

Council Approval

Note: This form is intended to track the progress of a proposal (whether from Academic Affairs or Health Sciences) through the Undergraduate and Graduate Councils.

Proposal: Undergraduate Certificate in Quantitative Research Analytics
in the Social Sciences

This proposal needs to go through:

Undergraduate Council	<input checked="" type="checkbox"/>
Graduate Council	<input type="checkbox"/>
Both Approvals	<input type="checkbox"/>
Grad Approval/Undergrad Notification	<input type="checkbox"/>

This proposal has been approved by:

Chair of Undergraduate Council



Date: 2-16-18

Chair of Graduate Council

Date: _____

Once the appropriate signature(s) have been obtained, please forward this completed form to the Office of the Senior Vice President for Academic Affairs. *(NOTE: The SVP-AA is the Chief Academic Officer for the University of Utah and reports to the Board of Regents in this capacity. When necessary, the CAO will get a signature from the SVP-IISC.)*

Chief Academic Officer



Date: 2-21-18

Once the Chief Academic Officer's signature has been obtained, this approval document will be forwarded to the **Office of the Academic Senate**.

Utah System of Higher Education
New Academic Program Proposal
Cover/Signature Page - Abbreviated Template

Institution Submitting Request: University of Utah
Proposed Program Title: Quantitative Research Analytics in the Social Sciences
Sponsoring School, College, or Division: CSBS
Sponsoring Academic Department(s) or Unit(s): Interdisciplinary
Classification of Instructional Program Code¹ : 45.0102
Min/Max Credit Hours Required of Full Program: 24 /
Proposed Beginning Term²: Fall 2018
Institutional Board of Trustees' Approval Date:

Program Type:

<input checked="checked" type="checkbox"/>	Certificate of Proficiency	<input type="checkbox"/>	Entry-level CTE CP	<input type="checkbox"/>	Mid-level CP
<input type="checkbox"/>	Certificate of Completion				
<input type="checkbox"/>	Minor				
<input type="checkbox"/>	Graduate Certificate				
<input type="checkbox"/>	K-12 Endorsement Program				
<input type="checkbox"/>	NEW Emphasis for Regent-Approved Program <i>Credit Hours for NEW Emphasis Only:</i> Min Cr Hr / Max Cr Hr <i>Current Major CIP:</i> 6 - Digit CIP <i>Current Program Title:</i> <i>Current Program BOR Approval Date:</i>				
<input type="checkbox"/>	Out of Service Area Delivery Program				

Chief Academic Officer (or Designee) Signature:

I, the Chief Academic Officer or Designee, certify that all required institutional approvals have been obtained prior to submitting this request to the Office of the Commissioner.

Please type your first and last name _____ Date: _____

☐ I understand that checking this box constitutes my legal signature.

¹ For CIP code classifications, please see <http://nces.ed.gov/ipeds/cipcode/Default.aspx?y=55>.

² "Proposed Beginning Term" refers to first term after Regent approval that students may declare this program.

Utah System of Higher Education
Program Description - Abbreviated Template

Section I: The Request

University of Utah requests approval to offer the following Certificate of Proficiency: Quantitative Research Analytics in the Social Sciences effective Fall 2018. This program was approved by the institutional Board of Trustees on .

Section II: Program Proposal/Needs Assessment

Program Description/Rationale

Present a brief program description. Describe the institutional procedures used to arrive at a decision to offer the program. Briefly indicate why such a program should be initiated. State how the institution and the USHE benefit by offering the proposed program. Provide evidence of student interest and demand that supports potential program enrollment.

In an increasingly data-rich world, many sectors of the job market are seeking and will benefit from people who grasp how to make human meaning from data using basic quantitative skills. The College of Social and Behavioral Sciences is uniquely poised to emphasize data analytic skills in an interdisciplinary social science context. The social and behavioral sciences are accustomed to working in contexts where meaningful data are difficult to collect and interpret. As a consequence, social scientists are often required to develop expertise in a multitude of skills --- different research methodologies, statistical skills, and communication skills. This combination of skills allows social scientists to excel at thinking through ways to collect meaningful data, implementing collections of data, preparing data for analysis, calculating descriptive and inferential statistics, and communicating results in a meaningful and accessible manner.

Students in traditional College of Social and Behavioral Science Majors typically develop these skills to some extent. This certificate will provide a structure to acquire more breadth and depth in research skills in an interdisciplinary context, enhancing the foundation provided by individual majors within the college.

Procedures/Process of Faculty Consultation

All departments in CSBS were contacted, and 1-2 representative in each were identified. Two extended meetings were conducted with a majority of representatives present. The first meeting evaluated whether a certificate related to quantitative methods would have labor-market appeal for the majors in each of the CSBS departments. The second meeting focused on developing the educational objectives and course structure for the certificate. Special attention was paid to ensuring that the present certificate did not significantly overlap with existing certificates, such as the quantitative certificate in Economics.

A proposal was drafted based on the contents of these meetings, and circulated to all representatives and CSBS department chairs for comments. The revised proposal was provided to a market research firm to elicit further feedback regarding employer demand. As the market demand report was largely in line with the labor-market needs anticipated by the CSBS faculty, no further large revisions were made. The proposal and market report were circulated to all CSBS departments for consideration of support, and also sent to the Dean and Associate Dean of Undergraduate Studies of CSBS for commentary which was incorporated in a final revision.

