USC Dornsife
Department of Economics

STUDENT _____

ECONOMICS & DATA SCIENCE, B.S.

USCID _____

	SEMESTER	GRADE	UNITS
ECONOMICS REQUIREMENTS			
ECON 203 Principles of Microeconomics *Satisfies GE-F Quantitative Reasoning*			4
ECON 205 Principles of Macroeconomics *Satisfies GE-F Quantitative Reasoning*			4
ECON 303 Intermediate Microeconomic Theory *Prerequisite: ECON 203 & MATH 118/125. Grade of C or higher required.*			4
ECON 305 Intermediate Macroeconomic Theory *Prerequisite: ECON 203, ECON 205, & MATH 118/125. Grade of C or higher required.*			4
ECON 317 Introduction to Statistics for Economists *Prerequisite: MATH 118/125. May be substituted by MATH 307+308 or MATH 407+408. Grade of C or higher required.*			4
ECON 318 Introduction to Econometrics *Prerequisite: ECON 317, or MATH 307+308 or MATH 407+408. Grade of C or higher required.*			4
ECON 460 Economic Applications of Machine Learning OFFERED FALL ONLY *Prerequisite: ECON 303, ECON 318, MATH 225, & DSCI 250. Corequisite: CSCI 103.*			4
MATHEMATICS REQUIREMENTS			
MATH 125 Calculus I *Prerequisite: Placement by exam or MATH 108. Satisfies GE-F Quantitative Reasoning.*			4
MATH 126 Calculus II *Prerequisite: MATH 125. Satisfies GE-F Quantitative Reasoning.*			4
MATH 225 Linear Algebra & Linear Differential Equations *Prerequisite: MATH 126/127/129*			4
COMPUTER SCIENCE REQUIREMENTS			
CSCI 102 Fundamentals of Computation*			2
CSCI 103 Introduction to Programming* *Prerequisite: CSCI 102*			4
INFORMATION TECHNOLOGY PROGRAM & DATA SCIENCE REQUIREMENTS			
ITP 115 Programming in Python or ITP 116 Accelerated Porgramming in Python*			2
DSCI 250 Introduction to Data Science OFFERED FALL ONLY *Corequisite: ITP 115/116*			4
DSCI 351 Foundations of Data Management *Prerequisite: DSCI 250 & ITP 115/116*			4
ELECTIVE REQUIREMENT *Complete one*			
☐ ECON 419 Advanced Econometrics *Prerequisite: ECON 303, 305, 317, 318 & MATH 125/126/225/226*			4
☐ DSCI 352 Applied Machine Learning & Data Mining* *Prerequisite: DSCI 250 & ECON 317*			
☐ DSCI 454 Data Visualization & User Interface Design *Prerequisite: DSCI 250*			
☐ MATH 226 Calculus III *Prerequisite: MATH 126/127/129. Satisfies GE-F Quantitative Reasoning.*			
☐ QBIO 401 Introduction to Computational Analysis of Biological Data *Crosslisted as BISC 401*			
		UNIT TOTAL	**60**

Major courses must be completed for Letter Grades. Minimum GPA of 2.0 in upper-division major courses is required.
This is a guide to major requirements. For additional degree requirements, visit USC Catalogue at catalogue.usc.edu.

** ITP 115/116, CSCI 102, and CSCI 103 may be satisfied by completing the following sequence: CSCI 113 + CSCI 114, or its equivalent.*

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ECONOMICS & DATA SCIENCE

Bachelor of Science

CHAIR
Caroline Betts, Ph.D.

DIRECTOR OF UNDERGRADUATE STUDIES
Ladan Masoudie, Ph.D.

ACADEMIC ADVISING
www.dornsife.usc.edu/econ/undergraduate-advising

PROFESSIONAL ORGANIZATIONS
American Economic Association
www.aeaweb.org

CONTACT
Department of Economics
Dana and David Dornsife College of Letters, Arts & Sciences University of Southern California Kaprielian (KAP) Hall Suite 300 3620 South Vermont Ave.
Los Angeles, CA 90089
(213) 740-8335
www.dornsife.usc.edu/econ

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X @USC_Econ

www.linkedin.com/school/usc-dornsife-department-of-economics

The Department of Economics is a dynamic environment that takes research beyond traditional boundaries, often collaborating with other disciplines. This includes the Economics & Data Science major which trains students to apply advanced data science techniques to the analysis and formulation of economic problems.

DECLARATION OF MAJOR No application process is needed for entry into the major. Requirements of ITP 115/116, CSCI 102, and CSCI 103 may be satisfied by completion of CSCI 113 and CSCI 114 (or their equivalent). CSCI 102 and CSCI 103 may be satisfied by earning a Pass score on the applicable challenge exam administered by Viterbi School of Engineering. Questions regarding the challenge exam may be directed to Computer Science at csdept@usc.edu.

CAREER OPPORTUNITIES AND RELATED OCCUPATIONS Students perform complex calculations, create models, interpret data, identify patterns, and draw conclusions. With additional courses in computation, programming language, and data science, this degree prepares students to bridge the divide between "Big Data" engineers and end users in a variety of industries. Careers that value these skills include economist, economic consultant, data scientist, market research analyst, management consultant, financial analyst, and policy analyst. Industries include research and consulting firms, businesses, government entities, healthcare, and non-profit organizations.

JOB OUTLOOK According to the U.S. Bureau of Labor Statistics[1], between now and 2032 employment of economists is projected to grow by 6%, financial analysts is projected to grow by 8%, and market research analysts is projected to grow by 13% — all of which are faster than the average for U.S. occupations. Growth for actuaries is projected to grow by 23% and data scientists by 35%, both of which are much faster than average.

RESEARCH OPPORTUNITIES Undergraduates may enroll in supervised individual research courses. Faculty may hire undergraduates as research assistants. The Los Angeles Behavioral Economics Laboratory (LABEL) offers assistantships in Experimental Economics and Neuroeconomics. Economics is also home to the Center for Applied Financial Economics (CAFE), the Center for Economic and Social Research (CESR), and the Institute for Economic Policy Research (IEPR).

STUDENT ORGANIZATIONS The Undergraduate Economics Association connects students with faculty, alumni, and peers beyond the classroom. The *USC Economics Review* is a publication run by an undergraduate editorial board and analyzes economic policy and everyday phenomena. Qualified students may also join the international economics honors society, Omicron Delta Epsilon (ODE).

[1] Bureau of Labor Statistics, U.S. Department of Labor. *Occupational Outlook Handbook*. Retrieved from https://www.bls.gov/ooh