

**GEORGE MASON UNIVERSITY
COLLEGE OF SCIENCE**

B.S. DEGREE IN COMPUTATIONAL AND DATA SCIENCES (Research Hall, 703-993-5017)

<https://cos.gmu.edu/cds/bs-in-computational-and-data-sciences/>

2018 - 2019 CATALOG

	<u>Department(s) & Course #(s)</u>	<u>Completed/ Grade(s)</u>	<u>Needed</u>
<u>MASON CORE REQUIREMENTS (*34)</u>			
a. Written Communication: ENGH 101 (100), ENGH 302 (C or better) (3,3)		____	____
b. Oral Communication: COMM 100 or 101 (please circle choice) (3)		____	____
c. Quantitative Reasoning (satisfied by completion of major requirements)			
d. Literature (3)	_____	____	____
e. Arts (3)	_____	____	____
f. Western Civilization (3)	_____	____	____
g. Social & Behavioral Science (3)	_____	____	____
h. Natural Science (4,3) (may be partially satisfied by CDS 101/102)	_____, _____	____	____
i. Global Understanding (3)	_____	____	____
j. Information Technology (satisfied by CDS 130)	_____	____	____
k. Synthesis (3)	_____	____	____

Go to: <http://catalog.gmu.edu/mason-core/> to link to information on Mason Core requirements.

MAJOR REQUIREMENTS (56-57 hours required)

Core Required Courses (16 credits)

- | | | |
|--|----------|-------|
| a. CDS 130, CDS 151 (3,1) | a. _____ | _____ |
| b. CDS 230, CDS 301 (3,3) | b. _____ | _____ |
| c. CDS 302 (writing intensive course), CDS 303 (3,3) | c. _____ | _____ |

Extended Core Courses (18 credits)

Choose from the following courses (circle choices) (18):

CDS 101 (3) **and** CDS 102 (1), CDS 201 (3), CDS 205 (3), CDS 251 (3), CDS 290 (1-4), CDS 292 (3), CDS 411 (3), CDS 486 (3), CDS 500 (3), CDS 501 (3)

Mathematics Courses (10-11)

Choose from the following courses (circle choices) (10-11):

MATH 113 (4), MATH 114 (4), MATH 125 (3), MATH 203 (3), MATH 446 (3)

Statistics Courses (6)

Choose from the following courses (circle choices) (6):

STAT 250 (3), STAT 350 (3), STAT 344 (3), STAT 346 (3)

Science and Engineering Courses (list courses) (6)

Choose to either:

Build upon the courses chosen to fulfill the [Mason Core](#) requirements by choosing additional [Mason Core: Natural Science](#) or [Mason Core: Information Technology](#) courses.

Or

Complete any course offered by the [College of Science](#) or the [Volgenau School of Engineering](#). Courses can be found in the [Courses](#) section of this catalog.

GENERAL ELECTIVES GENERAL ELECTIVES: Maximum 2 credits of PHED, PRLS, and RECR coursework toward a COS degree. Only MLSC 400 and MLSC 402 may be used for credit towards a COS degree. (List courses) Elective course suggestions: CDS 410 or MATH 447, CDS 421, CDS 461, CDS 487, CDS 490, CDS 491.

_____	_____	____	____
_____	_____	____	____
_____	_____	____	____
_____	_____	____	____

MINIMUM 120 HOURS (including Minimum 45 UPPER DIVISION HOURS) to GRADUATE

This planning form is intended to be used in consultation with your academic advisor and reflects the requirements for the 2018-2019 Catalog; the University Catalog is the official reference for program requirements.

B.S. Computational and
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2018 - 2019

FALL YEAR 1		CREDITS	SPRING YEAR 1		CREDITS	NOTES
MATH 113	4		MATH 114	4		*Natural Science = non-lab Sci. or Engineering elective which fulfills Mason Core. CDS 101/102=Core Lab Req.
CDS 130	3		CDS 101	3		
STAT 250	3		CDS 102	1		
Natural Science*	3		STAT 350	3		
ENGH 100/101	3		CDS 151	1		
			COMM 100/101	3		
Total:	16 credits		Total:	15 credits		
FALL YEAR 2		CREDITS	SPRING YEAR 2		CREDITS	NOTES
MATH 213 OR 203	3		MATH Elective	3		*SCI/ENG Elective = Science or Engineering elective
SCI/ENG Elective*	3 or 4		CDS 302	3		
CDS 301	3		CDS 230	3		
CDS 303	3		HIST 100/125	3		
Art Req.	3		Lit. Req.	3		
Total:	15 or 16 credits		Total:	15 credits		
FALL YEAR 3		CREDITS	SPRING YEAR 3		CREDITS	NOTES
CDS Ext. Core*	3		CDS Ext. Core	3		*CDS Ext. Core = CDS Extended Core. *G.U. = Global Understanding requirement.
CDS Ext. Core	3		CDS Ext. Core	3		
ENGH 302	3		G.U. Req.*	3		
Open Elective	3		Open Elective	3		
Open Elective	3		Open Elective	3		
Total:	15 credits		Total:	15 credits		
FALL YEAR 4		CREDITS	SPRING YEAR 4		CREDITS	NOTES
CDS 491 OR 492*	3		CDS 491 OR 492	3		*CDS 491 = Intern-Ship (1-3 credits). CDS 492 = Cap-stone course. *S.B.S. = Social and Behavioral Science
CDS Ext. Core	3		Open Elective	3		
S.B.S. Req.*	3		Open Elective	3		
Open Elective	3		Open Elective	3		
Open Elective	3		Open Elective	3		
Total:	15		Total:	15		