Representative and department chairs who participated in the development of this proposal:

Anthropology: Leslie Knapp, Adrian Bell, Brian Coddington
Economics: Norman Waitzman, Tom Maloney
Family and Consumer Studies: Lori Kowaleski-Jones, Nick Wolfinger
Geography: Andrea Brunelle, Tim Edgar, Simon C. Brewer
Political Science: Mark Button, Matt Burbank

Psychology: Lisa Aspinwall, Monisha Pasupathi, Pascal Deboeck
Sociology: Ming Wen, Tom Quinn, Daniel Adkins

Educational Objectives

This certificate is aimed at providing students a set of skills that will make them valuable in a multitude of contexts where data and evidence-based decisions are made. The skills are based on promoting understanding as to how data can be collected, how to describe and make inferences from data, and expressing the implications of data to other individuals. These skills are: 1) use of descriptive and inferential statistics, 2) familiarity with diverse approaches to data collection, 3) experience with one or more statistical programs, and 4) the capacity to effectively and clearly communicate results of data analysis.

The educational objectives of this certificate revolve around competence in three primary areas: skills in implementing statistical analyses, skills in research methodology, and skills in communicating research findings.

1) Introductory Statistics: Students will receive an introduction to statistics, including descriptive statistics and inferential statistics through simple linear regression. Students will gain knowledge and practice in applying methods for describing data, and making simple inferences.

2) Research Methods: Students will learn about the application and interpretation of methodologies for conducting research in different social science fields. Although students regularly get exposure to research methods in their home departments (e.g., experimental methods), this certificate will require students to learn about alternative methods (e.g., experimental methods AND survey methods). This requirement will serve to broaden students' ability to construct and implement different research designs from a variety of social and behavioral sciences.

3) Introductory Programming Skills: Students will gain exposure to at least one common statistical package/language. This will provide necessary skills for organizing and analyzing data. Given disciplinary variability, it is expected that students will meet this objective with various statistical packages/languages, but the statistical package/language should be one with broad utility (i.e., not highly specialized or useful for only one type of analysis).

4) Expertise: Beyond minimum requirements above, students will be required to build additional depth in statistics, methodology, and programming by completing additional electives in these areas.

5) Communication: The statistical, methodology and programming educational objectives are complemented with a requirement for students to gain additional skills in written or oral communication of technical and/or scientific material. It is expected that courses meeting this objective will require one or more significant written works and/or oral presentations.

6) Integrative Capstone: Students will be expected to participate in an experience or produce a product that requires them to integrate across the education objectives of statistics, methodology, programming, and communication. This experience will serve as the capstone to this certificate.

Learning Outcomes and Assessment

The program has three broad learning outcomes: 1) skills in implementing statistical analyses; 2) skills in research methodology; and 3) skills in communicating research findings.

These learning outcomes will be assessed by a yearly review of the capstone projects. Assuming the projections about program size are correct (8 students per year), the advisory board and program director will review capstone projects once per year for all students in the certificate. Capstone project requirements mean that students must demonstrate the three key skills in the context of the project, and thus the quality of student projects can provide key insight about program effectiveness. The review of capstone projects will involve an assessment of the demonstrated skill level in statistical analysis, methodological knowledge, and communication of findings. The capstone review will also allow insight about areas where the program is not sufficient or where requirements need

to be adjusted to promote stronger skills.

Labor Market Demand

Provide local, state, and/or national labor market data that speak to the need for this program. Occupational demand, wage, and number of annual openings information may be found at sources such as Utah DWS Occupation Information Data Viewer (jobs.utah.gov/jsp/ui/utalmis/gotoOccinfo.do) and the Occupation Outlook Handbook (www.bls.gov/oco).

Decades ago, students could demonstrate skills attractive to employers through familiarity with a basic (by today's standards) set of computer skills --- word processing, spreadsheets, typing. Today, the world is inundated with data, but despite significant demands, the requisite skills for collecting, analyzing, and describing data are relatively uncommon. Some high-end jobs require master's level (and higher) skills in statistics, database management, or 'big data.' Far more common are numerous small businesses, local communities, human resource departments, policy institutes, non-profit organizations, and other institutions where data are available, or could be collected, to help to inform decision making. Based on a review of market demand, individuals with a social science background and expertise in statistical software are in high demand in the region (Arizona, California, Colorado, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming). The regional demand for quantitatively-skilled social science professionals, with bachelor's level training, has increased 15% from 2013 to 2017. These positions and the associated market analysis were focused on bachelor's-level social science professionals, not on positions requiring high-end skills in statistics and programming more appropriate to master's or doctoral level work.

See also: EAB MARKET RESEARCH BRIEF: Market Demand for a Quantitative Analysis in Social Sciences Certificate Program, Analysis of Program Characteristics and Regional Employer Demand

This proposal will help the University of Utah meet the Governor's call that 66% of Utahns will have a post secondary degree or certificate by 2020. The overarching goal of 66% by 2020 is to improve the qualifications of Utahns for the needs of employers, by promoting higher education. Demand for bachelor's level analyst positions is steady in Utah and growing regionally. The proposed certificate provides University of Utah students in the College of Social and Behavioral Sciences with specific skills in data analysis, interpretation, and reporting. Graduates who possess the combination of social science expertise and quantitative/data expertise have unique capacities to address many of the needs of both the private and public sector in the coming decades.

