

Post-Masters Certificate in Educational Statistics and Research Methods (EDST) 2018-2019

The University of Arkansas Graduate Certificate program in educational statistics and research methods prepares graduates for conducting applied research in social science, behavioral science, and education-related fields. Completion of the certificate program is designed to strengthen professionals' quantitative research methods skills for the purposes of designing studies, analyzing and interpreting data, and critically evaluating other research studies. The primary learning goals of the EDST certificate program are centered around the identification of statistical procedures, analyses of data, critiquing research studies, and collaborating effectively with others.

An assessment of the effectiveness of the program would include students' ability to:

1. Identify appropriate research designs for research questions
2. Conducting statistical analyses for research hypotheses
3. Understand the strengths, weaknesses, and appropriateness of different statistical procedures
4. Critique statistical analyses completed by others
5. Submit research proposals or manuscripts to professional conferences and journals
6. Complete oral research presentations

In order to assess the effectiveness of the student training in the EDST graduate certificate program this year, we aggregated student data from research projects, professional conference presentations, journal articles, grant submissions, and academic or professional awards.

Assessment Information

Course-Based Data:

The quality of course-based research projects and components of take-home exams provided data for the learning outcomes of identifying appropriate designs, conducting statistical analyses, and identifying strengths, weaknesses, and appropriateness of statistical procedures. Student projects and take-home examinations have been averaged (i.e., their final grades) for coursework and were rated a 4 if they earned a mastery level of 90% or higher on their project, 3 for 80-89%, 2 for 70-79%, 1 for 60-69%, and a 0 for less than 60%. Student projects and take-home examinations ratings are provided for the six courses (see below) completed for the certificate.

There were eight students actively taking classes toward a certificate in educational statistics, completing 13 classes in total with an overall course average of 3.846 (see Table 1). Three students completed the EDST graduate certificate in 2018-2019 academic year with six in progress and one new admission. At least three additional students are finishing the coursework for the EDST certificate in spring 2019 who are not included in these data. The students informed ESRM faculty that they would wait to request admission after they completed all coursework as the graduate school has been "dropping" students from programs if they do not complete a required program course every semester.

Table 1.

Identifying Research Designs, Conducting Statistical Analyses, Evaluation Procedures

Learning Objectives 1, 2, and 3	Average	Minimum	Maximum
Core Statistical Design Courses	3.900	3.00	4.00
Measurement and Psychometrics	3.670	3.00	4.00
Advanced Statistical Designs	--	--	--

Of the three students completing the certificate in 2018-2019, one is a current Ph.D. student in community health promotions, one is a research associate in human nutrition and hospital management at the University of Arkansas, and one is an assistant professor in exercise and sport science at Weber State University.

Active Research:

We have incomplete research data for students in our graduate certificate program, however we know of at least eight publications, 34 regional, national, or international presentations, at least 3 local presentations, 2 book chapter contracts, 4 grants, and 2 scholarship awards for six of the nine students we currently have on our EDST list. These students are commonly some of the more recognized in their other programs (e.g., Ph.D. programs) or job positions. This includes at least two students with doctoral academic fellowships and one who was the outstanding Ph.D. student in his program.

Changes Planned Based on Assessment Findings

Student performance in classes and on skills-based evaluations have been appropriate. These students have also been active in research. No changes to curriculum or research incentives are planned, however with a planned “research merger” occurring between ESRM and some of the HHPR faculty, we anticipate larger participation in our EDST certificate by students in the kinesiology, exercise science, and community health promotions programs. Most of our certificate students are simultaneously completing doctoral degrees, and use the completion of a certificate specializing in a research methodology as a supplement to their training that can give them an edge in the employment market. Thus, they integrate the course completion for the certificate into their programs of study for their doctoral degree and may not take certificate courses every semester. When there is a semester that they do not take a certificate course, their status in the certificate is automatically changed to “discontinued.” This is an issue that has occurred for all of our graduate certificates, and one we are hoping to address in the 2019-2020 academic year. We hope this will increase the number of admissions (prior to their last semester at the university).