University of Southern California
VITERBI SCHOOL OF ENGINEERING

Bachelor of Arts in Data Science
Program Learning Objectives

Computer-based information systems facilitate, enable and often define the relationships between corporations and consumers, buyers and suppliers, businesses of all sizes, social networks and citizens and their governments. Understanding these relationships and effectively addressing the collection, flow and distribution of information is vital to the effectiveness of any modern organization, enterprise or government agency.

The Bachelor of Arts in Data Science is a cooperative degree program involving the USC Dornsife College of Letters, Arts and Sciences and the USC Viterbi School of Engineering. Students complete 128 units, including at least 70 units of courses in Dornsife College and at least 38 units of courses in Viterbi School of Engineering. Units completed in Viterbi include the basic programming and data science requirements while units completed in Dornsife College include the general education and writing requirements, the Dornsife College foreign language requirement and an adviser-approved disciplinary specialization of at least 24 units, (including at least 16 units of upper-division course work). The program teaches students to understand, design and implement effective solutions to meet organizational, societal and management needs for information and decision support.

- Upon completion of the USC Bachelor of Arts in Data Science degree program, students will be able to unleash the full power and potential of data for research and business application purposes.

- USC students enrolled in the Bachelor of Arts in Data Science will demonstrate understanding of computational information systems and communication technologies, data management and databases, programming languages and coding frameworks, information visualization theory and practice, machine learning and artificial intelligence. Elective coursework in stats will cover topics such as statistical learning and probability theory, applied business statistics or mathematical statistics. Elective coursework in data science will cover security and privacy, back-end and front-end Web development, user experience design, enterprise data analytics or high-end data storage solutions.

- Upon completion of the USC Bachelor of Arts in Data Science degree program, students will be able acquire, process, analyze and visualize information, and work with domain experts to extract insights from big data. They will be able to apply their broad knowledge of data science techniques to practical problems like research and development of statistical learning models for data analysis, collaboration with product management and engineers departments to map company needs and propose data-driven solutions, communicate data insights to decision and key policy makers, or embarking upon research-oriented graduate studies in data driven disciplines.