Consistency with Institutional Mission/Impact on Other USHE Institutions

Explain how the program is consistent with the institution's Regents-approved mission, roles, and goals. Institutional mission and roles may be found at higheredutah.org/policies/policyr312/. Indicate if the program will be delivered outside of designated service area; provide justification. Service areas are defined in higheredutah.org/policies/policyr315/.

The emphasis of the certificate program on research skills at the advanced undergraduate level is consistent with the mission of a doctorate granting university in the state of Utah, as we prepare undergraduates to be able to use research methods and data analytic skills in ways that "engage local and global communities to promote education, health, and quality of life."

Impact on other USHE programs is anticipated to be minor, particularly as the proposed program targets students majoring in CSBS at the University of Utah. Further, at present, no USHE bachelor's degree granting institution offers a comparable certificate program in combination with social science majors. The closest comparable (and potentially competing program) is located at Utah Valley University, which offers a certificate program in database administration and data warehousing. That program, however, contrasts with our proposed program in emphasizing database management and big-data, rather than the research methods and social science components we emphasize. While "big data" is one option for students pursuing our certificate, database administration is not one of the primary careers for which our certificate is intended. It is possible that some students pursuing the certificate may subsequently choose to pursue further training in quantitative methods, and such students might consider the Utah State University masters program in quantitative psychology, as well as a variety of University of Utah graduate programs.

Finances

What costs or savings are anticipated in implementing the proposed program? If new funds are required, indicate expected sources of funds. Describe any budgetary impact on other programs or units within the institution.

No additional costs are required at this time in the form of additional faculty or courses. Should there be significant and rising demand for the certificate training, there could be a need for additional resources to staff the needed spaces in highly subscribed courses.

Required Resources:

I) College Level Advising – see above. The ease of incorporating the certificate program into existing advising resources can be seen as one of the benefits of a collaborative advising model. Some explicit training for CSBS advisors may be required to ensure that all advisors have a sense of the certificate requirements and how they are fulfilled.

As an interdisciplinary social science certificate, the certificate would be housed in and administered through the College of Social and Behavioral Sciences. Because CSBS employs a collaborative advising model, advisors in the college are well-equipped to advise students on progress within individual majors and also across the other requirements for the certificate. Advisors will also play a role in ensuring that students select appropriate capstone experiences. Because the majority of the courses available for the certificate are regularly and frequently offered within CSBS as parts of CSBS majors, advising staff are already familiar with most of the offered classes. However, some explicit training for CSBS advisors may be required to ensure that all advisors have a sense of the certificate requirements and how they are fulfilled. A specific person will be identified by CSBS administration and the certificate program director as an advising specialist for this certificate, so as to provide a specific person for other advisors to consult. This advisor, in conjunction with the program director, will set up procedures to track students who are completing the certificate, including the application process.

II) College/Department Level Internship Program: This certificate requires a capstone experience. While in some departments this may take the form of an honor's thesis or other experience, the college-level internship program provides a capstone that would be particularly relevant for this certificate and would allow for a capstone for all students even if a department level capstone is not available.

III) College Level Administration: Evaluation of whether capstone experiences meet the educational goals of this certificate is required. This will consist of a form to be completed by the individual administering the capstone experience --- thesis/honors thesis advisor, internship coordinator, course instructor, etc. The college, through a primary advisor or the program director, will need to administer this form and collect materials supporting completion of the certificate.

IV) Assessment of certificate outcomes, necessary to inform future changes and development of the certificate, require post-graduation tracking of students. The program director and lead advisor will make efforts to incorporate these assessments into ongoing University initiatives where possible, such as initiatives from career services like their "first-destination" survey.

V) A program director will be needed to coordinate collaboration across CSBS, including departmental faculty, academic advisors, and career management personnel. At other institutions with similar undergraduate certificates, this position is typically filled by a faculty member with expertise in quantitative analyses, from one of the participating departments¹. The program directors will be appointed by CSBS administration for a term of 3 years. Responsibilities of the program director include assessment of program effectiveness, deciding on student petitions to count courses not listed in the certificate (e.g., some sections of FCS 2400, POLS 5180 for communication requirement), and overseeing revisions to courses included in the certificate. In complex cases, the program director can consult the advisory board (see next) to make determinations about any changes or petitions. Annual cohorts for related certificate programs report "modest but constant enrollment, with an average cohort size of eight students." Given the time required to administer this certificate, in relation to anticipated enrollment, it is recommended that program directors receive credit for 1 course at the conclusion of a 3-year term; should the

certificate grow substantially beyond the modest cohorts described at other universities, methods to support the workload of the program director would need to be reevaluated. P

VI) A certificate advisory board (composed of three faculty from other CSBS departments) will be appointed to advise the program director about course additions and deletions and student exception petitions. This board can be composed of a subset of members of the college curriculum committee or can be independently appointed, and should involve at least three individuals from three different CSBS departments. Departments can request additions or removals of courses from the certificate program on an annual basis, and these would be reviewed by the program director and board for approval.