*Students must earn 120 credits for graduation; 45 credits must be upper-level (courses 300+).

*The Department VERY STRONGLY ADVISES that CDS students NOT TAKE MORE THAN TWO COMPUTER LANGUAGES IN ANY ONE SEMESTER!

*6 credits of Science or Engineering electives are required. The Department prefers that these 6 credits be taken in the SAME SCIENCE or ENGINEERING area. The goal is to BUILD COMPETENCE in a particular knowledge domain. Suggested: MATH 213 (Analytic Geometry and Calculus III), or MATH 203 (Linear Algebra).

*While not strictly required, a MATH elective is strongly suggested. If students have already taken MATH 213, then MATH 214 is suggested for those students interested in *computational science*. If students have not taken MATH 213, then MATH 125 is suggested for students interested in *data science*.

*The Department suggests that a student's OPEN ELECTIVES are utilized to either extend the student's educational experience in CDS, or, to obtain a MINOR DEGREE in a knowledge domain. The Department suggests that the student meet with the CDS academic advisor to plan/map out an elective strategy to achieve this goal.

*If the CDS 491 course is chosen in the seventh semester, then the student will choose CDS 492 in the eighth semester, and vice versa.

*The Mason Core Art, Global Understanding, Western Civilization, and Social and Behavioral Science requirements do not have to be taken in the semesters designated above. They can be taken in the order that best fits the student's schedule.

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FALL YEAR 1		CREDITS	SPRING YEAR 1		CREDITS	NOTES
MATH 113	4		MATH 114	4		
CDS 130	3		CDS 101	3		
STAT 250	3		CDS 102	1		
ENGH 100/101	3		STAT 350	3		
UNIV 100	1		CDS 151	1		
			COMM 100/101	3		
Total:	14 credits		Total:	15 credits		
FALL YEAR 2		CREDITS	SPRING YEAR 2		CREDITS	NOTES
MATH 213 OR 203	3		MATH Elective	3		*SCI/ENG Elective = Science or Engineering elective
SCI/ENG Elective*	3 or 4		CDS 302	3		
CDS 301	3		CDS 230	3		
CDS 303	3		HIST 100/125	3		
Art Req.	3		Lit. Req.	3		
Total:	15 or 16 credits		Total:	15 credits		
FALL YEAR 3		CREDITS	SPRING YEAR 3		CREDITS	NOTES
CDS Ext. Core*	3		CDS Ext. Core	3		*CDS Ext. Core = CDS Extended Core. *G.U. = Global Understanding requirement.
CDS Ext. Core	3		CDS Ext. Core	3		
ENGH 302	3		G.U. Req.*	3		
Natural Science**	3		Open Elective	3		
Open Elective	3		Open Elective	3		
Total:	15 credits		Total:	15 credits		
FALL YEAR 4		CREDITS	SPRING YEAR 4		CREDITS	NOTES
CDS 491 OR 492*	3		CDS 491 OR 492	3		*CDS 491 = Intern-Ship (1-3 credits). CDS 492 = Cap-stone course. *S.B.S. = Social and Behavioral Science
CDS Ext. Core	3		Open Elective	3		
S.B.S. Req.*	3		Open Elective	3		
Open Elective	3		Open Elective	3		
Open Elective	3		Open Elective	3		
Total:	15		Total:	15		

*Students must earn 120 credits for graduation; 45 credits must be upper-level (courses 300+).

**The Natural Science requirement should be a science or engineering elective (no lab necessary) approved in the 2018-2019 catalog for the CDS major.

-The Department VERY STRONGLY ADVISES that CDS students NOT TAKE MORE THAN TWO COMPUTER LANGUAGES IN ANY ONE SEMESTER!

-6 credits of Science or Engineering electives are required. The Department prefers that these 6 credits be taken in the SAME SCIENCE or ENGINEERING area. The goal is to BUILD COMPETENCE in a particular knowledge domain. Suggested: MATH 213 (Analytic Geometry and Calculus III), or MATH 203 (Linear Algebra).

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