



The University of Georgia

University Council
Athens, Georgia 30602

April 11, 2012

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Dear Colleagues:

The attached proposal to offer a new Graduate Certificate in Quantitative Methods in Family Science (QMFS) was tabled at the March 28, 2012, University Curriculum Committee meeting. The proposal will be an agenda item for the April 18, 2012, Full University Curriculum Committee meeting.

Sincerely,

David E. Shipley, Chair
University Curriculum Committee

cc: Provost Jere W. Morehead
Dr. Laura D. Jolly

**Proposal for Graduate Certificate Program
Quantitative Methods in Family Science (QMFS)**

1. Institution: University of Georgia Date: April 12, 2011
2. School/College: Family and Consumer Sciences
3. Department/Division: Child and Family Development*
4. Level: Graduate
5. Proposed starting date for program: Fall 2012
6. ABSTRACT

The Department of Child and Family Development (CHFD), within the College of Family and Consumer Sciences, proposes a graduate certificate for doctoral students in Quantitative Methods in Family Science (QMFS). Over the past several years there has been a growing interest in and need for the use of multilevel (individual, dyadic, family, community, etc.) and longitudinal quantitative techniques in family sciences. As social/family science data sets become more complex and capable of testing hypotheses related not only to the relationships at a single level but also to the relationships across multiple levels and over the life course, new specific quantitative techniques are required in order to test these important hypotheses. Thus, the goal of the certificate program is 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. The proposed certificate will attract students interested in family-focused scholarship from a variety of disciplines (i.e. foods and nutrition, consumer economics, health promotions and behavior, sociology, education, psychology, family studies, child/human development, etc.). This program will be sufficiently flexible to permit students to tailor the focus of their work to their particular family-focused interest within the field of social and behavioral sciences. The certificate would be completed in conjunction with the Ph.D. degree in CHFD or other, related discipline and would be an emphasis added onto a doctoral degree

Students will complete six courses for a total of 18 semester hours of graduate-level courses to meet the requirements of the Certificate Program. Six credit hours can be substituted with similar coursework from other departments. Specifically, doctoral students in Child and Family Development will be required to take all classes in their home department while students from other departments may take courses equivalent to CHFD 6800: Research Methods and CHFD 6900: Seminar in Quantitative Analysis I in another department. For example, the Department of Statistics offers courses similar in content to CHFD 6900 and would be an appropriate substitutions (STAT 6315 or 6220). The same is true for BIOS 7020 which is offered by the Department of Biostatistics.

****The Department of Child and Family Development is in the process of a name change so approval of the proposed certificate should reflect that the name of the department at the time of implementation will be Human Development and Family Science and the prefix will be HDFS.***

This Certificate Program is necessary because it provides instruction on advanced statistical and methodological skills necessary for the study of families and communities. Graduate students who complete this certificate will be able to conduct research using cutting edge quantitative techniques such as growth curve modeling, latent-trajectory class analysis (growth mixture modeling) multilevel modeling, and dyadic data 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 child and family development/human development and family science are hiring new faculty with these analytical skills, and preferably new faculty who also have their degrees in human development and family science. We 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. We expect that this program will help recruiting higher-level students for the CHFD/HDFS doctoral program and that having the QMFS certification on their transcript will increase their marketability on the job market.

There is an absence of certificates like the one proposed in CHFD/HDFS programs nationwide. Thus, we expect that the establishment of the graduate certificate in Quantitative Methodology in Family Science to attract high quality students to the University of Georgia.

The certificate program can be implemented immediately with existing faculty, courses, and resources of the department. One graduate research assistant will be assigned to help the Program Director implement and coordinate the Certificate Program. Aside from a graduate research assistant provided by the department, which involves a reallocation of current resources, no additional resources are requested. It is expected that the program will be self-sufficient and no additional resources are requested from the University.

