



Department of Human Development and Family Science
College of Family and Consumer Sciences

Quantitative Methods in Family and Social Sciences (QMFSS) Certificate Program

The QMFSS certificate program is designed to provide advanced graduate education that prepares doctoral students for employment in top-tier quantitative social and behavioral science research-intensive positions by providing students with cutting edge statistical and methodological knowledge and skills relevant to the study of families and individuals across the life course.

Graduate students who complete this certificate will be able to conduct research using cutting edge quantitative techniques such as structural equation modeling, multilevel modeling, growth curve analysis, dyadic data analysis, and meta-analysis. Increasingly, there is a niche market for scholars with these skills in academic research positions in the social and behavioral sciences at top tier research and academic institutions. In particular, departments in the Social Sciences fields hire new faculty with these analytical skills, especially when these analytical skills are grounded within the disciplines of human development and family science or other social sciences. Our department will offer all of the courses in a cohesive and sequential manner that is specific to family science yet applicable across a number of disciplines.

Students must complete a total of 18 credits (typically 6 classes) from the following list of quantitative courses or other courses approved by QMFSS director.

Foundational courses		Alternatives	Suggested timing
HDFS 6800 / 8800	Research Methods	Comparable research methods course in home department	Fall or spring of year 1
HDFS 7170	Introduction to Applied Statistics in HDFS	Comparable introductory statistics/data analysis course in home department	Fall of year 1
Advanced courses			
HDFS 8730	Structural Equation Modeling		Spring of year 1
HDFS 8840	Multilevel Modeling		Fall of year 2
Specialized courses (select at least two)			
HDFS 8850	Dyadic data analysis		Spring of year 2 (or later)
HDFS 8860	Advanced longitudinal analysis		Spring of year 2 (or later)



HDFS 8870	Meta-analysis		Fall or spring of year 2 (or later)
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This list of courses is intended to give students both a foundation of advanced quantitative methods while also allowing specialization depending on students' research interests. Other courses from other departments can be substituted with permission.

In order to be eligible to enroll in the program, an applicant must be a currently enrolled degree seeking-student in good standing in a doctoral program at UGA. All applicants must seek approval from their major professor must submit a signed form (see below) to that effect. Applicants will be reviewed by the QMFSS director with potential input from QMFSS faculty. Applicants denied admission may reapply as early as the next semester and/or appeal to the steering committee. Retention in the program is dependent upon earning a minimum B grade in all subsequent courses included in the Program Certificate.

Course Descriptions:

HDFS 7170 or a graduate level statistics / data analysis course previously completed:

Introduction to Applied Statistics in Human Development and Family Science - Foundations for statistical reasoning and applications, with an emphasis on the application of developmental and family research. Students will gain understanding of basic statistical concepts and analytical procedures (e.g., descriptive statistics, statistical significance, standard deviation, correlations, t-tests, cross tabulations, analysis of variance, and regression) using R or other statistical software. (3 credit hours, offered every fall)

HDFS 6800/8800 or a graduate level Methods course previously completed: Research Methods – In this course, students will gain an understanding of the foundations of research including the ethical and professional responsibilities of the family researcher and will learn about research strategies relevant to the study of the family. Further, the course will address data collection and interpretation processes. The capstone project in this class is a research proposal with a topic related to family studies, human development or marriage and family therapy. (3 credit hours, offered every spring)

HDFS 8730: Structural Equation Modeling. In this class, students will learn techniques such as multiple regression, factor analysis, logistic regression and Structural Equation Modeling. Specifically, they will learn the appropriate use of these techniques as they apply to the study of family across the life course. Students will also learn to use statistical packages such as R or Mplus. (3 credit hours, offered every spring)

HDFS 8840: Multilevel and Growth Curve Modeling for Family and Social Sciences. In this class, students will learn techniques for conceptualizing, test, and performing analyses with multilevel data (AKA nested, hierarchical data). Special attention will be placed on Growth Curve Analysis. Students will use R and/or Mplus. (3 hours, offered every fall)



HDFS 8850: Categorical and Dyadic Data Analysis and Mixture Modeling for Family and Social Sciences. In this class, students will learn techniques for conducting analyses of data from interdependent dyads (e.g., couples). Students will use R and/or Mplus. (3 hours, offered every spring)

HDFS 8860: Advanced Longitudinal Data Analysis for Family and Social Sciences. In this class, students will learn techniques a variety of approaches to the analysis of change. Topics will include the analysis of panel data, diary data, and longitudinal couple data; models for synchrony and concordance; and additional topics such as latent transition models, and survival mixture models. Students will use R and/or Mplus. (3 hours, offered every other Spring in even years).

HDFS 8870: Meta-Analysis for Family and Social Sciences. In this calls, students will learn about the entire process of conducting meta-analytic review. Topics will include developpeing research questions appropriate for meta-analysis, searching for relevant literature, systematically coding effect sizes and study characteristics, and performing analyses of these meta-analytic data. Students will use R for the analyses. (3 hours, fall and spring semesters)



**Quantitative Methods in Family and Social Sciences (QMFSS)
Certificate Program Application form**

Name: _____

Date: _____

Email Address: _____

CAN: _____

Are you a currently enrolled graduate student in a doctoral program at UGA? ___ Yes ___ No

Department: _____

Major Professor: _____

Expected Date of Graduation: _____

Have you completed HDFS 6800 or a Research Methods course with similar content? ___ Yes ___ No

What grade did you earn in the Research Methods Course? _____

What is course title? When and where did you take the class? (Attach a copy of course syllabus)

Have you completed HDFS 7170: Quantitative Analysis I or graduate-level course with similar content?

___ Yes ___ No What grade did you earn in the Quantitative Analysis course? _____

What is course title? When and where did you take the class? (Attach a copy of course syllabus)

In addition to HDFS 6800 and 7170 (or substitutes), the QMFS Certificate Program requires completing at least four courses in quantitative methods with a minimum B grade .Please provide a provisional plan for completing the following courses:

Course	Planned semester to take
HDFS 8730: Structural Equation Modeling	
HDFS 8840: Multilevel Modeling	
Specialized courses (select at least two)	
HDFS 8850: Dyadic data analysis	
HDFS 8860: Advanced Longitudinal Data Analysis	
HDFS 8870: Meta-analysis	
Quantitative Methods course outside HDFS (specify course)	

Applicant's Signature and Date

Major Professor's Signature and Date

Approved by Program Director and Date