VII) Ongoing statistical software support from the College of Social and Behavioral Sciences is required though college computing labs and licenses.

VIII) Parts of this certificate could be made available to online students. In addition to the resource typically required for online education, this certificate may require additional resources with respect to statistical licensing for online students.

Section III: Curriculum

Program Curriculum

List all courses, including new courses, to be offered in the proposed program by prefix, number, title, and credit hours (or credit equivalences). Indicate new courses with an X in the appropriate columns. The total number of credit hours should reflect the number of credits required to receive the award. **For NEW Emphases, skip to emphases tables below.**

For variable credits, please enter the minimum value in the table below for credit hours. To explain variable credit in detail as well as any additional information, use the narrative box below.

Course Number	NEW Course	Course Title	Credit Hours
General Education Courses (list specific courses if recommended for this program on Degree Map)			
General Education Credit Hour Sub-Total			
Required Courses			
Various		Probability and Introductory Statistics (See Program Curriculum Narrative)	3
Various		Research Methodology (See Program Curriculum Narrative)	6
Various		Implementing Statistical Analyses (See Program Curriculum Narrative)	3
Various		Additional Expertise (See Program Curriculum Narrative)	6
Various		Communication (See Program Curriculum Narrative)	3
Various		Capstone (See Program Curriculum Narrative)	3
Add Another Required Course			
Required Course Credit Hour Sub-Total			24
Elective Courses			
Add Another Elective Course			
Elective Credit Hour Sub-Total			
Core Curriculum Credit Hour Sub-Total			24

Propose a NEW Emphasis to an existing Regent approved program

Program Curriculum Narrative

Describe any variable credits. You may also include additional curriculum information, as needed.

This certificate requires 8 courses (minimum 24 credits) as described below. Students must complete requirements in each of six different components, matching the educational objectives. It is anticipated that the degree requirements of all departments in the College of Social and Behavioral Sciences will partially meet the requirements for this certificate. At least 9 credit hours outside the student's major are required to complete the certificate. It is recommended that the college require a minimum GPA in either all coursework or specifically certificate coursework as a condition for certificate completion.

The *Appendix of Course Descriptions* includes course descriptions and prerequisites.

1) Probability and Introductory Statistics (1 course required): These courses cover foundational topics, including: basics of probability, descriptive statistics, and introductory inferential statistics (t-tests, linear regression).

ANTH 5230: Introduction to Statistical Thinking in Anthropology
ECON 3640: Probability and Statistical Inference for Economists
FCS 3210: Statistics in Family and Consumer Studies
GEOG 3020: Geographical Analysis
POLS 5001: Quantitative Analysis in Political Science
PSY 3000: Statistical Methods in Psychology
SOC 3112: Social Statistics
SOC 6120: Statistics I

2) Research Methodology (2 courses required): Methodology courses are focused on strategies and techniques for collecting valid data. These courses are grouped into four different categories, based on the overlap in content between courses. Students are required to take two courses, drawn from two different categories, to ensure methodological breadth.

A) Experimental designs with consideration of reliability/validity
PSY 3010: Research Methods in Psychology
FCS 3200: Research Methods in Family and Consumer Studies
POLS 3001: Political Analysis
SOC 3111: Research Methods
SOC 3673: Social Epidemiology

B) Demographic/Survey Methods
FCS 5700: Analyzing Community Growth: An Evidence-based Approach
FCS 5120: Demographic Methods

C) Geospatial analyses
GEOG 3140 Intro GIS
GEOG 3170/5170: Satellites, Lasers and Compasses: Field Methods for Geographic Data
GEOG 5150: Spatial Data Design
GEOG 5190: GIS for Environmental and Public Health

D) Field work, Interviewing, Observation
ANTH 4169: Ethnographic Methods

3) Implementing Statistical Analyses (1 course required): These courses require a substantial proportion of time spent on developing programming skills in one or more common programs for data analysis (R, SAS, Stata, SPSS, etc.). Minimum of approximately 1/3 emphasis on software/programming. Students are encouraged to consider

completing more than one course emphasizing the application of statistical software, employers frequently list skills in SAS/SPSS/R as desirable.

ECON 4650: Principles of Econometrics
FCS 5120: Demographic Methods
GEOG 1180: Introduction to Geo-Programming
GEOG 5180: Geoprocessing with Python
GEOG 5680: Introduction to R Programming
STAT 5003: Survey of Statistical Computer Packages

4) **Additional Expertise** (2 courses required): These courses are primarily focused on the development of statistical skills, research methodology skills, and/or programming skills.

