> MATH 20B Calculus II |
| <input type="checkbox"/> PHYS 2C Flu,Wav,Thrmdyn,Optics | <input type="checkbox"/> MATH 20C Calculus III |
| <input type="checkbox"/> PHYS 2D Relativity & Quantum | <input type="checkbox"/> MATH 20D Differential Equations |
| <input type="checkbox"/> ECE 5 Intro to ECE | <input type="checkbox"/> MATH 20E Vector Calculus |
| <input type="checkbox"/> ECE 15 Engineering Computation | |
| <input type="checkbox"/> ECE 25 Intro to Digital Design | |
| <input type="checkbox"/> ECE 30 Intro to Computer Eng | |
| <input type="checkbox"/> ECE 35 Intro to Analog Design | |
| <input type="checkbox"/> ECE 45 Circuits & Systems | |
| <input type="checkbox"/> ECE 65 Components & Circuits Lab | |

Upper Division Requirements

BREADTH

- ECE 100 Linear Electronic Systems
- ECE 101 Linear Systems Fundamentals
- ECE 102 Intro Active Circuit Design
- ECE 107 Electromagnetism
- ECE 109 Eng. Probability & Stats

COMMUNICATIONS SYSTEMS DEPTH

- ECE 153 Probability and Random Processes for Engineers
- ECE 154A Communications Systems I
- ECE 154B Communications Systems II
- ECE 154C Communications Systems III
- ECE 158A Data Networks I

- Design Course: ECE 111, 115, 191, or 190

ELECTIVES

- | | |
|--------------------------------|--------------------------------|
| 4 Technical | 2 Professional |
| <input type="checkbox"/> _____ | <input type="checkbox"/> _____ |
| <input type="checkbox"/> _____ | <input type="checkbox"/> _____ |
| <input type="checkbox"/> _____ | |
| <input type="checkbox"/> _____ | |

Computer System Design Depth			
	FALL QUARTER	WINTER QUARTER	SPRING QUARTER
Year 1	MATH 18 ECE 5 or CHEM 6A ECE 15	MATH 20A CHEM 6A or ECE 5 ECE 25	MATH 20B PHYS 2A ECE 30
Year 2	MATH 20C PHYS 2B ECE 35	MATH 20D PHYS 2C ECE 45	MATH 20E PHYS 2D ECE 65
Year 3	ECE 100 ECE 101 ECE 103	ECE 102 ECE 109 Tech. Elective 1	ECE 165 Tech. Elective 2 Prof. Elective 1
Year 4	ECE 158A* Tech. Elective 3 Prof. Elective 2	CSE 141 Tech. Elective 4 Tech. Elective 5	ECE 111* Design

PLEASE NOTE:

- All courses used to satisfy major requirements must be taken for a LETTER GRADE and completed with a C- or better.
- Depth courses are offered only once a year. Course offerings are subject to change.
- For a list of acceptable electives, go to:
<http://www.ece.ucsd.edu/undergraduate/ee-ep-electives>
- For personalized course plans, please set up an appointment with an advisor.
- *Due to six different college requirements, only major requirements are listed.*

MAJOR REQUIREMENTS

Lower Division Requirements

- | | |
|--|--|
| <input type="checkbox"/> CHEM 6A General Chemistry I | <input type="checkbox"/> MATH 20A Calculus I |
| <input type="checkbox"/> PHYS 2A Mechanics | <input type="checkbox"/> MATH 20B Calculus II |
| <input type="checkbox"/> PHYS 2B Electricity and Magnetism | <input type="checkbox"/> MATH 20C Calculus III |
| <input type="checkbox"/> PHYS 2C Flu,Wav,Thrmdyn,Optics | <input type="checkbox"/> MATH 20D Differential Equations |
| <input type="checkbox"/> PHYS 2D Relativity & Quantum | <input type="checkbox"/> MATH 20E Vector Calculus |
| <input type="checkbox"/> ECE 5 Intro to ECE | <input type="checkbox"/> MATH 18 Linear Algebra |
| <input type="checkbox"/> ECE 15 Engineering Computation | |
| <input type="checkbox"/> ECE 25 Intro to Digital Design | |
| <input type="checkbox"/> ECE 30 Intro to Computer Eng | |
| <input type="checkbox"/> ECE 35 Intro to Analog Design | |
| <input type="checkbox"/> ECE 45 Circuits & Systems | |
| <input type="checkbox"/> ECE 65 Components & Circuits Lab | |

