In Workflow
1. ABGS Coordinator (mlnosbis@ncsu.edu)
2. 17ST GR Director of Curriculum (demarti4@ncsu.edu; bondell@stat.ncsu.edu)
3. 17ST Grad Head (stefansk@ncsu.edu)
4. COS CC Coordinator GR (alun_lloyd@ncsu.edu; clbowma2@ncsu.edu)
5. COS CC Meeting GR (alun_lloyd@ncsu.edu; clbowma2@ncsu.edu)
6. COS CC Chair GR ()
7. COS Final Review GR (clbowma2@ncsu.edu; alun_lloyd@ncsu.edu)
8. COS Dean GR (dbristol@ncsu.edu; wditto@ncsu.edu; clbowma2@ncsu.edu)
9. ABGS Coordinator (mlnosbis@ncsu.edu)
10. ABGS Meeting (mlnosbis@ncsu.edu)
11. ABGS Chair (mlnosbis@ncsu.edu)
12. Grad Final Review (mlnosbis@ncsu.edu)
13. PeopleSoft (none)

Approval Path
   Melissa Nosbisch (mlnosbis): Approved for ABGS Coordinator
2. Wed, 18 Jan 2017 15:17:37 GMT  
   Howard Bondell (bondell): Approved for 17ST GR Director of Curriculum
   Leonard Stefanski (stefansk): Approved for 17ST Grad Head
4. Wed, 18 Jan 2017 17:50:46 GMT  
   Cheryll Bowman-Medhin (clbowma2): Approved for COS CC Coordinator GR
5. Thu, 26 Jan 2017 14:32:39 GMT  
   Alun Lloyd (alun_lloyd): Approved for COS CC Meeting GR
6. Thu, 26 Jan 2017 14:35:35 GMT  
   Alun Lloyd (alun_lloyd): Approved for COS CC Chair GR
7. Thu, 26 Jan 2017 15:14:06 GMT  
   Alun Lloyd (alun_lloyd): Approved for COS Final Review GR
8. Thu, 26 Jan 2017 15:30:41 GMT  
   William Ditto (wditto): Approved for COS Dean GR
9. Thu, 02 Feb 2017 16:22:46 GMT  
   Melissa Nosbisch (mlnosbis): Approved for ABGS Coordinator
10. Thu, 02 Feb 2017 17:00:34 GMT  
    Melissa Nosbisch (mlnosbis): Approved for ABGS Meeting

Date Submitted: Wed, 18 Jan 2017 13:29:30 GMT

Viewing: ST 705: Linear Models and Variance Components

Changes proposed by: hdbondel

Formerly Known As: ST 552
ST (Statistics)

Course Number
705

Course ID
020281

Dual-Level Course

Dual-Level Course Number:

Cross-listed Course

No

Cross-listed with Subject Code(s)

Title
Linear Models and Variance Components

Abbreviated Title
Lin Mod & Var Comp

College
College of Sciences

Academic Org Code
Statistics (17ST)

CIP Discipline Specialty Number
27.0501

CIP Discipline Specialty Title
Statistics, General.

Term Offering
Spring Only

Year Offering
Specify:

Effective Date

Previously taught as Special Topics?

No

Number of Offerings within the past 5 years

Course Delivery

Remote Location/Site

Grading Method
Graded/Audit

Credit Hours
Course Length

weeks

Contact Hours
(Per Week)

<table>
<thead>
<tr>
<th>Component Type</th>
<th>Contact Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lecture</td>
<td>2.0</td>
</tr>
<tr>
<td>Laboratory</td>
<td>2.0</td>
</tr>
</tbody>
</table>

Course Attribute(s)

Please explain why you selected Service Learning:

If your course includes any of the following competencies, check all that apply.

University Competencies

Course Is Repeatable for Credit

No

Total number of completions allowed including the initial offering.

Maximum total credit hours allowed

Instructor Name

Instructor Title

Grad Faculty Status

Anticipated On-Campus Enrollment

Open when course_delivery = campus OR course_delivery = blended OR course_delivery = flip

DELTA/Online Enrollment:

Open when course_delivery = distance OR course_delivery = online OR course_delivery = remote

Course Prerequisites, Corequisites, and Restrictive Statement

Co-requisite: ST 702

Is the course required or an elective for a Curriculum?

