

THE UNIVERSITY OF NORTH CAROLINA AT ASHEVILLE  
FACULTY SENATE

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Statement of Faculty Senate Action:

**APC Document 56 (ASSR):**

**Add an interdisciplinary certificate in  
Applied Social Science Research**

**Effective Date: Fall 2019**

**1. Add:** On page 180, new interdisciplinary certificate in Applied Social Science Research:

**Interdisciplinary Certificate in Applied Social Science Research**

Associate Professor Hewitt (Coordinator)

The Interdisciplinary Certificate in Applied Social Science Research facilitates the development of methodological skills applicable to social research in a wide range of settings. Skills include but are not limited to: research design, interviewing, experimental design, ethnography, survey design, coding, program evaluation, inferential statistical analysis, and effective translation of data for a variety of audiences. The certificate also offers explicit opportunities to cultivate ethical, rigorous research collaborations with community partners. Participating students take courses in methodological approaches in at least two disciplines. They will hone multiple methodological skills, learn to apply them in diverse situations, fully realize their value, and develop an ability to articulate that value for a range of community and professional settings. Students majoring in Math, Computer Science, or a social science discipline may be a particularly good fit for the certificate.

The certificate requires a minimum of 12 semester hours and 4 courses selected from the list below, one of which must be SSCI 300. With the approval of the certificate coordinator, other courses may be taken to meet the certificate's requirements. The combination of courses must comply with the guidelines for all interdisciplinary certificates listed above. Students are responsible for completing necessary prerequisites for all courses or for obtaining a waiver from the instructor.

**Courses**

|      |     |   |
|------|-----|---|
| ANTH | 336 | Ethnographic Methods (4)                                |
| CSCI | 183 | Introduction to Programming: Numerical Applications (3) |
| CSCI | 201 | Intro to Object-Oriented Programming (3)                |
| CSCI | 329 | Big Data Analytics (3)                                  |
| ECON | 355 | Open Economy Macroeconomics (3)                         |
| ECON | 365 | Econometrics (3)  |
| HWP  | 310 | Community Health Promotion: Theory and Practice (4)     |
| HWP  | 345 | Research Methods (3)                                    |
| MGMT | 380 | Management Science (4)                                  |
| MGMT | 426 | Strategic Decision Making (2)                           |
| MGMT | 427 | Systemic Decision Making (4)                            |
| MGMT | 428 | Business Analytics (2)                                  |

|      |     |  |
|------|-----|--|
| POLS | 290 | Political Analysis (4)                                   |
| POLS | 337 | ReStorying Community (4)                                 |
| POLS | 396 | Quantitative Reasoning: Telling Stories with Numbers (4) |
| PSYC | 201 | Research Methods I (4)                                   |
| PSYC | 202 | Research Methods II (4)                                  |
| SOC  | 338 | Social Research Methods (4)                              |
| SSCI | 300 | Applied Social Research Workshop (2-4)                   |
| STAT | 185 | Introductory Statistics (4)                              |
| STAT | 321 | Applied Data Analysis (3)                                |
| STAT | 325 | Introduction to Regression Models (3)                    |
| STAT | 326 | Statistics for Experimenters (3)                         |
| STAT | 327 | Applied Multivariate Analysis (3)                        |
| STAT | 329 | Big Data Analytics (3)                                   |

**Impact:** We expect minimal impacts on resources and staffing with the addition of the certificate in Applied Social Science Research. Except for the new SSCI-prefixed cornerstone course, SSCI 300, which has been offered a number of times as a special topics course, the courses that will be included in the certificate are already being taught as permanent catalog courses. While demand for seats in the course list may increase slightly, we expect that the diverse set of options will prevent a significant burden on any single course. While only one faculty member has taught the Applied Social Research Workshop up to this point, two other faculty have indicated their interest to enter the rotation over the next 3-4 years.

The Sociology and Anthropology Department will provide the initial coordinator for the certificate, but the role will rotate among social science faculty contributing courses to the program. The coordinator role need not reside in any particular department. Given that we expect the number of interested students to be meaningful but not unbearably high, we do not anticipate a need for any redistribution of resources. Students wishing to pursue the certificate should simply notify the coordinator. The coordinator will: 1) create and maintain an updated information sheet to share with interested students, 2) be responsible for advertising course options each semester to students and participating faculty, 3) call and facilitate a meeting of participating faculty once per semester and 4) oversee students' application and completion of course requirements for the certificate.

