

9-25-2006

# Statistics B.A. Program and Curriculum Approval 09/25/2006

Curriculum Committee

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# Program & Curriculum Approval

## Executive Summary

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**Program Title: Statistics B.A.**
**Approval Status:** Proposal Not Submitted

**Program Last Saved:** Sep 25, 2006 8:40:40 AM

**By:** Jeri Mullin

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### General Information

<b>Campus:</b>	University of Minnesota, Morris	<no change>
<b>Career:</b>	Undergraduate	<no change>
<b>Program type:</b>	Baccalaureate	<no change>
<b>Program title (short):</b>	Statistics B.A.	<no change>
<b>Program title (long):</b>	Statistics B.A.	<no change>
<b>Program short description:</b>	Statistics	<no change>
<b>Additional terms:</b>	<ul style="list-style-type: none"> <li>· This program is 8 semesters (4 years) long.</li> <li>· This program does not need any summer terms.</li> </ul>	<no change>
<b>Stakeholder college(s):</b>	· UMM-Science & Math, Div of	<no change>
<b>Degree-granting college(s):</b>	· UMM-Science & Math, Div of	<no change>
<b>Approver college(s):</b>	· UMM-Science & Math, Div of	<no change>
<b>Administrative college(s):</b>	· UMM-Science & Math, Div of	<no change>
<b>Budgetary college(s):</b>	· 'UMM-Science & Math, Div of'=100	<no change>
<b>Acad plan code(s):</b>	· 'UMM-Science & Math, Div of'=090020227	<no change>
<b>Department(s):</b>	· Division of Science & Mathematics - Adm	<no change>
<b>First term admitting students:</b>	Spring 2002	<no change>
<b>Effective date:</b>	Fall 2005	Fall 2007
<b>Degree:</b>	Bachelor of Arts	<no change>
<b>Catalog description:</b>	<p>The mission of the discipline is to create and apply statistical methods/techniques for collecting, exploring, analyzing, and communicating qualitative/quantitative information and to disseminate this knowledge through teaching, scholarly activity, and outreach.</p> <p>Uncertainty is a fact of life. Statistics is the science and art of enhancing knowledge in the face of uncertainty by modeling, predictions, and decisions. Therefore it is central to solutions of problems in medicine, law, industry, technology, finance, business, public</p>	<p>The mission of the discipline is to create and apply statistical methods/techniques for collecting, exploring, analyzing, and communicating qualitative/quantitative information and to disseminate this knowledge through teaching, scholarly activity, and outreach.</p> <p>Statistics is the science and art of enhancing knowledge in the face of uncertainty by modeling, predictions, and decisions. It is central to solutions of problems in medicine, law, industry, technology, finance, business, public policy, computing, and science in</p>

policy, computing, and science in general. The need for statistics applies to almost every area of our lives.

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**Objectives**—The statistics program provides an effective operational knowledge of the theory and methods of statistics and the application of statistical methods in a liberal arts environment. It seeks to enhance students' critical thinking in making judgments based on data and provides students with the basic knowledge and skills to make contributions to modern society. Students learn to communicate and collaborate effectively with people in other fields and, in the process, to understand the substance of these fields. The curriculum prepares students to enter graduate school or pursue careers in statistical fields at research institutions and industry.

**Objectives**—The statistics program provides an effective operational knowledge of the theory and methods of statistics and the application of statistical methods in a liberal arts environment. It seeks to enhance students' critical thinking in making judgments based on data and provides students with the basic knowledge and skills to make contributions to modern society. Students learn to communicate and collaborate effectively with people in other fields and, in the process, to understand the substance of these fields. The curriculum prepares students to enter graduate school or pursue careers in statistical fields at research institutions and industry.

**RIASEC codes:**

<no change>

**Field of study:**

Math, Engineering, and Science

<no change>

**Program contact(s):**

**U of M internet ID:** fordcj  
**Name:** Carol Ford  
**E-mail address:** fordcj@umn.edu  
**Telephone number:** 320/589-6300  
**Campus mailing address:**  
 UMM Div of Science and Math, RM 2550 Sci,  
 M242A, 600 E 4th St, Morris, MN 56267

<no change>

**Narrative Materials**

Show this section

**Admission Requirements**

Show this section

**Program Requirements**

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**Program length in credits:**

120 credits

<no change>

**Major length in credits:**

39 credits

<no change>

**Number of semesters of a second language that are required:**

2

0

**Specific language(s) required:**

Any Second Language

No Second Language

**Other requirements:**

Students planning to pursue graduate work in statistics or biostatistics should complete MATH 2101 and consider taking MATH 2202 and 3211 for Ph.D. preparation.

The GPA in these courses must be at least 2.00

Students planning to pursue graduate work in statistics or biostatistics should complete MATH 2101--Calculus III and consider taking MATH 2202--Mathematical Perspectives and Math 3211--Analysis for Ph.D. preparation.