Upper Division Requirements

BREADTH

- ECE 100 Linear Electronic Systems
- ECE 101 Linear Systems Fundamentals
- ECE 102 Intro Active Circuit Design
- ECE 103 Fundamentals/Devis & MatrIs
- ECE 109 Eng. Probability & Stats

COMPUTER SYSTEM DESIGN DEPTH

- CSE 141 Intro to Computer Architecture
- ECE 165 Digital Integrated Circuit Design
- *and two of
 - ECE 111 Advanced Digital Design Project
 - ECE 158A Data Networks I
 - CSE 143 Microelectronic System Design

Design Course: ECE 191 or 190

ELECTIVES

5 Technical

- | | |
|--------------------------------|--------------------------------|
| <input type="checkbox"/> _____ | <input type="checkbox"/> _____ |
| <input type="checkbox"/> _____ | <input type="checkbox"/> _____ |
| <input type="checkbox"/> _____ | |

2 Professional

- | |
|--------------------------------|
| <input type="checkbox"/> _____ |
| <input type="checkbox"/> _____ |

Electronic Circuits & Systems Depth			
	FALL QUARTER	WINTER QUARTER	SPRING QUARTER
Year 1	MATH 18 ECE 5 or CHEM 6A ECE 15	MATH 20A CHEM 6A or ECE 5 ECE 25	MATH 20B PHYS 2A ECE 30
Year 2	MATH 20C PHYS 2B ECE 35	MATH 20D PHYS 2C ECE 45	MATH 20E PHYS 2D ECE 65
Year 3	ECE 100 ECE 101 ECE 103	ECE 102 ECE 109 Tech. Elective 1	ECE 107 ECE 165 Prof. Elective 1
Year 4	ECE 164 ECE 166 Prof. Elective 2	Tech. Elective 2 Tech. Elective 3 Tech. Elective 4	Tech. Elective 5 Design

PLEASE NOTE:

- All courses used to satisfy major requirements must be taken for a LETTER GRADE and completed with a C- or better.
- Depth courses are offered only once a year. Course offerings are subject to change.
- For a list of acceptable electives, go to:
<http://www.ece.ucsd.edu/undergraduate/ee-ep-electives>
- For personalized course plans, please set up an appointment with an advisor.
- *Due to six different college requirements, only major requirements are listed.*

MAJOR REQUIREMENTS

Lower Division Requirements

- | | |
|--|--|
| <input type="checkbox"/> CHEM 6A General Chemistry I | <input type="checkbox"/> MATH 20A Calculus I |
| <input type="checkbox"/> PHYS 2A Mechanics | <input type="checkbox"/> MATH 20B Calculus II |
| <input type="checkbox"/> PHYS 2B Electricity and Magnetism | <input type="checkbox"/> MATH 20C Calculus III |
| <input type="checkbox"/> PHYS 2C Flu,Wav,Thrmdyn,Optics | <input type="checkbox"/> MATH 20D Differential Equations |
| <input type="checkbox"/> PHYS 2D Relativity & Quantum | <input type="checkbox"/> MATH 20E Vector Calculus |
| | <input type="checkbox"/> MATH 18 Linear Algebra |

- ECE 5 Intro to ECE
- ECE 15 Engineering Computation
- ECE 25 Intro to Digital Design
- ECE 30 Intro to Computer Eng
- ECE 35 Intro to Analog Design
- ECE 45 Circuits & Systems
- ECE 65 Components & Circuits Lab

Upper Division Requirements

BREADTH

- ECE 100 Linear Electronic Systems
- ECE 101 Linear Systems Fundamentals
- ECE 102 Intro Active Circuit Design
- ECE 103 Fundamentals/Devs & MatrIs
- ECE 107 Electromagnetism
- ECE 109 Eng. Probability & Stats

ELECTRONIC CIRCUITS & SYSTEMS DEPTH

- ECE 164 Analog Integrated Circuit Design
- ECE 165 Digital Integrated Circuit Design
- ECE 166 Microwave Systems and Circuits

- Design Course: ECE 111, 191, or 190

ELECTIVES

5 Technical

- | | |
|--------------------------------|--------------------------------|
| <input type="checkbox"/> _____ | <input type="checkbox"/> _____ |
| <input type="checkbox"/> _____ | <input type="checkbox"/> _____ |
| <input type="checkbox"/> _____ | |

2 Professional

- | |
|--------------------------------|
| <input type="checkbox"/> _____ |
| <input type="checkbox"/> _____ |