ANTH 5485: Graphical Data Analysis.
ANTH 5850: Quantitative Analysis of Archaeological Data.
ANTH 4962/5962: Spatial Analysis in Anthropology.
ANTH 4250: Spatial Analysis.
ANTH 5221: Human Evolutionary Genetics
ANTH 4351: Anthropological Demography
COMP 5360: Introduction to Data Science
ECON 4650: Principles of Econometrics
ECON 4660 & 4670: Statistical Analysis for Economics
GEOG 5020: Advanced Spatial Analysis
GEOG 3140: Introduction to Geographic Information Systems (GIS).
GEOG 5140: Methods in Geographic Information Systems.
GEOG 5160: Spatial Modeling with GIS.
GEOG 5150: Spatial Data Design for GIS.
GEOG 5165: Web GIS.
POLS 3002: Quantitative Approaches to International Relations
PSY 5500: Quantitative Methods:
PSY 5510: Quantitative Methods II:
SOC 3650: Population and Society

5) **Communication** (1 course required): These courses contribute to the written or oral expression of technical/scientific material. Courses are required to include a significant writing or oral presentation related to the results of a data collection and/or analysis. Courses with a CW designation do not automatically meet this requirement, but must also include a substantial exercise in communicating about data. The course will typically have a CW designation; courses without this designation can meet this requirement if there is a substantial writing/presentation requirement that is consistent across all offerings of the course.

PSY 3010: Research Methods in Psychology
WRTG 3012: Writing in the Social Sciences
WRTG 3014: Writing in the Sciences
WRTG 3015: Professional/Technical Writing

6) **Capstone** (1 course required): Students are required to complete a capstone experience which shows the integration of statistical methods, research methodology, programming skills, and communication skills. The administrator of the course is required to endorse a form indicating whether the capstone selected by the student meets the capstone requirements.

Capstone Requirements:

1) Does the capstone require a substantial application of descriptive statistics (e.g., central tendency, such as means, variances, correlations, histograms, density plots), or an application of inferential statistics (e.g., t-test, regression)?

- 2) Does the capstone require the application of knowledge about social science research methodology either through the use of existing data or the collection of new data.
- 3) Does the capstone demonstrate knowledge of statistical packages/languages to analyze data?
- 4) Does the capstone communicate the results of data analysis either in a document or a presentation?

Examples of Possible Capstone Experiences:

- I) Honors Thesis where the student applies descriptive/inferential statistics, research methodology from one or more methodology courses, and produces a written paper of acceptable quality.
- II) CSBS internship course or other departmental equivalents requiring the summarizing and presentation of data.
- III) Faculty-led research projects and/or independent study where student produces a product (e.g., written report, presents a poster at a research conference or professional meeting) based on analyzing results from a project they have helped implement.
- IV) Enrollment for independent study credits with funding via an Undergraduate Research Opportunities Program (UROP). Similar to an independent study, students would be required to produce a product (e.g., written report, presents a poster at a research competition) based on analyzing results from a project they have helped implement.

Degree Map

Degree maps pertain to undergraduate programs ONLY. Provide a degree map for proposed program. Degree Maps were approved by the State Board of Regents on July 17, 2014 as a degree completion measure. Degree maps or graduation plans are a suggested semester-by-semester class schedule that includes prefix, number, title, and semester hours. For more details see <http://higheredutah.org/pdf/agendas/201407/TAB%20A%202014-7-18.pdf> (Item #3).

Please cut-and-paste the degree map or manually enter the degree map in the table below

DEGREE MAP FOR SOCIOLOGY BA/BS WITH CERTIFICATE

Year One

Fall Semester (16) Spring Semester (15)

Class Requirement Class Requirement

SOC 1010: Intro to Sociology (4) Sociology Required Course HIST 1700: American Civilization (3) AI, General Education

MATH 1050: College Algebra (4) QA, General Education WRTG 2010: Intermediate Writing (3) WR2, General Education

Humanities Course (3) HF, General Education Humanities Course (3) HF, General Education

Fine Arts Course (3) FF, General Education Fine Arts Course (3) FF, General Education

SOC 2015: Doing Sociology (2) Sociology Required Course Science Course (3) SF, General Education

Year Two

Fall Semester (15) Spring Semester (15)

Class Requirement Class Requirement

SOC 3112: Social Statistics (3) Sociology Required Course & Probability and Introductory Statistics Certificate Component

SOC 3111: Research Methods (3) Sociology Required Course and Research Methodology Certificate Component

Science Course (3) SF or AS General Education Sociology Elective (3) Sociology Requirement

Sociology Program Area (3) Sociology Required Area, preferably a DV general education course cross-listed Sociology

Program Area (3) Sociology Required Area

Sociology Program Area (3) Sociology Required Area Sociology Elective (3) Sociology Requirement

GEOG 1180: Introduction to Geo-Programming (3) Skills Implementing Analyses Certificate Component SOC 3950:

Independent Research (3) Sociology Elective and Hours towards Graduation

Year Three

Fall Semester (16) Spring Semester (16)

Class Requirement Class Requirement

SOC 3650: Population and Society (3) Additional Expertise Certificate Component, IR, General Education and Sociology

Elective FCS 5700 (3): Analyzing Community Growth: An Evidence-based Approach Research Methodology Certificate Component

SOC 3140: Social Theory (3) Sociology Required Course WRTG 3012: Writing in the Social Sciences (3) Communication Certificate Component

SOC 3993: Sociology Internship (4) Credit Hours towards Graduation SOC 3993: Sociology Internship (4) Credit Hours towards Graduation

Elective (3) Hours for Graduation (in consult with academic advisor for career goals) Elective (3) Hours for Graduation (in consult with academic advisor for career goals)

