

# Computer Science - Data Science - B.S.

## Degree Requirements

**Total Academic Credits:** 120

**Major Credits:** 78

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

**Min. Cumulative GPA:** 2.0

§ indicates Benchmark requirements

‡ indicates Gateway courses

## Curriculum Notes

- This 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/computer-science-gateway](https://advising.coeit.umbc.edu/gateway-information/computer-science-gateway)
- Select one course from DATA CORE List select one: CMSC 436,461,478. DATA Elective list select two courses from: CMSC 427,433,442,455,471,473,475,476,483,491 (Hadoop, SemWeb, Vision, Mobile), CMPE 422, CMPE 491 Data Driven Signal Processing.

## Year One

Fall Semester	Credits	Spring Semester	Credits
CMSC 201 Computer Science I for Majors (grade of B or better required) § ‡	4	CMSC 202 Computer Science II for Majors (grade of B or better required) § ‡	4
MATH 151 Calculus & Analytic Geometry I	4	CMSC 203 Discrete Structures (grade of C or better required) § ‡	3
Foreign Language 201	4	MATH 152 Calculus & Analytic Geometry II	4
ENGL GEP	3	AH GEP	3
		SS GEP	3
<b>Total</b>	<b>15</b>	<b>Total</b>	<b>17</b>

## Year Two

<b>Fall Semester</b>	<b>Credits</b>	<b>Spring Semester</b>	<b>Credits</b>
CMSC 331 Principles of Programming Language	3	CMSC 313 Computer Organization & Assembly Language Programming §	3
CMSC 341 Data Structures §	3	MATH 221 Introduction to Linear Algebra	3
Science Sequence I See advisor	4	Science Sequence II	4
SS GEP	3	Science Lab See advisor credit varies	2
Elective	3	SS GEP	3
<b>Total</b>	<b>16</b>	<b>Total</b>	<b>15</b>

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## Year Three

<b>Fall Semester</b>	<b>Credits</b>	<b>Spring Semester</b>	<b>Credits</b>
CMSC 304 (AH GEP, WI) Social & Ethical Issues in Information Technology	3	CMSC 491 Introduction to Data Science	3
CMSC411 Computer Architecture	3	CMSC 4XX Elective from DATA CORE list	3
CMSC 4XX See elective requirements	3	CMSC 421 Principles of Operating Systems	3
STAT 355 Intro to Probability & Statistics for Scientists & Engineers §	4	AH GEP	3
		C GEP	3
<b>Total</b>	<b>13</b>	<b>Total</b>	<b>15</b>

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## Year Four

<b>Fall Semester</b>	<b>Credits</b>	<b>Spring Semester</b>	<b>Credits</b>
CMSC 441 Design & Analysis of Algorithms	3	CMSC 4XX Elective from DATA List	3
CMSC 447 Software Engineering I	3	CMSC 4XX Elective from DATA List	3
CMSC 4XX See elective requirements	3	Elective (minimum of 8 credits see advisor)	8
Elective	3	<b>Total</b>	<b>14</b>
Elective	3		
<b>Total</b>	<b>15</b>		

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