**Required course(s):**

**Major Core Curriculum**  
[MATH 1101](#) - Calculus I, M/SR (5.0 cr)  
[MATH 1102](#) - Calculus II, M/SR (5.0 cr)

**Required Courses**

[MATH 1101](#) - Calculus I, M/SR (5.0 cr)  
[MATH 1102](#) - Calculus II, M/SR (5.0 cr)

[STAT 2501](#) - Probability and Stochastic Processes, M/SR (4.0 cr)  
[STAT 2611](#) - Mathematical Statistics, M/SR (4.0 cr)  
[STAT 3601](#) - Data Analysis, M/SR (4.0 cr)  
[STAT 4901](#) - Senior Seminar, M/SR (1.0 cr)  
[STAT 1601](#) - Introduction to Statistics, M/SR (4.0 cr)  
 or [STAT 2601](#) - Statistical Methods, M/SR (4.0 cr)

### Elective Courses

Take 8 or more credit(s) from the following:

- [STAT 3611](#) - Multivariate Statistical Analysis, M/SR (4.0 cr)
- [STAT 4601](#) - Biostatistics, M/SR (4.0 cr)
- [STAT 4611](#) - Statistical Consulting, M/SR (4.0 cr)
- [STAT 4631](#) - Design and Analysis of Experiments, M/SR (4.0 cr)
- [STAT 4651](#) - Applied Nonparametric Statistics, M/SR (4.0 cr)
- [STAT 1993](#) - Directed Study (1.0-5.0 cr)
- [STAT 2993](#) - Directed Study (1.0-5.0 cr)
- [STAT 3993](#) - Directed Study (1.0-5.0 cr)
- [STAT 4993](#) - Directed Study (1.0-5.0 cr)

### Related Discipline Course

Take 4 or more credit(s) from the following:  
 Choose from the list below or from courses with faculty approval.

- [CSCI 1211](#) - Introduction to Problem Solving with Java, M/SR (4.0 cr)
- [CSCI 1301](#) - Problem Solving and Algorithm Development I, M/SR (4.0 cr)
- [CSCI 1302](#) - Problem Solving and Algorithm Development II, M/SR (4.0 cr)
- [ECON 3501](#) - Introduction to Econometrics, M/SR (4.0 cr)
- [MATH 2101](#) - Calculus III, M/SR (4.0 cr)
- [MATH 2111](#) - Linear Algebra, M/SR (4.0 cr)
- [MATH 2202](#) - Mathematical Perspectives, M/SR (4.0 cr)
- [MATH 3401](#) - Operations Research, M/SR (4.0 cr)
- [MATH 3501](#) - Applied Deterministic Modeling for Management Science, M/SR (2.0 cr)
- [MATH 3502](#) - Applied Probabilistic Modeling for Management Science, M/SR (2.0 cr)
- [MATH 3221](#) - Analysis, M/SR (4.0 cr)
- [POL 3101](#) - Political Science Analysis, SS (4.0 cr)
- [PSY 3601](#) - Quantitative Methods in Psychology, M/SR (4.0 cr)
- [SOC 3101](#) - Research Methodology I (4.0 cr)
- [SOC 3102](#) - Research Methodology II (4.0 cr)

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[STAT 2501](#) - Probability and Stochastic Processes, M/SR (4.0 cr)  
[STAT 2611](#) - Mathematical Statistics, M/SR (4.0 cr)  
[STAT 3601](#) - Data Analysis, M/SR (4.0 cr)  
[STAT 4901](#) - Senior Seminar, M/SR (1.0 cr)  
[STAT 1601](#) - Introduction to Statistics, M/SR (4.0 cr)  
 or [STAT 2601](#) - Statistical Methods, M/SR (4.0 cr)

### Elective Courses

Take 8 or more credit(s) from the following:

- [STAT 3611](#) - Multivariate Statistical Analysis, M/SR (4.0 cr)
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- [STAT 3993](#) - Directed Study (1.0-5.0 cr)
- [STAT 4993](#) - Directed Study (1.0-5.0 cr)

### Additional Elective Courses

Take 4 or more credit(s) from the following:  
 Choose from the list below or from courses with faculty approval.

- [CSCI 1301](#) - Problem Solving and Algorithm Development I, M/SR (4.0 cr)
- [CSCI 1302](#) - Problem Solving and Algorithm Development II, M/SR (4.0 cr)
- [ECON 3501](#) - Introduction to Econometrics, M/SR (4.0 cr)
- [MATH 2101](#) - Calculus III, M/SR (4.0 cr)
- [MATH 2111](#) - Linear Algebra, M/SR (4.0 cr)
- [MATH 2202](#) - Mathematical Perspectives, M/SR (4.0 cr)
- [MATH 3221](#) - Analysis, M/SR (4.0 cr)
- [MATH 3401](#) - Operations Research, M/SR (4.0 cr)
- [MATH 3501](#) - Applied Deterministic Modeling for Management Science, M/SR (2.0 cr)
- [MATH 3502](#) - Applied Probabilistic Modeling for Management Science, M/SR (2.0 cr)
- [POL 3101](#) - Political Science Analysis, SS (4.0 cr)
- [PSY 3601](#) - Quantitative Methods in Psychology, M/SR (4.0 cr)
- [SOC 3101](#) - Research Methodology I (4.0 cr)
- [SOC 3102](#) - Research Methodology II (4.0 cr)

## Sub-plans

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