Elective (3) Hours for Graduation (in consult with academic advisor for career goals) Elective (3) Hours for Graduation (in consult with academic advisor for career goals)

Year Four

Fall Semester (16) Spring Semester (13)

Class Requirement Class Requirement

SOC 3950: Independent Study (3) Capstone Experience SOC 3950: Independent Study (3) Capstone Experience
 GEOG 5140: Methods in Geographic Information Systems (4) Additional Expertise Certificate Component Sociology Elective
 (3) Sociology Requirement
 Elective (3) Hours for Graduation (in consult with academic advisor for career goals) Elective (3) Hours for Graduation (in
 consult with academic advisor for career goals)
 Elective (3) Hours for Graduation (in consult with academic advisor for career goals) Elective (4) Hours for Graduation (in
 consult with academic advisor for career goals)
 Elective (3) Hours for Graduation (in consult with academic advisor for career goals)

Total Hours (Upper-division): 122 (85)
 Total Sociology Hours (Upper-division): 53 (47)
 Total Certificate Hours: 28

DEGREE MAP FOR HONORS PSYCHOLOGY BA/BS WITH CERTIFICATE

Year One

Fall Semester (17) Spring Semester (15)
 Class Requirement Class Requirement
 PSY 1011: Honors General Psychology (4) Psychology Required Course and Honors Elective HIST 1700: American
 Civilization (3) AI, General Education
 MATH 1050: College Algebra (4) QA, General Education HONOR 2211: Honors Writing (3) WR2, General Education, Honors
 Core
 Intellectual Traditions (3) HF, General Education, Honors Core Intellectual Traditions (3) HF, General Education, Honors Core
 Fine Arts Course (3) FF, General Education Fine Arts Course (3) FF, General Education
 PSY 2010: Psychology as a Science and Profession (3) Psychology Required Course Science Course (3) SF, General
 Education

Year Two

Fall Semester (16) Spring Semester (16)
 Class Requirement Class Requirement
 PSY 3000: Statistical Methods in Psychology (4) Psychology Required Course & Probability and Introductory Statistics
 Certificate Component PSY 3010: Research Methods in Psychology (4) Psychology Required Course, Research Methodology,
 and Communication Certificate Component
 Honors Science (3) SF or AS General Education, Honors Core SOC 3650: Population and Society (3) IR General Education
 and Additional Expertise Certificate Component
 PSY Social Core (3) Psychology Required Area PSY Cognitive Core (3) Psychology Core Area
 PSY Developmental Core (3) Psychology Required Area PSY 4455: Intergroup Relations (3) DV General Education and
 Psychology Honors Elective
 PSY 480*: Psychology Research (3) Psychology Honors Requirement PSY 480*: Psychology Research (3) Psychology
 Honors Requirement

Year Three

Fall Semester (14) Spring Semester (15)
 Class Requirement Class Requirement
 PSY 5250: Applied Statistics (3) Psychology Honors Elective and Pre-requisite to FCS 5120 PSY Behavior Neuroscience Core
 (3) Psychology Core Area
 ANTH 4169: Ethnographic Methods (3) Research Methodology Certificate Component PSY 480*: Psychology Research (3)
 Psychology Honors Requirement
 PSY 480*: Psychology Research (3) Psychology Honors Requirement FCS 5120: Demographic Methods (3) Skills
 Implementing Statistical Analyses Certificate Component
 Elective (3) Hours for Graduation (in consult with academic advisor for career goals) Elective (3) Hours for Graduation (in
 consult with academic advisor for career goals)

PSY 4890: Internship (2) Hours for Graduation (in consult with academic advisor for career goals) Elective (3) Hours for Graduation (in consult with academic advisor for career goals)

Year Four

Fall Semester (16) Spring Semester (13)

Class Requirement Class Requirement

PSY 5500: Quantitative Methods I (4) Additional Expertise Certificate Component PSY 5510: Quantitative Methods II (4) Elective for Graduation, Additional Certificate Component (not necessarily needed)

PSY 4998: Honors Thesis Part I (3) Capstone Experience for Certificate PSY 4999: Honors Thesis Part II (3) Capstone Experience for Certificate

Elective (3) Hours for Graduation (in consult with academic advisor for career goals) Elective (3) Hours for Graduation (in consult with academic advisor for career goals)

Elective (3) Hours for Graduation (in consult with academic advisor for career goals) Elective (3) Hours for Graduation (in consult with academic advisor for career goals)

Elective (3) Hours for Graduation (in consult with academic advisor for career goals)

Total Hours (Upper-division): 122 (66)

Total Psychology Hours (Upper-division): 61 (54)

Total Certificate Hours: 31



December 8, 2017

To Whom it May Concern,

I write to lend my endorsement to the proposed Quantitative Research undergraduate certificate. After careful consideration, I regard this as a distinct enhancement to the undergraduate program which does not have significant overlap with other quantitative programs currently in place.

Sincerely,

A handwritten signature in black ink, which appears to read 'Norman J. Waitzman'.