No

Which Curricula are Affected?

Catalog Description


Justification for each revision:

1) Change number from ST 552 to ST 705: This is a required course for our 1st year PhD students, and populated solely by PhD students. Hence, the University should be funded at the PhD level in the 12-cell matrix for these enrollments. Therefore, we are changing the course from a 500 number to a correct 700 number.
2) Change co-requisite to newly renumbered ST 702.

Does this course have a fee?

No

List amount and justification for fee:

Is this a GEP Course?

GEP Categories

Humanities Open when gep_category = HUM
Each course in the Humanities category of the General Education Program will provide instruction and guidance that help students to:

List the Instructor's student learning outcomes that are relevant to the GEP Humanities Objective 1:
Obj. 1) Engage the human experience through the interpretation of culture.

Measure(s) for the above outcome(s): *Describe the assessments that will be used to determine if students have achieved the outcome. Including a relevant example assignment/question/prompt is encouraged for clarity.*

List the Instructor's student learning outcomes that are relevant to the GEP Humanities Objective 2:
Obj. 2): Become aware of the act of interpretation itself as a critical form of knowing in the humanities.

Measure(s) for the above outcome(s): *Describe the assessments that will be used to determine if students have achieved the outcome. Including a relevant example assignment/question/prompt is encouraged for clarity.*

List the Instructor's student learning outcomes that are relevant to the GEP Humanities Objective 3:
Obj. 3) Make academic arguments about the human experience using reasons and evidence for supporting those reasons that are appropriate to the humanities.

Measure(s) for the above outcome(s): *Describe the assessments that will be used to determine if students have achieved the outcome. Including a relevant example assignment/question/prompt is encouraged for clarity.*

Attach Additional GEP Information if applicable

Mathematical Sciences Open when gep_category = MATH
Each course in the Mathematical Sciences category of the General Education Program will provide instruction and guidance that help students to:

List the Instructor's student learning outcomes that are relevant to the GEP Mathematical Sciences Objective 1:
Obj. 1) Improve and refine mathematical problem-solving abilities.
Measure(s) for the above outcome(s): Describe the assessments that will be used to determine if students have achieved the outcome. Including a relevant example assignment/question/promp is encouraged for clarity.

List the Instructor's student learning outcomes that are relevant to the GEP Mathematical Sciences Objective 2:

Obj. 2) Develop logical reasoning skills.

Measure(s) for the above outcome(s): Describe the assessments that will be used to determine if students have achieved the outcome. Including a relevant example assignment/question/promp is encouraged for clarity.

Attach Additional GEP Information if applicable

Natural Sciences Open when gep_category = NATSCI
Each course in the Natural Sciences category of the General Education Program will provide instruction and guidance that help students to:

List the Instructor's student learning outcomes that are relevant to the GEP Natural Sciences Objective 1:

Obj. O 1) Use the methods and processes of science in testing hypotheses, solving problems and making decisions

Measure(s) for the above outcome(s): Describe the assessments that will be used to determine if students have achieved the outcome. Including a relevant example assignment/question/promp is encouraged for clarity.

List the Instructor's student learning outcomes that are relevant to the GEP Natural Sciences Objective 2:

Obj. 2) Make inferences from and articulate, scientific concepts, principles, laws, and theories, and apply this knowledge to problem solving.

Measure(s) for the above outcome(s): Describe the assessments that will be used to determine if students have achieved the outcome. Including a relevant example assignment/question/promp is encouraged for clarity.

Attach Additional GEP Information if applicable

Social Sciences Open when gep_category = SOCSCI
Each course in the Social Sciences category of the General Education Program will provide instruction and guidance that help students to:

List the Instructor's student learning outcomes that are relevant to the GEP Social Sciences Objective 1:

Obj. 1) Examine at least one of the following: human behavior, culture, mental processes, organizational processes, or institutional processes.
List the Instructor's student learning outcomes that are relevant to the GEP Social Sciences Objective 2:
Obj. 2) Demonstrate how social scientific methods may be applied to the study of human behavior, culture, mental processes, organizational processes, or institutional processes.

