

# DATA ANALYTICS & SYSTEMS ENGINEERING B.I.



University of Colorado  
Colorado Springs

## ACADEMIC ADVISING

*Partnering with students to successfully navigate college*

**Location:** Main Hall 208

**Phone:** 719.255.3260

**Website:** [www.uccs.edu/advising](http://www.uccs.edu/advising)

### Connect With Your Advisor

Current UCCS Students

- Appointments: [www.uccs.edu/advising/current-students](http://www.uccs.edu/advising/current-students)
- Drop In Advising: Most Wednesdays, 1:00pm - 4:00pm

Prospective Students: [www.uccs.edu/admissions/contact](http://www.uccs.edu/admissions/contact)

## GENERAL ACADEMIC INFORMATION

### Minimum Graduation Requirements

1. 128 credit hours
2. 2.0 CU cumulative GPA
3. Residency: Last 30 credit hours of degree must be completed while registered in the College Engineering & Applied Science at UCCS

### Student Responsibilities

Students are required to know and follow:

1. All academic policies set forth by the University, College, and academic department in the UCCS Catalog: [catalog.uccs.edu](http://catalog.uccs.edu)
2. All course prerequisites designated by the University. Failure to meet course prerequisites may result in an administrative drop of the course from a student's schedule. See degree audit for course prerequisites within the academic major.

## MAJOR INFORMATION

Data Analytics and Systems Engineering (DASE) is a multidisciplinary degree program focused on learning algorithms and analytics designed to synthesize answers from "big data" sets, as well as applying mathematical methods and models to data challenges in a variety of industries. DASE engineers could work in telecommunications, entertainment, healthcare, shipping, electronics, or manufacturing – any industry that requires continuous improvement in quality and productivity.

Major Requirements			
DASE Required courses (34 hours)	Course/Area	Course Title	Credit Hours
<ul style="list-style-type: none"> <li>• Pre-requisites will not be waived, plan sequences accordingly using electives to take pre-requisites when necessary.</li> </ul>	DASE 1011	Introduction to Data Analytics and System Engineering	3
	DASE 1021	Engineering Complex Systems	3
	DASE 1150	Principles of Computer Science	3
	DASE 1450	Data Structure and Algorithms	3
	DASE 2020	Computational Statistics	3
	DASE 2080	Programing with Unix	2
	DASE 3030	Project Management	3
	DASE 3050	Social & Ethical Implications for DASE	1
	DASE 3080	Programing Languages for Data Analytics	3
	DASE 3300	Software Engineering	3
	DASE 4460	Intelligent Robotics	3
	ECE 4890	Senior Seminar	1
	ECE 4899	Senior Project	3
<b>DASE Required Track</b> (18 hours)  DASE students are required to pick one of the tracks listed as part of their degree program.	Data Analytics Track	Complete 18 credit hours from the courses listed below. DASE 4210, 4310 4410, 4420, 4435, 4440, 4470, 4510, 4540, 4570, 4710, 4820, 4860, 4870, 4890	18
	Systems Engineering Track	Complete 18 credit hours from the courses listed below. DASE 2030, DASE 4000, 4030, 4570, 4910, ECE 2205, 2610, 3003, 3210, MAE 2055, 3342, 3401, 4421, 4425	18
	General Track	Complete 9 hours from each of the Data Analytics and Systems Engineering Tracks above.	18
<b>BI Innovation Core</b> (24 hours)	<b>Innovation Core</b> – Complete the following courses		
	ENTP 1000	Introduction to Entrepreneurship	3
	INOV 1010	The Innovation Process	3
	BLAW 2010	Business and Intellectual Property Law	3
	INOV 2010	Innovation Team: Analyze and Report	3
	INOV 2100	Technical Writing, Proposals, and Presentations	3
	INOV 3010	Innovation Team: Research and Execute	3
	INOV 4010	Innovation Team: Design and Lead	3
	ENTP 4500	Entrepreneurship and Strategy	3
<b>BI Cross-Discipline Core</b> (15 hours)	Complete one of the Cross-Discipline Cores listed below. Each Cross-Discipline Core consists of 15 credit hours. See the BI website for specific courses ( <a href="http://innovation.uccs.edu">innovation.uccs.edu</a> ).		
	<b>Business, Creative Communication, or Globalization</b>		
			15