The program will be directed by Dr. Kandauda (K.A.S.) Wickrama with assistance from the Steering Committee composed of Dr. Hui-Chin Hsu, Dr. Steven Kogan, Dr. Chalandra Bryant, and Dr. Leslie Gordon Simons. All courses are either currently taught within the Department of Child and Family Development or are courses scheduled to be offered beginning in Fall 2012 by current faculty in the Department. Enrollment is expected to reach 10 graduates per year by the end of the Program's first five years.

When fully implemented, this certificate is expected to be a valuable credential for future family science scholars. Furthermore, this Certificate Program is in line with the long-range goal of the department and college to become a leading family science research department within the nation.

Signatures:



Jay A. Mancini, Halthiwanger Distinguished Professor
Head, Department of Child and Family Development



Linda Kirk Fox, Dean
College of Family and Consumer Sciences

The criteria that proposed new programs are expected to meet in order to be approved and implemented within the University of Georgia are listed below. Please provide sufficient explanation as to how the proposed program satisfies each criterion.

1. The purpose and educational objectives of the program must be clearly stated, and must be consistent with the role, scope, and long-range development plan of the institution.

A. State the purpose and educational objectives of the program and explain how the program complements the role, scope, and long-range development plan of the institution.

The purpose of the certificate program is to (1) establish UGA as a nationally recognized center for the study of quantitative methodologies for studying families across the life course; (2) prepare graduate students for niche market employment opportunities in highly competitive, top tier social and behavioral science research and academic institutions by providing knowledge of the advanced quantitative techniques, and skills needed for research using complex datasets; and (3) provide students with the knowledge and ability to serve in leadership roles in academic institutions or other organizations interested in studying families. This is consistent with the long-range development goal of the department and college to become a leading family science research department in the nation. It is also consistent with the college-wide research goals of the College of Family and Consumer Sciences. In addition, this program complements the goals of the graduate school to enhance graduate education, increase competitiveness, and provide innovative and highly relevant graduate programs to meet the advanced education needs of society . The proposed program represents a response to an increased interest of academia, policy makers, practitioners, and society to study families in a way that addresses the complex individual, familial, and structural additive and multiplicative influences that shape individual and families across the life course. There is no inconsistency in this proposal related to the role, scope, and long-range development plan for the department, college, or university as a whole.

B. Describe the interdisciplinary nature of the proposed program. Which school(s) or college(s) and department(s) will be involved in the development of the program? Describe the expected stage of development for this program within five years.

This certificate will appeal to graduate students who plan to be family-focused scholars and need to learn advanced statistical and methodological techniques to address complex research questions. Although each discipline is unique in its specific focus, most rely on similar quantitative methodologies and can, therefore, benefit from this certificate. All courses will be taught by CHFD faculty and will have a CHFD prefix. Students will be expected to take the required CHFD courses unless substitutions from other departments (up to 6 hours of equivalent master's-level Quantitative Analysis –CHFD 6900- and Research Methodology – CHFD 6800) are approved by the Certificate Program Director. Students from other departments and colleges will be permitted to enroll in the courses and to obtain the certificate upon successful completion of the required courses or their approved substitutions (e.g., STAT 6315, STAT 6220 or BIOS 7020 as substitution for CHFD 6900).

This program will be beneficial for doctoral students in the College of Education (COE), College of Public Health (Public Health), College of Arts and Sciences (Arts & Sciences), and the College of Family and Consumer Sciences (FCS). Within these colleges, numerous social science departments will find this certificate worthwhile. These departments include, but are not limited to, the departments of: Foods and Nutrition (FCS), Educational Psychology and Instructional Technology (COE), Health Promotions and Behavior (Public Health), Housing and Consumer Economics (FCS),

Psychology (Arts & Sciences), Sociology (Arts & Sciences), Child and Family Development (FCS). Graduate Coordinators in the Departments of Sociology and Foods and Nutrition have indicated interest in and support for the proposed certificate. The proposal is endorsed by the Department Head in Statistics.