List the Instructor's student learning outcomes that are relevant to the GEP Social Sciences Objective 3:
Obj. 3) Use theories or concepts of the social sciences to analyze and explain theoretical and or real-world problems, including the underlying origins of such problems.

Attach Additional GEP Information if applicable

Interdisciplinary Perspectives Open when gep_category = INTERDISC
Each course in the Interdisciplinary Perspectives category of the General Education Program will provide instruction and guidance that help students to:

List the Instructor's student learning outcomes that are relevant to the GEP Interdisciplinary Objective 1:
Obj. 1) Distinguish between the distinct approaches of two or more disciplines.

List the Instructor's student learning outcomes that are relevant to the GEP Interdisciplinary Objective 2:
Obj. 2) Identify and apply authentic connections between two or more disciplines.
List the Instructor's student learning outcomes that are relevant to the GEP Interdisciplinary Objective 3:
Obj. 3) Explore and synthesize the approaches or views of two or more disciplines.

Measure(s) for the above outcome(s): Describe the assessments that will be used to determine if students have achieved the outcome. Including a relevant example assignment/question/prompt is encouraged for clarity.

To assist CUE in evaluating this course for inclusion on the Interdisciplinary Perspectives list, please answer these additional questions.
1. Which disciplines will be synthesized, connected, and/or considered in this course?

2. How will the instructor present the material so that these disciplines are addressed in a way that allows the students "to integrate the multiple points of view into a cohesive understanding"?

Attach Additional GEP Information if applicable

Visual & Performing Arts Open when gep_category = VPA
Each course in the Visual and Performing Arts category of the General Education Program will provide instruction and guidance that help students to:

List the Instructor's student learning outcomes that are relevant to the GEP Visual & Performing Arts Objective 1:
Obj. 1) Deepen their understanding of aesthetic, cultural, and historical dimensions of artistic traditions.

Measure(s) for the above outcome(s): Describe the assessments that will be used to determine if students have achieved the outcome. Including a relevant example assignment/question/prompt is encouraged for clarity.

List the Instructor's student learning outcomes that are relevant to the GEP Visual & Performing Arts Objective 2:
Obj. 2) Strengthen their ability to interpret and make critical judgements about the arts through the analysis of structure, form, and style of specific works.

Measure(s) for the above outcome(s): Describe the assessments that will be used to determine if students have achieved the outcome. Including a relevant example assignment/question/prompt is encouraged for clarity.

List the Instructor's student learning outcomes that are relevant to the GEP Visual & Performing Arts Objective 3:
Obj. 3) Strengthen their ability to create, recreate, or evaluate art based upon techniques and standards appropriate to the genre.
Measure(s) for the above outcome(s): *Describe the assessments that will be used to determine if students have achieved the outcome. Including a relevant example assignment/question/prompt is encouraged for clarity.*

Attach Additional GEP Information if applicable

Health and Exercise Studies Open when gep_category = HES
Each course in the Health and Exercise Studies category of the General Education Program will provide instruction and guidance that help students to:

List the Instructor's student learning outcomes that are relevant to the GEP Health & Exercise Studies Objective 1:
Obj. 1) Acquire the fundamentals of health-related fitness, encompassing cardio-respiratory and cardiovascular endurance, muscular strength and endurance, muscular flexibility and body composition.

Measure(s) for the above outcome(s): *Describe the assessments that will be used to determine if students have achieved the outcome. Including a relevant example assignment/question/prompt is encouraged for clarity.*

List the Instructor's student learning outcomes that are relevant to the GEP Health & Exercise Studies Objective 2:
Obj. 2) Apply knowledge of the fundamentals of health-related fitness toward developing, maintaining, and sustaining an active and healthy lifestyle.

Measure(s) for the above outcome(s): *Describe the assessments that will be used to determine if students have achieved the outcome. Including a relevant example assignment/question/prompt is encouraged for clarity.*

List the Instructor's student learning outcomes that are relevant to the GEP Health & Exercise Studies Objective 3:
Obj. 3) Acquire or enhance the basic motor skills and skill-related competencies, concepts, and strategies used in physical activities and sport.

Measure(s) for the above outcome(s): *Describe the assessments that will be used to determine if students have achieved the outcome. