

2024 - 2025 Certificate Map

Social Science Research Methods

School/College: [The College of Liberal Arts and Sciences](#)

Location: [Tempe](#)

Program Requirements

The certificate requires 18 credit hours, 12 of which must be upper division. A minimum of a "C" grade (2.00 on a 4.00 scale) in each course is required.

Required Course -- 3 credit hours

[GIS 469 / SOC 469: Multivariate Statistics for Social Sciences](#) or [STP 452: Multivariate Statistics](#) (3)

Electives (choose at least four) -- 12 credit hours

Choose at least four courses for a minimum of 12 credit hours. At least six credit hours must be upper division.

[ACO 100: All About Data: Design, Query, and Visualization \(QTRS OR CS\)](#) (3)

[ACT 435: Statistics for Risk Modeling](#) (3)

[ACT 450: Actuarial Models](#) (3)

[ALA 235: Introduction to Computer Modeling \(CS\)](#) (3)

[AML 253: Introduction to Mathematical Tools and Modeling for the Life and Social Sciences \(MATH\)](#) (3)

[AML 441: Mathematical Concepts and Tools in Sustainability](#) (3)

[ASM 494: Models in Social Evolution](#) (3)

[BME 301: Numerical Methods in Biomedical Engineering](#) (2)

[BMI 211: Modeling Biomedical Decisions](#) (3)

[BMI 311: Modeling Biomedical Knowledge](#) (3)

[BMI 312: Modeling Biomedical Data](#) (3)

[BMI 461: Advanced Topics in Biomedical Informatics I](#) (3)

[BMI 462: Advanced Topics In Biomedical Informatics II](#) (3)

[COM 308: Advanced Research Methods in Communication \(L\)](#) (3)

[COM 407: Advanced Critical Methods in Communication](#) (3)

[CRJ 303: Statistical Analysis \(QTRS OR CS\)](#) (3)

[ECN 310: Applied Regression and Data Analytics](#) (3)

[ECN 416: Game Theory and Economic Behavior](#) (3)

[EDP 454: Statistical Data Analysis in Education](#) (3)

[FAS 361 / SOC 391: Applied Research Methods \(SOBE OR L or SB\)](#) (3)

[FAS 498: Advanced Statistics for Social Sciences \(3\)](#)
[GCU 351: Population Geography \(GCSI OR SB & G\) \(3\)](#)
[GCU 373: Introduction to Geographic Information Science \(SG\) \(4\)](#)
[GCU 442: Geographical Analysis of Transportation \(SB\) \(3\)](#)
[GCU 496: Geographic Research Methods \(L\) \(3\)](#)
[GIS 311: Geographic Information Science III \(QTRS OR CS\) \(4\)](#)
[GIS 322: Programming Principles in GIS II \(3\)](#)
[GIS 341: Cartography and Georepresentation \(QTRS OR CS\) \(3\)](#)
[GIS 431: Spatial Databases \(3\)](#)
[GIS 441: Geographics: Interactive and Animated Cartography and Geovisualization \(CS\) \(3\)](#)
[GIS 461 / PUP 481: Fundamentals of Spatial Optimization \(3\)](#)
[GIS 462: Location Analysis and Modeling \(3\)](#)
[GIS 470: Advanced Statistics for Geography and Planning \(QTRS OR CS\) \(3\)](#)
[GIS 471: Spatial Statistics for Geography and Planning \(3\)](#)
[GIS 472: Spatial Regression Analysis \(3\)](#)
[GPH 494: Advanced Digital Analysis \(3\)](#)
[HSE 290: Experimental Methods for Human Systems Research \(QTRS OR L\) \(3\)](#)
[HSE 390: Qualitative Research Methods \(L\) \(3\)](#)
[IFT 200: Information Modeling, Storage and Retrieval \(3\)](#)
[IFT 410: Big Data Tools and Practices \(3\)](#)
[MKT 352: Marketing Research \(L\) \(3\)](#)
[POS 301 / SGS 305: Empirical Political Inquiry \(SOBE OR SB\) \(3\)](#)
[POS 401 / SGS 401: Political Statistics \(QTRS OR CS\) \(3\)](#)
[PSY 330: Statistical Methods \(QTRS OR CS\) \(3\)](#)
[PUP 424: Planning Methods \(4\)](#)
[SBS 302: Qualitative Methods \(SOBE OR SB\) \(3\)](#)
[SBS 404: Social Statistics II: Multivariate Analysis \(CS\) \(3\)](#)
[SOC 389 / SBS 389 / ASB 389: Ethnographic Field Lab \(1-6\)](#)
[SOS 211: Calculus and Probability for the Life and Social Sciences \(MATH\) \(3\)](#)
[STP 280: Probability and Statistics for Researchers \(QTRS OR CS\) \(3\)](#)
[STP 310: Design and Analysis of Experiments \(3\)](#)
[STP 311: Regression and Time Series Analyses \(3\)](#)
[STP 315: Statistical Computing \(3\)](#)
[STP 420: Introductory Applied Statistics \(QTRS OR CS\) \(3\)](#)
[STP 421: Probability \(3\)](#)
[STP 425: Stochastic Processes \(3\)](#)
[STP 429: Applied Regression \(QTRS OR CS\) \(3\)](#)
[STP 450: Nonparametric Statistics \(3\)](#)
[STP 460: Categorical Data Analysis \(3\)](#)
[TWC 301: Fundamentals of Writing for Digital Media \(L\) \(3\)](#)
[TWC 411: Principles of Visual Communication \(L\) \(3\)](#)

Required Capstone Course -- 3 credit hours

ASB 499: Individualized Instruction or an equivalent capstone course approved by academic advisor
(3)

Prerequisite courses may be needed in order to complete the requirements of this certificate.