Electronic Devices & Materials Depth			
	FALL QUARTER	WINTER QUARTER	SPRING QUARTER
Year 1	MATH 18 ECE 5 or CHEM 6A ECE 15	MATH 20A CHEM 6A or ECE 5 ECE 25	MATH 20B PHYS 2A ECE 30
Year 2	MATH 20C PHYS 2B ECE 35	MATH 20D PHYS 2C ECE 45	MATH 20E PHYS 2D ECE 65
Year 3	ECE 100 ECE 101 ECE 103	ECE 102 ECE 109 Tech. Elective 1	ECE 107 Tech. Elective 2 Prof. Elective 1
Year 4	ECE 135A Tech. Elective 3 Prof. Elective 2	ECE 135B ECE 183 Tech. Elective 4	ECE 136L Design

PLEASE NOTE:

- All courses used to satisfy major requirements must be taken for a LETTER GRADE and completed with a C- or better.
- Depth courses are offered only once a year. Course offerings are subject to change.
- For a list of acceptable electives, go to:
<http://www.ece.ucsd.edu/undergraduate/ee-ep-electives>
- For personalized course plans, please set up an appointment with an advisor.
- *Due to six different college requirements, only major requirements are listed.*

MAJOR REQUIREMENTS

Lower Division Requirements

- | | |
|--|--|
| <input type="checkbox"/> CHEM 6A General Chemistry I | <input type="checkbox"/> MATH 20A Calculus I |
| <input type="checkbox"/> PHYS 2A Mechanics | <input type="checkbox"/> MATH 20B Calculus II |
| <input type="checkbox"/> PHYS 2B Electricity and Magnetism | <input type="checkbox"/> MATH 20C Calculus III |
| <input type="checkbox"/> PHYS 2C Flu,Wav,Thrmdyn,Optics | <input type="checkbox"/> MATH 20D Differential Equations |
| <input type="checkbox"/> PHYS 2D Relativity & Quantum | <input type="checkbox"/> MATH 20E Vector Calculus |
| <input type="checkbox"/> ECE 5 Intro to ECE | <input type="checkbox"/> MATH 18 Linear Algebra |
| <input type="checkbox"/> ECE 15 Engineering Computation | |
| <input type="checkbox"/> ECE 25 Intro to Digital Design | |
| <input type="checkbox"/> ECE 30 Intro to Computer Eng | |
| <input type="checkbox"/> ECE 35 Intro to Analog Design | |
| <input type="checkbox"/> ECE 45 Circuits & Systems | |
| <input type="checkbox"/> ECE 65 Components & Circuits Lab | |

Upper Division Requirements

- BREADTH**
- ECE 100 Linear Electronic Systems
 - ECE 101 Linear Systems Fundamentals
 - ECE 102 Intro Active Circuit Design
 - ECE 103 Fundamentals/Devs & Matrls
 - ECE 107 Electromagnetism
 - ECE 109 Eng. Probability & Stats

ELECTRONIC DEVICES & MATERIALS DEPTH

- ECE 135A Semiconductor Physics
 - ECE 135B (Electronic Devices)
 - ECE 136L Microelectronics Laboratory
 - ECE 183 Optical Electronics
- Design Course: ECE 111, 191, or 190

ELECTIVES

- | | |
|--------------------------------|--------------------------------|
| 4 Technical | 2 Professional |
| <input type="checkbox"/> _____ | <input type="checkbox"/> _____ |
| <input type="checkbox"/> _____ | <input type="checkbox"/> _____ |
| <input type="checkbox"/> _____ | |
| <input type="checkbox"/> _____ | |

Machine Learning & Controls Depth			
	FALL QUARTER	WINTER QUARTER	SPRING QUARTER
Year 1	MATH 18 ECE 5 or CHEM 6A ECE 15	MATH 20A CHEM 6A or ECE 5 ECE 25	MATH 20B PHYS 2A ECE 30
Year 2	MATH 20C PHYS 2B ECE 35	MATH 20D PHYS 2C ECE 45	MATH 20E PHYS 2D ECE 65
Year 3	ECE 100 ECE 101 Tech. Elective 1	ECE 107 ECE 109 Tech. Elective 2	ECE 171A Prof. Elective 1 Tech. Elective 3
Year 4	ECE 171B* ECE 174 Prof. Elective 2	ECE 172A* ECE 175A Tech. Elective 4 Tech. Elective 5	ECE 175B* Tech. Elective 6 Design

PLEASE NOTE:

- All courses used to satisfy major requirements must be taken for a LETTER GRADE and completed with a C- or better.
- Depth courses are offered only once a year. Course offerings are subject to change.
- For a list of acceptable electives, go to: <http://www.ece.ucsd.edu/undergraduate/ee-ep-electives>
- For personalized course plans, please set up an appointment with an advisor.
- *Due to six different college requirements, only major requirements are listed.*