2. *There must be a demonstrated and well-documented need for the program.*

A. *Explain why this program is necessary.*

This program will provide specific and unique analytical techniques important for family research which are not covered by traditional quantitative courses. This program is necessary because future researchers need the body of knowledge covered in the courses associated with this proposal (e.g., growth curves, multilevel modeling, dyadic data analysis, latent class analysis) in order to analyze complex datasets. We 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. Increasingly, doctoral intensive, research-1 universities seek to fill faculty positions with individuals who have the research skills necessary to obtain external funding, design and implement complex research projects, and publish in top scholarly journals using the most cutting-edge statistical methods. In the human development and family science discipline itself, doctoral-degree granting departments commonly desire to hire students trained in the discipline who have this level of quantitative competencies. By designing a family science quantitative research methods certificate, we will be providing our doctoral students with the highest level of quantitative and methodological skills currently available which will give them an additional advantage over the competition in the applicant pool for those research-focused positions. We expect that this program will help recruiting higher-level students for the CHFD/HDFS doctoral program at UGA. This QMFS Certificate is consistent with departmental goals, as well as with the research goals of the College of Family and Consumer Sciences.

B. *In addition, provide the following information:*

1. Semester/Year of Program initiation:

Fall 2012

2. Semester/Year Full Implementation of Program:

Fall 2012

3. Semester/Year First Certificates will be awarded:

It is expected that the first certificates will be awarded in Spring, 2013.

4. Annual Number of Graduates expected (once the program is established):

Once the program is established, approximately 5 graduates per year are anticipated.

5. Projected Future Trends for number of students enrolled in the program

It is projected that the program will grow to approximately 10 graduate students enrolled per year after five years.

3. *There must be substantial evidence that student demand for the program will be sufficient to sustain reasonable enrollments in the program.*

A. *Provide documentation of the student interest in the program, and define what a reasonable level of enrollment is for a program of this type. Provide evidence that student demand will be sufficient to sustain reasonable enrollments.*

As a way of gauging interest in the subject matter to be covered in the proposed certification program, Dr. Wickrama of the Department of Child and Family Development offered a course titled “Multilevel Modeling for Social and Behavioral Sciences” in the Fall 2011 semester. There were 18 students registered for credit and five students who audited the course. These students were from a variety of departments including foods and nutrition, sociology, psychology, education, and child and family development. Feedback about the course was very positive. Further, there have been multiple inquiries from graduate students from multiple departments regarding the next opportunity to take this class. We expect to sustain reasonable enrollment based on the positive reaction to the initial offerings and requests for future opportunities.

B. In addition, provide the following information:

To what extent will minority student enrollments be greater than, less than, or equivalent to the proportion of minority students in the total student body?

We expect minority student enrollment to be equivalent to the proportion of minority students in the total student body.

4. *The design and curriculum of the program must be consistent with appropriate disciplinary standards and accepted practice.*

Provide the following information:

A. Present a detailed curriculum outline of the program listing specific course requirements (to include programs of study, course prefix, number, and title).

Students must complete the following courses:

CHFD: 6800: 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)

CHFD: 6900: Seminar in Quantitative Analysis I - In this class students will learn basic statistical concepts and procedures (e.g. central tendency, statistical significance, standard deviation, standard error, correlations, t-tests, cross tabulations, Analysis of Variance, and regression) and how to use the statistical program SPSS. (3 credit hours)

Students may take courses equivalent to CHFD 6800 or 6900 in their home department or another department and those courses can serve as substitutions to CHFD 6800 and 6900. Acceptable courses equivalent to CHFD 6900 include STAT 6315 and 6220 as well as BIOS 7020. Additional course equivalence will be determined by the program director, in consultation with the steering committee when necessary.

CHFD 8800: Quantitative Methodology in Child and Family Development. In this class, students will gain an understanding of issues associated with longitudinal data and analysis of change,

methods that are essential to research on human development and research on family processes over time. (3 credit hours)

*CHFD 8830: Seminar in Quantitative Analysis for Family Science II – 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. They will also learn to use statistical packages such as Mplus. (3 credit hours)

*CHFD 8840: Seminar in Advanced Quantitative Analysis for Family Science III (3 hours)

The content for this seminar will be:

- Multilevel Modeling for Family Sciences: software packages- The statistical software packages that will be used are HLM, SAS and Mplus.
- Growth Curve Analysis for Family Sciences: software packages -SAS, Mplus and AMOS.

