Applied Quantitative Sciences

2022-2023 Catalog Year

This list of courses is designated for students who are pursuing the Applied Quantitative Sciences degree.

Students will complete 15 credit hours of required courses distributed across several categories:

Statistics, 6 hours: 3 hours must be upper-division

Computer Skills, 3 hours

Technical/Professional Communication, 3 hours

Research and Analysis, 3 hours

Upper Division Capstone/Project, 3 hours

Upper Division Major Electives, (18 hours for standalone major, 6 hours for concurrent degree major) – major elective hours may be filled by any upper division courses listed under the Statistics, Data Skills, Technical/Professional Communication, Research and Analysis, or Capstone/Project tables.   Major Electives are in addition to courses already counting towards category requirements.

Statistics

ABS 350 Applied Statistics (3)
ACT 415 Probability for Risk Management (3)
AGB 360 Agribusiness Statistics (3)
ASM 465 Quantification & Analysis for Anthropologists (3)
BIO 415 Biometry (4)
CRJ 303 Statistical Analysis (3)
ECN 221 Business Statistics (3)
ECN 231 Honors Business Statistics (3)
EDP 454 Statistical Data Analysis in Education
EGR 280 Engineering Statistics (3)
GIS 470 Statistics for Geographers (3)
HCD 300 Biostatistics (3)
HSE 230 Statistics for Human Research I (3)
HSE 430 Statistics for Human Research II (3)
IEE 380 Probability & Stats Engineering Problem Solving (3)
JUS 302 Statistical Analysis for Justice Studies (3)

PAF 301 Applied Statistics (3)
PBH 300 Biostatistics (3)
POS 401 Political Statistics (3)
PSY 230 Intro to Statistics (3)
PSY 231 Honors Introduction to Statistics (4)
PSY 330 Statistical Methods (3)
SBS 304 Social Statistics I (3)
SBS 404 Social Statistics II: Multivariate Analysis, (3)
SGS 401 Political Statistics, (3)
SOC 390 Social Statistics I (3)
STP 226 Elements of Statistics (3)
STP 231 Statistics for the Life Sciences (3)
STP 310 Design and Analysis of Experiments (3)
STP 311 Regression and Time Series Analysis (3)
STP 420 Introductory Applied Statistics (3)
STP 421 Probability (3)
STP 425 Stochastic processes (3)
STP 427 Mathematical Statistics (3)
STP 429 Experimental Statistics (3)
STP 450 Nonparametric Statistics (3)
STP 452 Multivariate Statistics (3)
STP 460 Categorical Data Analysis (3)
STS 401 Statistics in Science Technology & Society (3)
SWU 321 Statistics for Social Workers (3)

Computer Skills

ACO 100 All About Data (3)
ACO 102 Object-Oriented Programming (3)
ACO 201 Data Structures and Algorithms (3)
ACO 220 Intro to Database Systems (3)
ACO 240 Intro to Programming Language (3)
ACO 350 System Programming (3)
ALA 235 Introduction to Computer Modeling (3)
AME 230 Programming for the Media Arts (3)
CIS 105 Computer Applications and Information Tech (3)
CIS 235 Intro to Information Systems (3)
CIS 236 Honors Introduction to Information Systems (3)
CIS 308 Advanced Excel in Business (3)
CIS 315 Intro to Business Data Analytics (3)
CIS 340 Business Information System Development I (3)
CIS 345 Business Information System Development II (3)
CIS 355 Business Data Warehouses & Dimension Model (3)
CIS 360 Business Data Concepts (3)
CIS 365 Business Data Systems Development (3)
CIS 375 Business Data Mining (3)
CIS 415 Big Data Analytics & Visualization in Business (3)
CIS 430 Networks and Distributed Systems (3)
CIS 450 Enterprise Analytics (3)
CPI 101 Intro to Informatics (3)
CSE 100 Principles of Programming with C++ (3)
CSE 110 Principles of Programming (3)
CSE 205 Object Oriented Programming & Data Struct.(3)

CSE 240 Introduction to Programming Languages (3)
CSE 310 Data Structures and Algorithms (3)
DCE 240 Media for Dance (3)
DCE 236 Intro to Computer Modeling (3)
EDT 180 Technological Literacy: Problem Solving (3)
EDT 321 Computer Literacy: Mobile Technology (3)
EGR 219 Computational Modeling of Engineering Sys (3)
GIS 211 Geographic Information Science I (4)
GIS 222 Programming Principles in GIS I (3)
GIS 311 Geographic Information Science II (3)
GIS 322 Spatial Data Structures and Algorithms (3)
GIT 312 3-D Computer Graphics Modeling & Represent (3)
GLG 410 Computers in Geology (3)
IEE 305 Information Systems Engineering (3)
MHL 201 Media Literacy for Musicians (3)
SCM 314 Analytics for Logistics (3)
SES 130 Coding for Exploration (3)

Technical and Professional Communication

ART 116 Intro to Digital Media (3)
COM 222 Argumentation (3)
COM 225 Public Speaking (3)
COM 250 Communication in the Workplace (3)
COM 259 Communication in Business & the Professions (3)
COM 312 Communication, Conflict and Negotiation (3)
COM 353 Professional Communication (3)
COM 400 Communication in Professions (3)
COM 422 Advanced Argumentation (3)
COM 453 Communication in Training & Development (3)
COM 459 Theory & Methods of Social Media Networks (3)
CRJ 300 Oral & Written Com for Criminology (3)
EDS 200 Design Literacy & Communication (3)
ENG 301 Writing for the Professions (3)
ENG 302 Business Writing (3)
GIT 135 Graphic Communication
GIT 303 Digital Publishing (3)
HSC 310 Health Communication
IAP 361 Digital Editing & Media Literacy (3)
JMC 310 Public Relations (3)
JMC 415 Writing for Public Relations (3)
NTR 351 Nutrition Communication (3)
OGL 340 Organizational Skills ST:
TWC 301 Fundamentals of Writing for Digital Media (3)
TWC 347 Written Communication for Managers (3)
TWC 411 Principles of Visual Communication (3)
TWC 414 Visualizing Data and Information (3)
TWC 422 Social Media in the Workplace
TWC 446 Technical and Scientific Reports