MAJOR REQUIREMENTS

Lower Division Requirements

- | | |
|---|--|
| <input type="checkbox"/> CHEM 6A General Chemistry I | <input type="checkbox"/> MATH 18 Linear Algebra |
| <input type="checkbox"/> PHYS 2A Mechanics | <input type="checkbox"/> MATH 20A Calculus I |
| <input type="checkbox"/> PHYS 2B Electricity and Magnetism | <input type="checkbox"/> MATH 20B Calculus II |
| <input type="checkbox"/> PHYS 2C Flu, Wav, Thrmodyn, Optics | <input type="checkbox"/> MATH 20C Calculus III |
| <input type="checkbox"/> PHYS 2D Relativity & Quantum | <input type="checkbox"/> MATH 20D Differential Equations |
| <input type="checkbox"/> ECE 5 Intro to ECE | <input type="checkbox"/> MATH 20E Vector Calculus |
| <input type="checkbox"/> ECE 15 Engineering Computation | |
| <input type="checkbox"/> ECE 25 Intro to Digital Design | |
| <input type="checkbox"/> ECE 30 Intro to Computer Eng | |
| <input type="checkbox"/> ECE 35 Intro to Analog Design | |
| <input type="checkbox"/> ECE 45 Circuits & Systems | |
| <input type="checkbox"/> ECE 65 Components & Circuits Lab | |

Upper Division Requirements

BREADTH

- ECE 100 Linear Electronic Systems
- ECE 101 Linear Systems Fundamentals
- ECE 107 Electromagnetism
- ECE 109 Eng. Probability & Stats

MACHINE LEARNING & CONTROLS DEPTH

- ECE 171A Linear Control System Theory)
- ECE 174 Intro to Linear and Nonlinear Optimization with Applications
- ECE 175A Elements of ML: Pattern Recognition & Machine Learning
- *One of: ECE 171B Linear Control System Theory, OR
ECE 172A Intro to Intelligent Sys: Robotics & Machine Intelligence, OR
ECE 175B Elements of ML: Probabilistic Reasoning & Graphical Models

- Design Course: ECE 111, 191, or 190

ELECTIVES

6 Technical

- | | |
|--------------------------------|--------------------------------|
| <input type="checkbox"/> _____ | <input type="checkbox"/> _____ |
| <input type="checkbox"/> _____ | <input type="checkbox"/> _____ |
| <input type="checkbox"/> _____ | <input type="checkbox"/> _____ |

2 Professional

- | |
|--------------------------------|
| <input type="checkbox"/> _____ |
| <input type="checkbox"/> _____ |

Photonics Depth			
	FALL QUARTER	WINTER QUARTER	SPRING QUARTER
Year 1	MATH 18 ECE 5 or CHEM 6A ECE 15	MATH 20A CHEM 6A or ECE 5 ECE 25	MATH 20B PHYS 2A ECE 30
Year 2	MATH 20C PHYS 2B ECE 35	MATH 20D PHYS 2C ECE 45	MATH 20E PHYS 2D ECE 65
Year 3	ECE 100 ECE 101 ECE 103	ECE 107 ECE 109 Tech. Elective 1	ECE 181 Tech. Elective 2 Prof. Elective 1
Year 4	ECE 182 Tech. Elective 3 Prof. Elective 2	ECE 183 ECE 184* Tech. Elective 4	ECE 185* Tech. Elective 5 Design

PLEASE NOTE:

- All courses used to satisfy major requirements must be taken for a LETTER GRADE and completed with a C- or better.
- Depth courses are offered only once a year. Course offerings are subject to change.
- For a list of acceptable electives, go to:
<http://www.ece.ucsd.edu/undergraduate/ee-ep-electives>
- For personalized course plans, please set up an appointment with an advisor.
- *Due to six different college requirements, only major requirements are listed.*

MAJOR REQUIREMENTS

Lower Division Requirements

- CHEM 6A General Chemistry I
- MATH 18 Linear Algebra
- MATH 20A Calculus I
- MATH 20B Calculus II
- MATH 20C Calculus III
- MATH 20D Differential Equations
- MATH 20E Vector Calculus
- PHYS 2A Mechanics
- PHYS 2B Electricity and Magnetism
- PHYS 2C Flu,Wav,Thrmdyn,Optics
- PHYS 2D Relativity & Quantum