*CHFD 8850: Seminar in Advanced Quantitative Analysis for Family Science IV (3 hours):

The content for this seminar will be:

- Dyadic Data Analysis for Family Sciences: software packages – SAS, Mplus and AMOS and Mplus.
- Categorical Data Analysis for Family Sciences - SPSS, ASA and Mplus

*Proposed courses.

B. Identify which aspects of the proposed curriculum already exist and which constitute new courses.

All of the courses either already exist (CHFD 6800, 6900, 8800) scheduled to be taught by full-time graduate faculty within the Department of Child and Family Development. New courses include CHFD 8830, CHFD 8840 and CHFD 8850.

C. Identify model programs, accepted disciplinary standards, and accepted curricular practices against which the proposed program could be judged. Evaluate the extent to which the proposed curriculum is consistent with these external points of reference and provide a rationale for significant inconsistencies and differences that may exist.

This certificate is modeled after Iowa State University's quantitative psychology program in the department of psychology. This program is comparable to the Iowa State program.

D. If program accreditation is available, provide an analysis of the ability of the program to satisfy the curricular standards of such specialized accreditation.

N/A

5. Faculty resources must be adequate to support an effective program.

A. Define the size, experience, and specializations of the full-time faculty needed to support an effective program. Identify the extent to which such faculty resources currently exist at the institution, and

what additions to the faculty will be needed to fully implement the program. Specify how many full-time faculty will provide direct instructional support to this program.

No new faculty will be needed for the implementation of this program. Existing and recently hired faculty provide most of the experience and specialization necessary to effectively support this program. See 5b for detailed information about how current faculty will provide direct instructional support to this program.

B. In addition, for each faculty member directly involved in this program, list:

1. Name, rank, degrees, academic specialty, educational background

<i>Name</i>	<i>Rank</i>	<i>Degree</i>	<i>Academic Specialty</i>	<i>Educational Background</i>
K.A.S. Wickrama	Professor	Ph.D.	Social Epidemiology, Statistics	Sociology (with a minor in Statistics)
Hui-Chin Hsu	Associate Professor	Ph.D.	Human Development, Quantitative Research	Psychology
Steve Kogan	Assistant Professor	Ph.D.	Family Studies, Quantitative Research Methods	Child and Family Development
Chalandra Bryant	Professor	Ph.D.	Family Studies, Quantitative Research	Human Ecology
Leslie Gordon Simons	Associate Professor	Ph.D.	Family Sociology, Quantitative Research	Sociology

2. Special qualifications related to this program

All faculty have a background and expertise in Family Science and related disciplines with an emphasis on quantitative methodology.

3. Relevant professional and scholarly activity for past five years

All of the faculty associated with the certificate program have maintained an active and rigorous program of scholarly research that includes publication of quantitative research with a family science focus in top peer-reviewed journals.

4. Projected responsibility in this program and required adjustments in current assignments

No adjustment in current assignment is required. Most the faculty listed are already or will be (as of Fall 2012) teaching the courses that are included in the program of study for the Certificate program.

C. Where it is deemed necessary to add faculty in order to fully develop the program give the desired qualifications of the persons to be added.

N/A

6. Library, computer, and other instructional resources must be sufficient to adequately support the program.

- A. *Describe the available library resources for this program and the degree to which they are adequate to support an effective program. Identify the ways and the extent to which library resources need to be improved to adequately support this program.*

Available resources are sufficient. There is no need for improvement.

- B. *Likewise, document the extent to which there is sufficient computer equipment, instructional equipment, laboratory equipment, research support services, etc. available to adequately support this program. Specify improvements needed in these support areas.*

The Child and Family Development Department has the computer and instructional resources necessary to support this program including large computer labs with a sufficient number of computers, up-to-date computer technology, and a variety of statistical software packages including SPSS, AMOS, MPLUS, SAS, and HLM.