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General Education and Elective Requirements		
<b>Composition</b> (3 hours)	1. ENGL 1310 2. PORT 3000 (0 Credits) – Writing Portfolio	
<b>Mathematics</b> (17 hours)	1. MATH 1350 2. MATH 1360 3. CS 2150 4. CS 2300 5. ECE 3610 <b>OR</b> MATH 3810	
<b>Basic Science</b> (11 hours)	1. PES 1110 2. 7 hours – see degree audit for course options	
<b>Compass Curriculum</b> (3 hours) <ul style="list-style-type: none"> <li>Explore and Navigate courses must be outside major requirements</li> <li>Writing Intensive, Inclusiveness, and Sustainability courses can count towards other requirements within degree</li> </ul>	Component	Course
	<b>Gateway</b>	GPS 1010
	<b>Explore – Arts, Humanities and Cultures</b>	INOV 1010 (included in BI Core requirements)
	<b>Explore – Society, Behavior and Health</b>	ENTP 1000 (included in BI Core requirements)
	<b>Explore – Physical and Natural World</b>	PES 1110 (included in Basic Science requirement)
	<b>Navigate</b>	INOV 3010 (included in BI Core requirements)
	<b>Summit</b>	ENTP 4500 (included in BI Core requirements)
	<b>Writing Intensive Courses (WIC)</b> <i>Two courses with one upper-division (3000+ level)</i>	1. INOV 2010 (included in BI Core requirements) 2. INOV 3010 (included in BI Core requirements)
	<b>Inclusiveness</b>	INOV 1010 (included in BI Core requirements)
	<b>Sustainability</b>	ENTP 1000 (included in BI Core requirements)
<b>Open Electives</b> (3 hours)	Complete open electives to fulfill the total hours requirement for the degree program. The chosen course(s) can be selected from any discipline but may not include any math course below MATH 1350. Only 3 credit hours of CS course work numbered below CS 1150 may count towards Electives.	

## Four-Year Degree Plan

Please note that this is an *example* degree program and your program may vary. **Students are responsible for completing all course prerequisites.**

Year One	✓	FALL	Hours	✓	SPRING	Hours
		DASE 1011	3		DASE 1020	3
		DASE 1150	3		DASE 1450	3
		ENTP 1000	3		INOV 1010	3
		GPS 1010	3		MATH 1360	4
		MATH 1350	4		PES 1110	4
		<b>TOTAL</b>	16		<b>TOTAL</b>	17

Year Two	✓	FALL	Hours	✓	SPRING	Hours
		BLAW 2010	3		DASE 2080	2
		CS 2150	3		DASE 3050	1
		CS 2300	3		DASE 3080	3
		DASE 2020	3		ECE 3610 (Spring Only) <b>OR</b> MATH 3810	3
		ENGL 1310	3		INOV 2010	3
					INOV 2100	3
					Science Elective	3
		<b>TOTAL</b>	15		<b>TOTAL</b>	18

Year Three	✓	FALL	Hours	✓	SPRING	Hours
		DASE 3030	3		DASE 4460	3
		DASE 3300	3		DASE Track Course	3
		DASE Track Course	3		INOV 3010	3
		Cross-Discipline Core Course	3		Cross-Discipline Core Course	3
		Science Elective	4		Cross-Discipline Core Course	3
					PORT 3000	0
		<b>TOTAL</b>	16		<b>TOTAL</b>	15

Year Four	✓	FALL	Hours	✓	SPRING	Hours
		ECE 4890	1		ECE 4899	3
		DASE Track Course	3		ENTP 4500	3
		DASE Track Course	3		DASE Track Course	3
		INOV 4010	3		DASE Track Course	3
		Cross-Discipline Core Course	3		Cross-Discipline Core Course	3
		Open Elective	3			
		<b>TOTAL</b>	16		<b>TOTAL</b>	15