Norman J. Waitzman, PhD
Professor and Chair, Economics
University of Utah



December 11, 2017

To Whom It May Concern:


I am writing to offer my support for the proposed Undergraduate Certificate in Quantitative Research Analytics in the Social Sciences at the University of Utah. Both Simon Brewer and Tim Edgar, two of my faculty, have been involved in the development of this certificate from early in its conception. As the chair of the Geography Department, I have reviewed the certificate proposal. I find the certificate to be well conceived, believe it makes good use of CSBS skillsets, and represents a truly interdepartmental and interdisciplinary collaboration.

More importantly, this certificate will provide students an avenue for developing a demonstrable set of skills that will be valuable on the job market. Data literacy skills are important to many jobs that students may enter with a degree in Geography. The combination of statistical, research methodology and programming skills will provide students a foundation in data literacy essential for jobs across the varied jobs in Geography. I'm glad to see that communication of results is a component of the certificate.

The availability of this certificate would be a welcome addition to my department. Our department is committed to participating in this new certificate. We will continue to offer relevant courses in our department on a regular basis, and may introduce new courses, to aid the students in completing their degree in a timely manner.

Again, I offer my full support for the Undergraduate Certificate in Quantitative Research Analytics, and look forward to working with the program.

Sincerely,


Professor and Chair
Geography Department

Department of Geography
332 S 1400 E, Rm. 217
Salt Lake City, Utah 84112
(801) 581-8218
FAX (801) 581-8219

Department of Political Science ~ Bldg. 73, Room 223 ~ 332 S 1400 E ~ Salt Lake City, UT 84112 ~ 801-581-7031

December 11, 2017

To: Cathleen Zick
Associate Dean and Chair, CSBS Curriculum Committee

From: Mark Button
Chair, Department of Political Science

RE: Proposed Undergraduate Certificate

I write to offer my support for the proposed Undergraduate Certificate in Quantitative Research Analytics in the Social Sciences at the University of Utah. A member of our department, Matthew Burbank, has been involved in the development of this certificate from early in its conception. As the chair of the Department of Political Science, I have reviewed the certificate proposal and I find it to be clearly interdisciplinary and well-grounded in social science methods and approaches to quantitative analysis.

Most importantly, this certificate will provide students an avenue for developing a demonstrable set of skills that will be valuable on the job market. Data literacy skills are important to many jobs that students in Political Science may seek. The combination of statistical, research methods, and programming skills will provide students a foundation in data literacy essential for jobs such as policy or data analysts for public, private, and nonprofit organizations. For positions such as these, the capacity to clearly and effectively communicate results from data analyses, which is promoted by completion of this certificate, is extremely important.

The availability of this certificate would be a welcome addition for my department. Our department is committed to participating in this certificate program and to encourage our students to consider completing this certificate as a supplement to their bachelors degree in Political Science. We are currently teaching the Political Science courses included in this certificate regularly and intend to continue to do so to aid the students in completing their degree in a timely manner.

On behalf of the Department of Political Science, I offer my full support for the Undergraduate Certificate in Quantitative Research Analytics, and look forward to working with the program.



December 8, 2017

Dean Cynthia Berg
College of Social and Behavioral Science
CAMPUS

Dear Dean Berg and Members of Curriculum Committees:

I am writing to offer my enthusiastic support for the proposed Undergraduate Certificate in Quantitative Research Analytics in the Social Sciences at the University of Utah. Three members of our department, Monisha Pasupathi, Pascal Deboeck, and to a much lesser extent myself, have been involved in the development of this certificate from early in its conception. As the chair for Psychology, I have reviewed the certificate proposal, and we also discussed the proposal at our December 7 faculty meeting. We find the certificate to be well conceived, believe it makes excellent use of CSBS resources, and represents a truly interdepartmental and interdisciplinary collaboration.

As a faculty, we believe that this certificate is both timely and attractive – it will provide students an accessible mechanism for developing a demonstrable set of skills that will be valuable on the job market. Data literacy skills are important to many jobs that students may enter with a degree in psychology. The combination of statistical, research methodology and programming skills will provide students a foundation in data literacy essential for jobs in industry, government, health services, and advocacy. Additionally, the skills to effectively and clearly communicate results from data analyses, which are also promoted in this certificate, are highly desirable.

The availability of this certificate would be a welcome addition to my department, and we are committed to participating. We will continue to offer relevant courses in our department on a regular basis, and may introduce new courses to aid the students in completing their degree in a timely manner. We believe there may also be significant synergies with other programs, such as our popular Human Factors Certificate program.

Again, I offer my full support for the Undergraduate Certificate in Quantitative Research Analytics, and look forward to working with the program.

Sincerely,

A handwritten signature in black ink, appearing to read 'Lisa'.

Lisa G. Aspinwall, PhD
Professor and Chair

Department of Psychology
380 S. 1530 E. Rm 502
Salt Lake City, Utah 84112
p: (801) 581-6124 | f: (801) 581-5841



December 5, 2017

To Whom It May Concern:

I am writing to offer my enthusiastic support for the proposed Undergraduate Certificate in Quantitative Research Analytics in the Social Sciences at the University of Utah. Two members of our department, Tom Quinn and Daniel Adkins, have been involved in the development of this certificate from early in its conception. As the chair for the Department of Sociology, I have reviewed the certificate proposal. I find the certificate to be well conceived and believe it makes good use of CSBS skillsets and represents a truly interdepartmental and interdisciplinary collaboration.