7. *Physical facilities necessary to fully implement the program must be available.*

Describe the building, classroom, laboratory, and office space that will be available for this program and evaluate their adequacy to fully support an effective program. Plans for allocating, remodeling, or acquiring additional space to support the program's full implementation of the program should also be identified.

Present facilities of Dawson Hall and the Department of Child and Family Development are adequate to support this program. Currently, statistics classes are currently held in the computer lab (202 Dawson) and this space has an adequate number of computers for the program needs. Methods classes can be taught in any of the usual classrooms used by CFD faculty.

8. *The expense to the institution (including personnel, operating, equipment, facilities, library, etc.) required to fully implement the program must be identified.*

- A. *Detailed funding to initiate the program and subsequent annual additions required to fully implement the program are needed below. Estimates should be based upon funding needed to develop an effective and successful program and not upon the minimal investment required to mount and sustain a potentially marginal program.*

The instruction costs can be mounted within the current budget of the Department of Child and Family Development

- B. *Indicate the extent of student support (fellowships, assistantships, scholarships, etc.) available for this program, and evaluate the adequacy of this support. Assistantships funded from institutional (as opposed to sponsored) funds should be included in this funding analysis as well.*

One graduate assistant will be necessary to help the Program Director initiate and sustain the Certificate Program. The funding for this assistantship has been worked out between the department head and dean of the college.

9. *Commitments of financial support needed to initiate and fully develop the program must be secured.*

Reallocation of extant resources (see response to 8B above).

10. Provisions must be made for appropriate administration of the program within the institution and for the admission to and retention of students in the program in keeping with accepted practice. Describe and evaluate the structure for the administration of the program. Explain the degree to which that structure is in keeping with good practice and accepted standards. Similarly, explain how and by what criteria students will be admitted to and retained in the program, and how these procedures are consistent with accepted standards for effective and successful programs.

The program director (Dr. K.A.S. Wickrama) will be responsible for appropriately administering the program within the institution. The steering committee include faculty within the Department of Child and Family Development who will assist the director in helping the Program Certificate reach its full potential. Members of the steering committee include: Dr. Hui-Chin Hsu, Dr. Steve Kogan, Dr. Chalandra Bryant, and Dr. Leslie Gordon Simons.

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 to that effect (a form to be developed that must be signed by the student, major professor, and program director). Applicants will be reviewed by the steering committee. 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 B in all subsequent courses included in the Program Certificate.



The University of Georgia

Department of Statistics

April 12, 2012

Professor Jay A. Mancini, Ph.D.
Haltiwanger Distinguished Professor
Head, Department of Child and Family Development
University of Georgia
Athens, GA 30602

Dear Jay:

Thank you for meeting with Dan Hall, Steve Rathbun and me on April 6, 2012, to discuss your proposal for a Graduate Certificate Program on Quantitative Methods in Family Science.

As background, with the ever growing importance of quantitative methods and data analysis in multiple disciplines, we have seen a trend across campus towards discipline specific courses and programs that are heavy on statistical methods. While the Department of Statistics neither has the resources nor the expertise to teach all of these courses, we believe strongly that it is desirable to build a model on campus that avoids unnecessary overlap in courses and that promotes the involvement of trained statisticians as instructors, perhaps through joint appointments or team teaching. Such a model requires a level of collaboration when statistically oriented courses and programs are proposed. This collaboration can lead to stronger programs, less overlap in courses, and in some cases simply to the conclusion that the Department of Statistics is not in a position to play any meaningful role.

Following our meeting on April 6, Professors Dan Hall (Statistics), Leslie Simons (HDFS), and K.A.S. Wickrama (HDFS) met today to discuss possible changes in your proposal. The primary outcome of this meeting is an agreement that some STAT courses will be listed explicitly in the proposal as alternatives for your CHFD 6900, Seminar in Quantitative Analysis I. I have seen the revised version of the proposal, and the primary reason for this letter is to express my support for this version of the proposal.

I wish you the best of luck with the Graduate Certificate Program, and I hope that there will be future opportunities for our departments to interact in the pursuit of our missions.

Sincerely,

John Stufken, Head
Department of Statistics