Research and Analysis
ABS 489 Undergraduate Research
ASB 302 Ethnographic Field Study (3)

ASM 201 Epidemics and Outbreaks (3)
ASM 338 Anthropological Field Session (1-12)
ASM 365 Doing Archaeology (3-4)
BCH 392 Introduction to Research Techniques (1-3)
BIO 314 Research Colloquium in Biology and Society I (2)
BIO 435 Research Techniques in Animal Behavior (3)
BIO 489 School of Life Sci Undergraduate Research Fellow (1)
BIO 495 Undergraduate Research
CHM 392 Introduction to Research Techniques (1-3)
COM 308 Advanced Research Methods in Com (3)
COM 408 Quantitative Research Methods in Com (3)
CRJ 302 Research Methods (3)
CSM 402 Assessment and Evaluation of Community Services (3)
EDS 302 Design Inquiry and Undergraduate Research (3)
ENG 390 Methods of Inquiry (3)
ETH 310 Critical Research Methods (3)
FAS 361 Research Methods (3)
FAS 390 Supervised Research Experience (1-3)
GCU 485 International Field Studies (1-12)
GCU 496 Geographic Research Methods (3)
GLG 451 Field Geology I 3)
GLG 452 Field Geology II(3)
GLG 489 Field Geochemistry (3)
GPH 491 Geographic Field Methods (3)
HCR 301 Research Methods for the Health Care Prof (3)
HSE 290 Exp. Methods for Human Systems Research (3)
HSE 390 Qualitative Research Methods3)
HST 300 Historical Inquiry (3)
HST 495 Methods of Historical Inquiry (3)
ISS 301 Integrated Social Science Research Methods, (3)
JUS 301 Research in Justice Studies (3)
MCO 302 Media Research Methods (3)
MAT 495 Undergraduate Research (3)
MKT 352 Marketing Research (3)
NTR 290 Intro to Evidence Based Research (3)
OGL 357 Assessment in Organizations (3)
PAF 302 Public Service Research Methods (3)
PHY 495 Project Research
POS 301 Empirical Political Inquiry (3)
PSY 290 Research Methods (4)
PSY 315 Personality Theory Research
PSY 390 Experimental Psychology (3)
SGS 305 Research Methods (3)
SOC 391 Research Methods (3)
STS 301 Research in Science and Technology Studies (3)
TCL 304 Transborder Research Methods (3)

Capstone   WPC 480 Capstone Course (3)

*** 484 Internship (1 - 12)
*** 492 Honors Directed Study, (1 - 6)
*** 493 Honors Thesis, L (1 - 6)
AME 485 Digital Culture Capstone I
AME 486 AME 485 Digital Culture Capstone II
ASB 452 Community Partnerships for Global Health, SB (3-9)
BMI 481 Capstone I (3)
BMI 482 Capstone II (3)
CIS 440 Capstone in Information System (3)
CSE 423 Systems Capstone Project I (3)
CSE 424 Systems Capstone Project I((3)
CSE 485 Computer Sciences Capstone Project I (3)
CSE 486 Computer Sciences Capstone Project II (3)
ECN 475 Capstone in Economics
FAS 390 Supervised Research Experience (1-3)
FAS 460 Leadership, Research & Collaboration Comm. (3)
FAS 461 Community Action Research Exp Internship (3)
FOR 485 Forensic Science Capstone (3)
GIT 480 Senior Project (3)
GLG 464 Solving Environmental Problems (3)
GLG 495 Undergraduate Thesis (3)
HCR 426 Health Care Coordination Capstone (3)
HCR 449 Integrative Healthcare Capstone (3)
HCR 463 Capstone Project (4)
HON 492 Honors Directed Study (1-6)
HON 493 Honors Thesis (1-6)
HRC 480 Capstone: Practices & Approaches (3)
HSE 477 Human Systems Engineering Capstone (3)
IAS 480 Capstone Practices and Approaches (3)
IFT 401 Information Technology Capstone I (3)
IFT 402 Information Technology Capstone II (3)
MBB 490 Capstone: Issues in Biotechnology (2)
MBB 491 Capstone: Issues in Molecular Science (2)
OGL 481 Organizational Leadership Pro Seminar I (3)
OGL 482 Organizational Leadership Pro Seminar II (3)
OGL 484 Internship (1 – 12)
PAF 400 Senior Capstone Project (3)
PAF 421 Leadership Capstone (3)
PSY 399 Supervised Research (1-3)
PSY 477 Applied Capstone Experience (3)
SES 410 Senior Exploration Project I (3)
SES 411 Senior Exploration Project II (3)
SSH 402 Community Partnerships for Global Health (3)
TCL 305 Transborder Practicum and Field Research (3)
TWC 490 Capstone (3)
USL 402 Service Learning Education & Youth (3)
USL 410 Service Learning Diverse Community (3)
USL 496 Service Learning Capstone(3)
USL 497 Service Learning Capstone Project (3)
WPC 470 Business Admin Capstone (3)