



<http://www.csee.umbc.edu/programs/undergraduate/computer-engineering-bs/>
 Dr. Chuck LaBerge, Undergraduate Program Director
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University of Maryland, Baltimore County
College of Engineering and Information Technology

(G = CMPE Gateway course; Fall = CMPE course only offered in Fall; Spring = CMPE course only offered in Spring; Both = CMPE course offered both semesters)

CMPE Curriculum — Electronic Systems	
First Semester MATH 151: Calculus I..... 4 GEP or Science elective ... 3 or 4 CMSC 201: Computer Science I (G)..... 4 PHYS 121: Physics I..... 4 Total..... 15 or 16	Second Semester CMSC 202: Computer Science II..... 4 CMSC 203: Discrete Structures..... 3 MATH 152: Calculus II (G).....4 ENES 101: Intro to Engineering Science (G).....3 ENGL 100..... 3 Total..... 17
Third Semester GEP..... 3 MATH 251: Multivariable Calculus..... 4 PHYS 122: Physics II (G)..... 4 CMPE 212: Prin. of Digital Design (Both)..(G + “B”).....4 Total..... 15	Fourth Semester CMPE 306 Basic Circuit Theory (Both)..... 4 MATH 225: Intro to Differential Eqs..... 3 CMPE 310: Systems Design and Prog (Both)4 CMSC 341: Data Structures (Both).....3 Total 14
Fifth Semester 2 GEP or (GEP + Science Elective)..... 6 or 7 MATH 221: Linear Algebra..... 3 CMPE 314: Electronic Circuits (Both)... 4 CMPE 311: C Prog and Embedded Systems (Fall)..... 3 Total..... 16 or 17	Sixth Semester GEP..... 3 CMPE 320: Prob. & Random Processes (Spring)....3 CMSC 421: Operating Systems (Both)..... 3 CMPE 415: FPGA Arch and App. (Spring)..... 3 CMPE 349: Intro. to Prof. Practice (Spring) 2 PHED....(not included in total).....(1.5) Total..... 14
Seventh Semester 2 x GEP..... 6 CMPE 315: Principles of VLSI (Fall)..... 4 CMSC 411: Computer Architecture (Both)..... 3 CMPE 450 Capstone I (Fall)..... 2 CMPE List A/B Elective..... 3 Total..... 18	Eighth Semester 2 x GEP..... 7 CMPE 451 Capstone II (Spring) 2 CE/CS Elective 6 PHED...(not included in total).....(1.5) Total..... 15



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CMPE Curriculum--Communications Track	
First Semester MATH 151: Calculus I..... 4 GEP or Science 3 or 4 CMSC 201: Computer Science I (G)..... 4 PHYS 121: Physics I..... 4 Total..... 15 or 16	Second Semester CMSC 202: Computer Science II..... 4 CMSC 203: Discrete Structures..... 3 MATH 152: Calculus II (G).....4 ENES 101: Intro to Engineering Science (G).....3 ENGL 100..... 3 Total..... 17
Third Semester GEP..... 3 MATH 251: Multivariable Calculus..... 4 PHYS 122: Physics II (G)..... 4 CMPE 212: Prin. of Digital Design (Both)..(G + “B”)... 4 Total..... 15	Fourth Semester CMPE 306 Basic Circuit Theory (Both)..... 4 MATH 225: Intro to Differential Eqs..... 3 CMPE 310: Systems Design and Prog (Spring).....4 CMSC 341: Data Structures (Both).....3 Total 14
Fifth Semester GEP or Science Elective..... 3 or 4 MATH 221: Linear Algebra..... 3 CMPE 314: Electronic Circuits (Fall)..... 4 CMPE 311: C Prog and Embedded Systems (Fall)..... 3 CMPE 323: Signals and System (Fall)..... 4 Total..... 17 or 18	Sixth Semester GEP..... 3 CMPE 320: Prob. & Random Processes (Spring).....3 CMSC 421: Operating Systems (Both) 3 CMPE 330: Wave and Signal Transmission (Spring)3 CMPE349: Intro. to Prof. Practice (Spring) 2 PHED...(not included in total).....(1.5) Total..... 14
Seventh Semester GEP..... 9 CMSC 411: Computer Architecture (Both)..... 3 CMPE 450 Capstone I (Fall)..... 2 CMPE List A/List B electives 3 Total 17	Eighth Semester GEP.....7 CMPE 451 Capstone II (Spring)..... 2 CMPE List A/List B elective 6 PHED...(not included in total).....(1.5) Total 15



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CMPE List A:

CMPE315 Principles of VLSI (elective for Comm track students only)
CMPE321 Communication Laboratory
CMPE323 Signals and Systems (elective for Electronic System track students only)
CMPE330 Wave and Signal Transmission (elective for Electronic System track students only)
CMPE415 FPGA Architecture and Applications (elective for Comm track students only)
CMPE419 Arithmetic Algorithms
CMPE422 Digital Signal Processing
CMPE423 Principles of Communication Engineering
CMPE447 Analog Integrated Circuit Design
CMPE491 Special Topics in Computer Engineering
CMSC426 Principles of Computer Security
CMSC478 Machine Learning (pending UGPC approval)
CMSC479 Introduction to Robotics
CMSC481 Computer Networks

CMPE List B:

CMSC345 Software Design and Development
CMSC422 Operating System Design
CMSC425 Performance Analysis of Computer Systems
CMSC431 Compiler Design Principles
CMSC435 Computer Graphics
CMSC441 Design and Analysis of Algorithms
CMSC442 Information and Coding Theory
CMSC443 Cryptology
CMSC445 Numerical Computations
CMSC482 Computer Systems Security
CMSC483 Parallel and Distributed Processing
CMSC486 Mobile Radio Communications
ENME403 Automatic Controls