**Rationale:** Many students are attracted to the social sciences because they're interested in understanding the macro and micro level dynamics underpinning social problems, particularly social inequalities. Even students who develop a sound understanding of the social world and social change sometimes experience a profound disconnect when prompted to think about how they'll *use their skills* to help craft solutions or address real-world problems. Likewise, students across disciplines regularly report concerns about how they will apply their skills as they enter the labor market and civil society.

Our existing curricular model in the social sciences is quite strong in terms of theoretical and substantive breadth and depth, multidisciplinary, and faculty-student partnerships, but relatively less strong in terms of cultivating the development and *application* of methodological skills to societal problems such as food insecurity, racial injustice, economic inequality, gender-based violence, as well as to other many real-world situations. In addition to critical thinking and cross-cultural understanding, methodological literacy is a valuable skill for global citizenship. In fact, the ability to produce, analyze, interpret, disseminate, and translate data rigorously and ethically has perhaps never been more important.

This interdisciplinary certificate will offer students an opportunity to learn about and practice multiple methodological approaches in two or more disciplines, thus better equipping them for success in a variety of professional and community settings (e.g., government agencies, non-profit organizations, healthcare, marketing companies). Similar certificates, as well as minors, majors, and even entire university centers focusing on applied social research, methodology, and data analysis have grown rapidly across the country in recent years (examples included later in the document), suggesting a crucial need for these skill sets among students as they prepare for both public and private sectors after college graduation. Moreover, the introduction of this interdisciplinary certificate in the social sciences promises to promote

enhanced conversation, collaboration, and innovation among social science faculty in the future, particularly where community engaged research is concerned. All department chairs in Computer Science, Math, and relevant social science disciplines, as well as multiple faculty in these departments have contributed to the design of the certificate and are strongly supportive. Specifically, contributors included the following faculty: Marietta Cameron (Computer Science); Sam Kaplan, Jimin Lee, and Steve Patch (Math); Marcia Ghidina, Lyndi Hewitt, Heidi Kelley, and John Wood (Sociology and Anthropology); Ameena Batada and Amy Lanou (Health and Wellness); Rob Tatum and Kathleen Lawlor (Economics); Micheal Stratton and Patrick Hester (Management and Accountancy); Ken Betsalel, Linda Cornett, Peter Haschke, and Ashley Moraguez (Political Science); Mark Harvey and Pam Laughon (Psychology).

### **Available Certificate Courses**

Each of the course options was recommended for inclusion in the certificate by the contributing department chair and discussed with the instructor(s) responsible for the courses. All participants listed above then reviewed and approved the list. All courses offer an opportunity to learn methodological skills appropriate for a particular disciplinary context, and/or offer opportunities to practice and develop those skills in an applied setting. The purpose of most of the courses within the certificate program are quite straightforward, given their titles and homes in Math/Statistics or traditional social science departments. However, in the cases of Computer Science and Management we offer additional explanation to clarify the logic for inclusion.

The four courses offered by Management align with the content and spirit of the proposed ASSR certificate. One course is a MGMT major requirement (380 - offered twice per semester) while the others are electives offered as regularly as possible (based on enrollment demand). Dr. Patrick Hester teaches these courses. He's an award-winning scholar in industrial engineering, data modeling, and analytics. We revitalized our offerings in organizational decision science and analytics upon the hiring of Dr. Hester. Overall, the learning outcomes associated with the courses align quite well with the skills proposed in the ASSR program including:

- application of quantitative and qualitative methods in the application of managerial, leadership, group, and organization decision-making
- learning decision making in contexts of bargaining, social dilemmas, resource scarcity, and division
- application of using computer-based modeling software to assess large datasets

The Computer Science programming courses directly offer students collaborative introductory experiences in meticulously analyzing, designing and implementing solutions that discover patterns in data. These courses introduce students to the fundamentals of data acquisition/extraction, data processing including summarization, and data communication. CSCI 329 is a cross listed version of STAT 329 which offers more advanced data analysis techniques which include but not limited to predictive analysis and regression.

