

## BSc Data Science

**TABLE 2: COURSE DISTRIBUTION PER SEMESTER (Suggested Semester Breakdown)**

A/A	Course Type	Course Name	Course Code	Periods per week	Period duration	Number of weeks/ Academic semester	Total periods/ Academic semester	Number of ECTS
<b>Semester 1</b>								
1.	R	Introduction to Data Science	COMP-140	3	50'	13	39	6
2.	R	Programming Principles I	COMP-111	4	50'	13	52	6
3.	R	Discrete Mathematics	MATH-101	3	50'	13	39	6
4.	R	Calculus I	MATH-195	4	50'	13	52	6
5.	R	English Composition	ENGL-101	3	50'	13	39	6
<b>Semester 2</b>								
1.	R	Programming Principles II	COMP-113	4	50'	13	52	6
2.	R	Software Development Tools for Data Science	COMP-142	3	50'	13	39	6
3.	R	Calculus II	MATH-196	4	50'	13	52	6
4.	R	Probability and Statistics I	MATH-225	3	50'	13	39	6

5.	E	Elective	*	3	50'	13	39	6
<b>Semester 3</b>								
1.	R	Data Structures	COMP-211	3	50'	13	39	6
2.	R	Data Programming	COMP-240	4	50'	13	52	6
3.	R	Probability and Statistics II	MATH-325	3	50'	13	39	6
4.	R	Bayesian Statistics	MATH-329	3	50'	13	39	6
5.	E	Elective	*	3	50'	13	39	6
<b>Semester 4</b>								
1.	R	Algorithms	COMP-370	3	50'	13	39	6
2.	R	Database Management Systems	COMP-302	3	50'	13	39	6
3.	R	Linear Algebra I	MATH-280	3	50'	13	39	6
4.	R	Machine Learning and Data Mining I	COMP-244	3	50'	13	39	6
5.	R	Project in Data Science	COMP-248	N/A	N/A	13	N/A	6
<b>Semester 5</b>								
1.	R	Machine Learning and Data Mining II	COMP-344	3	50'	13	39	6
2.	R	Optimization Techniques	MATH-335	3	50'	13	39	6
3.	R	Data Visualization	COMP-342	3	50'	13	39	6
4.	R	Data Privacy and Ethics	COMP-242	3	50'	13	39	6

5.	E	Major Elective	COMP/MATH	3	50'	13	39	6
<b>Semester 6</b>								
1.	R	Big Data	COMP-340	3	50'	13	39	6
2.	R	Web and Social Data Mining	COMP-446	3	50'	13	39	6
3.	R	Linear Models I	MATH-326	3	50'	13	39	6
4.	R	Technical Writing and Research	BADM-332	3	50'	13	39	6
5.	E	Major Elective	COMP/MATH	3	50'	13	39	6
<b>Semester 7</b>								
1.	R	Artificial Intelligence	COMP-405	3	50'	13	39	6
2.	R	Neural Networks and Deep Learning	COMP-447	3	50'	13	39	6
3.	R	Data Science Final Year Project I	COMP-494	N/A	N/A	13	N/A	6
4.	E	Major Elective	COMP/MATH	3	50'	13	39	6
5.	E	Elective	*	3	50'	13	39	6
<b>Semester 8</b>								

1.	R	Data Science Final Year Project II	COMP-495	N/A	N/A	13	N/A	6
2.	E	Major Elective	COMP/MATH	3	50'	13	39	6
3.	E	Major Elective	COMP/MATH	3	50'	13	39	6
4.	E	Major Elective	COMP/MATH	3	50'	13	39	6
5.	E	Major Elective	COMP/MATH	3	50'	13	39	6

\*Course code corresponds to the course code from the respective Elective section D, E and F shown in Annex 2.

Note: The semester breakdown includes the maximum number of Major Electives (7) a student can take. Instead, a student could chose to replace a maximum of 2 Major Electives on the above breakdown, with 2 other Electives from sections D, E and F, provided they do not exceed the maximum number of credits in the respective category.