More importantly, this certificate will provide students an avenue for developing a demonstrable set of skills that will be valuable on the job market. Data literacy skills are important to many jobs that students may enter with a degree in the Department of Sociology. The combining of statistics, research methodology and programming skills will provide students a foundation in data literacy essential for jobs such as **data analyst in various organizations**. Naturally, the capacity to effectively and clearly communicate results from data analyses, which are also promoted in this certificate, is very desirable.

The availability of this certificate would be a welcome addition to my department. Our department is committed to participating in this exciting new certificate. We will continue to offer relevant courses in our department on a regular basis, and may introduce new courses, to aid the students in completing their degree in a timely manner.

Again, I offer my full support for the Undergraduate Certificate in Quantitative Research Analytics, and look forward to working with the program.

Sincerely,

Ming Wen
Professor & Chair

From: Adrian Bell adrian.bell@anthro.utah.edu
Subject: Re: UG Certificate on Quantitative Methodology

Date: December 29, 2017 at 12:13 PM

To: PASCAL R DEBOECK pascal.deboeck@psych.utah.edu

Cc: LESLIE ANN KNAPP leslie.knapp@anthro.utah.edu, Monisha Pasupathi monisha.pasupathi@psych.utah.edu, Brian Coddington brian.coddington@anthro.utah.edu

AB

Pascal, I believe we are all on board here.

Best,
Adrian

Adrian Viliami Bell
Department of Anthropology
University of Utah

On Tue, Dec 19, 2017 at 11:00 AM, PASCAL R DEBOECK <pascal.deboeck@psych.utah.edu> wrote:
Hi Leslie, Adrian and Brian,

I just wanted to touch base to check whether Anthropology plans to provide a letter supporting the UG Certificate on Quantitative Methodology proposal, or whether you would prefer not to do so. Knowing either way would be helpful.

Many thanks,
Pascal

Pascal R. Deboeck, Ph.D.

www.intraindividual.com

University of Utah
Department of Psychology
[380 S 1530 E](#) Beh S 502
Salt Lake City, UT 84112



DEPARTMENT OF WRITING & RHETORIC STUDIES

THE UNIVERSITY OF UTAH

255 S. Central Campus Drive | Room 3700 | Salt Lake City, UT 84112
phone 801.581.7090 | fax 801.585.2974

2 January 2018

Dear Colleagues:

I write on behalf of my departmental colleagues to offer enthusiastic support for the proposed Certificate in Quantitative Research Analytics in the Social Sciences. The certificate curriculum lists three courses in Writing & Rhetoric Studies as options for student coursework—namely WRTG 3012 (Writing in the Social Sciences), WRTG 3014 (Writing in the Sciences), and WRTG 3015 (Professional Writing). Based on a University-commissioned market analysis, we understand that the enrollment impact in those courses would be manageable given our interest in sustaining student-instructor ratios appropriate for writing-intensive courses. We also believe that the courses would promote the connections between data analysis and effective communication that are vital to the certificate program's goals. We offer these courses on a highly consistent basis, and we plan to continue their regular scheduling.

My colleagues and I look forward to working with students from the proposed certificate program.

Best regards,

Jay Jordan
Associate Professor and Chair

From: Alexander Lex alex@sci.utah.edu
Subject: Re: new quant in social sciences certificate, big data course
Date: December 11, 2017 at 2:18 PM
To: Monisha Pasupathi monisha.pasupathi@psych.utah.edu
Cc: alex@sci.utah.edu, PASCAL R DEBOECK pascal.deboeck@psych.utah.edu, Braxton Osting osting@math.utah.edu



Hi Monisha,

that sounds great - that's an interesting curriculum. We'd be happy if you list our course. We're actually trying to grow enrollment.

Thanks,

Alex

On Mon, Dec 11, 2017 at 2:14 PM, Monisha Pasupathi <monisha.pasupathi@psych.utah.edu> wrote:

Hi,

My chair forwarded your email about your CS course to me and I also looked at the course website. We've been working to develop a quantitative analysis certificate program aimed at undergraduate majors within the College of Social and Behavioral Sciences.

We would like to list the course in the attached certificate program (the attached is a draft that is being circulated to participating departments, and which will next be reviewed by the CSBS college curriculum committee) – in the 'additional expertise' section. We had not contacted you previously because the course appeared to have several pre-requisites, making it less accessible for our majors, but it appears from the website that the course could be accessible to students pursuing this certificate.

A market demand analysis for this program suggested we would expect 5-8 students per year pursuing the certificate program; so the demand on your course is not likely to be especially large. Please let us know if you are willing to have us list your course. I'd be happy to talk about any concerns or questions as well – I'm best reached at [801-949-1807](tel:801-949-1807).

Best,

Monisha

Monisha Pasupathi, PhD

Professor & Director of Undergraduate Studies

Department of Psychology

University of Utah

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Alexander Lex

<http://alexander-lex.net>

SCI Institute & School of Computing, University of Utah

Visualization Design Lab: <http://vdl.sci.utah.edu>

The Caleydo project: <http://www.caleydo.org>