

## List of Courses of the Big Data Analytics Program

(available for students apply for enrollment as of academic year 2018)

※Minimum course credits needed for completion: 26 credits

	Course Name	Offered by:	Course credits
Required courses (Minimum 14 credits)	Calculus/ Linear Algebra	Statistics, Information Science, MIS, Applied Mathematics	3-4
	Statistics/Statistical Analysis	Integrated, Applied Mathematics, all departments	3
	Regression Analysis I	Statistics	3
	Data Structures	Information Science, MIS, Applied Mathematics	3
	Business Data Analytics: R Computing / Business Analytics with SAS/R/ Programming and Statistical Software	Statistics, Information Science	2-3
Electives (12 credits) 1.In addition to the required courses, students must select at least four electives. 2.If a course is a required course of the student's original department, the credits of this course will be excluded from the program. If a course is an elective the student's original department, only two will be recognized.	Regression Analysis II	Statistics	3
	Multivariate Analysis	Statistics	3
	Time Series Analysis	Statistics	3
	Categorical Data Analysis	Statistics	3
	Business Analytics Practice with SAS/R	Statistics	3
	Statistical Data Analysis	Statistics	3
	Text Mining and Big Data Analytics Using SAS	Information Science	3
	Programming or related courses*	Statistics, Information Science, MIS, Applied Mathematics	3
	Algorithms	Information Science	3
	Information Management	Information Science	3
	Database Management Systems	Information Science, MIS	3
	Database System	Information Science, MIS	3
	Optimization/ Optimization Theory /Management Science/Project Research	Information Science, Statistics, Applied Mathematics	3
	Database Marketing/Internet Marketing	Information Science	3
	Business Intelligence	Statistics, Information Science, MIS	3
Data Mining	Statistics, Information Science, MIS	3	
Cloud Application Programming/Community Cloud Computing	Information Science, MIS	3	

	Course Name	Offered by:	Course credits
	Hadoop System Design or related courses	Information Science, MIS	3
	Machine Learning Technology or related courses 【 Including: Modern Machine Learning Techniques, Data Science in Practice】	Statistics, Information Science, MIS	3
	Internet Search and Mining	Information Science	3
	Theory of Probability	Statistics, Applied Mathematics	3
	Numerical Analysis	Applied Mathematics	3

\*Programming or Related Courses: Except for courses offered by the Department of Statistics, Department of Information Science, Department of MIS, and Department of Applied Mathematics which will be directly recognized by the program, students must submit the syllabus to the program committee for approval before they can substitute the Programming or Related Courses offered by other departments. **Students cannot substitute the Programming or Related Courses of this program with the Programming or Related Courses offered by General Education.**

Description: When selecting electives in the program not from the departments listed above, students must substitute them with electives of the same name or containing similar contents. Students should also submit the syllabus of the course to the program committee for approval before selection.