The table below outlines all available courses and their prerequisites. Asterisks (\*) indicate prerequisites that are either waived regularly already in practice, or that instructors have explicitly indicated that they are willing to waive for interested students. This essentially renders the courses “by permission of instructor.” Note also that the most common prerequisite is STAT 185, which is already required for majors in nearly all of the disciplines represented. Therefore, in practice, the barriers to course entry are relatively low

**Table 1. Available Courses**

| <b>Course Number</b> | <b>Course Title</b>                                  | <b>Prerequisites</b>             |
|----------------------|--|----------------------------------|
| ANTH 336             | Ethnographic Methods                                 | *ANTH 100; ANTH/SOC 225          |
| CSCI 183             | Introduction to Programming: Numerical Applications  | None                             |
| CSCI 201             | Intro to Object-Oriented Programming                 | CSCI 182, 183, or 185            |
| CSCI 329             | Big Data Analytics                                   | STAT 185 or 225; CSCI 182 or 183 |
| ECON 355             | Open Economy Macroeconomics                          | ECON 101, 102                    |
| ECON 365             | Econometrics   | ECON 101, 102; STAT 185          |
| HWP 310              | Community Health Promotion: Theory and Practice      | *HWP 190                         |
| HWP 345              | Research Methods                                     | HWP 190                          |
| MGMT 380             | Management Science                                   | STAT 185; MGMT 230               |
| MGMT 426             | Strategic Decision Making                            |                                  |
| MGMT 427             | Systemic Decision Making                             | MGMT 380 or by permission        |
| MGMT 428             | Business Analytics                                   | STAT 225 or by permission        |
| POLS 290             | Political Analysis                                   | None                             |
| POLS 337             | ReStorying Community                                 | None                             |
| POLS 396             | Quantitative Reasoning: Telling Stories with Numbers | *POLS 290; STAT 185 or 225       |
| PSYC 201             | Research Methods I                                   | 4 hours in PSYC                  |
| PSYC 202             | Research Methods II                                  | PSYC 201                         |
| SOC 338              | Social Research Methods                              | *SOC 100, 225                    |
| SSCI 300             | Applied Social Research Workshop                     | None                             |
| STAT 185             | Introductory Statistics                              | None                             |
| STAT 321             | Applied Data Analysis                                | STAT 185 or 225                  |
| STAT 326             | Statistics for Experimenters                         | STAT 185 or 225                  |
| STAT 325             | Introduction to Regression Models                    | any STAT                         |
| STAT 327             | Applied Multivariate Analysis                        | any STAT; Math 365               |
| STAT 329             | Big Data Analytics                                   | STAT 185 or 225; CSCI 182 or 183 |

In Table 2, we outline one possible (perhaps likely?) combination of courses in each relevant major whereby students could complete the certificate requirements without encountering “hidden” prerequisites at all. The list of combinations is by no means exhaustive, as there are multiple possible paths to certificate completion. The table simply illustrates efficient possibilities.

Table 2. Example Course Combinations for Certificate Fulfillment

| <b>Major</b>        | <b>Possible Course Combination</b>           |
|---------------------|--|
| Anthropology        | ANTH 336<br>HWP 310<br>POLS 337<br>SSCI 300  |
| Computer Science    | CSCI 201<br>CSCI 329<br>POLS 396<br>SSCI 300 |
| Economics           | ECON 355<br>ECON 365<br>STAT 326<br>SSCI 300 |
| Health and Wellness | HWP310<br>HWP 345<br>ANTH 336<br>SSCI 300    |
| Management          | MGMT 380<br>MGMT 427<br>SOC 338<br>SSCI 300  |
| Political Science   | POLS 290<br>POLS 396<br>STAT 321<br>SSCI 300 |
| Psychology          | PSYC 201<br>PSYC 202<br>HWP 310<br>SSCI 300  |
| Sociology           | SOC 338<br>STAT 185<br>STAT 325<br>SSCI 300  |
| Math                | STAT 321<br>CSCI 329<br>SOC 338<br>SSCI 300  |

## **Programs in Applied Social Research**

East Carolina University: <http://www.ecu.edu/cs-cas/soci/Applied-Social-Research.cfm>

Hunter College: <http://www.hunter.cuny.edu/sociology/graduate/graduate-program-in-applied-social-research>

East Tennessee State University: <https://www.etsu.edu/cas/sociology/asrl/>

SUNY Buffalo: <https://admissions.buffalo.edu/academics/programs/sociology-bama.php>

IU of Pennsylvania: <https://www.iup.edu/sociology/undergrad/sociology-applied-social-research-minor/>