- ECE 5 Intro to ECE
- ECE 15 Engineering Computation
- ECE 25 Intro to Digital Design
- ECE 30 Intro to Computer Eng
- ECE 35 Intro to Analog Design
- ECE 45 Circuits & Systems
- ECE 65 Components & Circuits Lab

Upper Division Requirements

BREADTH

- ECE 100 Linear Electronic Systems
- ECE 101 Linear Systems Fundamentals
- ECE 103 Fundamentals/Devs & Matrls
- ECE 107 Electromagnetism
- ECE 109 Eng. Probability & Stats

PHOTONICS DEPTH

- ECE 181 Physical Optics and Fourier Optics
- ECE 182 Electromagnetic Optics, Guided-Wave, and Fiber Optics
- ECE 183 Optical Electronics
- *One of: ECE 184 Optical Information Processing and Holography, OR
ECE 185 Lasers and Modulators

- Design Course: ECE 111, 191, or 190

ELECTIVES

5 Technical

- _____
- _____
- _____

2 Professional

- _____
- _____

Signal & Image Processing Depth			
	FALL QUARTER	WINTER QUARTER	SPRING QUARTER
Year 1	MATH 18 ECE 5 or CHEM 6A ECE 15	MATH 20A CHEM 6A or ECE 5 ECE 25	MATH 20B PHYS 2A ECE 30
Year 2	MATH 20C PHYS 2B ECE 35	MATH 20D PHYS 2C ECE 45	MATH 20E PHYS 2D ECE 65
Year 3	ECE 100 ECE 101 Tech. Elective 1	ECE 107 ECE 109 Tech. Elective 2	Prof. Elective 1 Tech. Elective 3 Tech. Elective 4
Year 4	ECE 153 ECE 161A Prof. Elective 2	ECE 161B Tech. Elective 5 Tech. Elective 6	ECE 161C Design

PLEASE NOTE:

- All courses used to satisfy major requirements must be taken for a LETTER GRADE and completed with a C- or better.
- Depth courses are offered only once a year. Course offerings are subject to change.
- For a list of acceptable electives, go to:
<http://www.ece.ucsd.edu/undergraduate/ee-ep-electives>
- For personalized course plans, please set up an appointment with an advisor.
- *Due to six different college requirements, only major requirements are listed.*

MAJOR REQUIREMENTS

Lower Division Requirements

- | | |
|--|--|
| <input type="checkbox"/> CHEM 6A General Chemistry I | <input type="checkbox"/> MATH 18 Linear Algebra |
| <input type="checkbox"/> PHYS 2A Mechanics | <input type="checkbox"/> MATH 20A Calculus I |
| <input type="checkbox"/> PHYS 2B Electricity and Magnetism | <input type="checkbox"/> MATH 20B Calculus II |
| <input type="checkbox"/> PHYS 2C Flu,Wav,Thrmdyn,Optics | <input type="checkbox"/> MATH 20C Calculus III |
| <input type="checkbox"/> PHYS 2D Relativity & Quantum | <input type="checkbox"/> MATH 20D Differential Equations |
| <input type="checkbox"/> ECE 5 Intro to ECE | <input type="checkbox"/> MATH 20E Vector Calculus |
| <input type="checkbox"/> ECE 15 Engineering Computation | |
| <input type="checkbox"/> ECE 25 Intro to Digital Design | |
| <input type="checkbox"/> ECE 30 Intro to Computer Eng | |
| <input type="checkbox"/> ECE 35 Intro to Analog Design | |
| <input type="checkbox"/> ECE 45 Circuits & Systems | |
| <input type="checkbox"/> ECE 65 Components & Circuits Lab | |

Upper Division Requirements

- BREADTH**
- ECE 100 Linear Electronic Systems
 - ECE 101 Linear Systems Fundamentals
 - ECE 107 Electromagnetism
 - ECE 109 Eng. Probability & Stats

SIGNAL & IMAGE PROCESSING DEPTH

- ECE 153 Probability and Random Processes for Engineers
- ECE 161A Intro to Digital Signal Processing
- ECE 161B Digital Signal Processing I
- ECE 161C Applications of Digital Signal Processing
- Design Course: ECE 111, 191, or 190

ELECTIVES

- | | | |
|--------------------------------|--------------------------------|--------------------------------|
| 6 Technical | | 2 Professional |
| <input type="checkbox"/> _____ | <input type="checkbox"/> _____ | <input type="checkbox"/> _____ |
| <input type="checkbox"/> _____ | <input type="checkbox"/> _____ | <input type="checkbox"/> _____ |
| <input type="checkbox"/> _____ | <input type="checkbox"/> _____ | |