

# Computer Engineering - Electronic Systems - B.S.

## Degree Requirements

**Total Academic Credits:** 127

**Major Credits:** 97

**Min. Upper-Level Credits:** 45

**Min. Cumulative GPA:** 2.0

§ indicates Benchmark requirements

‡ indicates Gateway courses

## Curriculum Notes

- This sample plan assumes no AP/IB/CLEP or transfer credit, foreign language proficiency up to the 201 level, and a math placement level of MATH 151
- All students must complete a credit-bearing English and Mathematics course in the first year of study
- Gateway Course Information: [advising.coeit.umbc.edu/gateway-information/cmpe-gateway](https://advising.coeit.umbc.edu/gateway-information/cmpe-gateway)

### Year One

Fall Semester	Credits	Spring Semester	Credits
CMSC 201 Computer Science I (see gateway for grade requirements) § ‡	4	CMSC 202 Computer Science II	4
PHYS 121 Introductory Physics I (S non-lab GEP; see gateway for grade requirements) § ‡	4	MATH 152 Calculus & Analytic Geometry II §	4
MATH 151 Calc. & Analytic Geom. I (MATH GEP; see gateway for grade requirements) § ‡	4	CMPE 212 Principles of Digital Design (see gateway for grade requirements) § ‡	4
ENGL GEP	3	ENES 101 Introduction to Engineering (see gateway for grade requirements) § ‡	3
<b>Total</b>	<b>15</b>	<b>Total</b>	<b>15</b>

### Year Two

<b>Fall Semester</b>	<b>Credits</b>	<b>Spring Semester</b>	<b>Credits</b>
MATH 251 Multivariable Calculus	4	CMPE 306 Basic Circuit Theory (Lab GEP)	4
PHYS 122 Intro. Physics II (S non-lab GEP) § ‡	4	MATH 225 Introduction to Differential Equations	3
CMSC 203 Discrete Structures	3	CMPE 310 Systems Design & Programming	4
AH GEP	3	CMSC 341 Data Structures	3
SS GEP	3	<b>Total</b>	<b>14</b>
<b>Total</b>	<b>17</b>		

## Year Three

<b>Fall Semester</b>	<b>Credits</b>	<b>Spring Semester</b>	<b>Credits</b>
CMPE 314 Principles of Electronic Circuits	4	CMPE 320 Prob., Stat. & Random Processes	3
CMPE 311 C Programming & Embedded Systems	3	CMSC 421 Principles of Operating Systems	3
MATH 221 Linear Algebra	3	CMPE 316 Programmable Logic Devices	3
Science Elective (Major Requirement)	4	CMPE 349 Intro. to Professional Practice (WI)	2
AH GEP	3	SS GEP	3
<b>Total</b>	<b>17</b>	<b>Total</b>	<b>14</b>

## Year Four

<b>Fall Semester</b>	<b>Credits</b>	<b>Spring Semester</b>	<b>Credits</b>
CMPE 413 Principles of VLSI Design	4	CMPE 451 Capstone II	3
CMSC 411 Computer Architecture	3	CMPE Elective List A	3
CMPE 450 Capstone I §	3	CMPE Elective List A or B	3
CMPE Elective List A	3	Language 201 GEP	4
AH GEP	3	C GEP	3
SS GEP	3	<b>Total</b>	<b>16</b>
<b>Total</b>	<b>19</b>		

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