

EE Professional Preparation Curriculum Planning

RF / Microwaves / Photonics Area Examples

In addition to the required courses in the BSEE curriculum and flowchart, students choose **9 Engineering Support Electives units** and **11 Technical Electives units**. If you are interested in careers in any of the following **Electrical Engineering RF/ Microwaves /Photonics Area Examples**, we would recommend that you review courses offerings from the following **Engineering Support Electives** and **Technical Electives course listings** We provide example lists of course arrangements here (* - choose at most one of these non-EE technical electives).

Photonics Example:

MATE 210 Materials Engineering (3)
MATE 215 Materials Lab I (1)
MATE 340 Electronics Materials Systems (3+1)
MATE 430/BMED 434 Micro/Nano Fabrication (3)
MATE/BMED 435 Microfabrication Lab (1)
PHYS 315 Introduction to Lasers and Laser Applications (3) [S]
PHYS 323 Optics (3+1) [W]
PHYS 423 Advanced Optics (3+1) [S]
EE 403 Fiber Optic Communication (3) [F]
EE 443 Fiber Optics Laboratory (1) [F]
EE 418 Photonic Engineering (3) [S]
EE 458 Photonic Engineering Lab (1) [S]
EE 530 Fourier Optics (4) [W]
EE 423/MATE 430/BMED 434 Micro/Nano Fabrication (3) [W]
PHYS 423 Advanced Optics (3+1) [S]

Wireless and RF Electronics

Example:

MATH 206 Linear Algebra (4) [F,W,SP,SU]
MATH 304 Vector Analysis (4) [W,SP]
PHYS 408 Electromag. Fields & Waves I (4) [F]
EE 440 Wireless Communications (3) [W]
EE 480 Wireless Communications Lab (1) [W]
EE 405 High Frequency Amplifier Design (3) [F]
EE 445 High Frequency Amp Design Lab (1) [F]
EE 412 Advanced Analog Circuits (3) [W]
EE 452 Advanced Analog Circuits Lab (1) [W]
EE 413 Advanced Electronic Design (4) [SP]
EE 425 Analog Filter Design (3) [SP]
EE 455 Analog Filter Design Lab (1) [SP]

EE 524 Solid State Electronics (3) [SP]
EE 525 Stochastic Processes (4) [F]
EE 529 Microwave Device Electronics (3) [W]

Microwave Systems

Example:

MATH 206 Linear Algebra (4)
MATH 304 Vector Analysis (4) [W,SP]
PHYS 322 Vibrations and Waves (3) [F]
PHYS 408 Electromag. Fields & Waves I (4) [F]
EE 440 Wireless Communications (3) [W]
EE 480 Wireless Communications Lab (1) [W]
EE 502 Microwave Engineering (4) [W]
EE 529 Microwave Device Electronics (3) [W]
EE 533 Antennas (4) [S]
PHYS 409 Electromagnetic Fields and Waves II (3) [W]

Wireless and RF

Communications Example:

MATH 206 Linear Algebra (4) [F,W,SP,SU]
MATH 304 Vector Analysis (4) [W,SP]
PHYS 408 Electromag. Fields & Waves I (4) [F]
EE 416 Digital Communications (3) [F]
EE 456 Communication Systems Lab (1) [F]
EE 440 Wireless Communications (3) [W]
EE 480 Wireless Communications Lab (1) [W]
EE 504 Software Defined Radio (3+1) [S]
EE 525 Stochastic Processes (4) [F]
EE 526 Advanced Digital Commun. (4) [W]

Engineering Support Electives Listing for RF Microwaves and Photonics Area:

MATE 210 Materials Engineering (3)
MATE 215 Materials Lab I (1)
MATE 340 Electronics Materials Systems (3+1)
MATE 430/BMED 434 Micro/Nano Fabrication (3)
MATE/BMED 435 Microfabrication Lab (1)
PHYS 315 Introduction to Lasers and Laser
Applications (3) [S]
PHYS 323 Optics (3+1) [W]
PHYS 423 Advanced Optics (3+1) [S]
MATH 206 Linear Algebra (4) [F,W,SP,SU]
MATH 304 Vector Analysis (4) [W,SP]
PHYS 408 Electromag. Fields & Waves I (4) [F]
MATH 206 Linear Algebra (4)
PHYS 322 Vibrations and Waves (3) [F]
PHYS 408 Electromag. Fields & Waves I (4) [F]
MATH 206 Linear Algebra (4) [F,W,SP,SU]
PHYS 408 Electromag. Fields & Waves I (4) [F]

Technical Electives Listing for RF Microwaves and Photonics Area

EE 403 Fiber Optic Communication (3) [F]
EE 443 Fiber Optics Laboratory (1) [F]
EE 418 Photonic Engineering (3) [S]
EE 458 Photonic Engineering Lab (1) [S]
EE 530 Fourier Optics (4) [W]
EE 423/MATE 430/BMED 434 Micro/Nano
Fabrication (3) [W]
EE 440 Wireless Communications (3) [W]
EE 480 Wireless Communications Lab (1) [W]
EE 405 High Frequency Amplifier Design (3) [F]
EE 445 High Frequency Amp Design Lab (1) [F]
EE 412 Advanced Analog Circuits (3) [W]
EE 452 Advanced Analog Circuits Lab (1) [W]
EE 413 Advanced Electronic Design (4) [SP]
EE 425 Analog Filter Design (3) [SP]
EE 455 Analog Filter Design Lab (1) [SP]
EE 524 Solid State Electronics (3) [SP]
EE 525 Stochastic Processes (4) [F]
EE 529 Microwave Device Electronics (3) [W]
EE 502 Microwave Engineering (4) [W]
EE 529 Microwave Device Electronics (3) [W]
EE 533 Antennas (4) [S]
EE 416 Digital Communications (3) [F]
EE 456 Communication Systems Lab (1) [F]
EE 504 Software Defined Radio (3+1) [S]
EE 525 Stochastic Processes (4) [F]
EE 526 Advanced Digital Commun. (4) [W]
PHYS 409 Electromagnetic Fields and Waves II
(3) [W]
PHYS 423 Advanced Optics (3+1) [S]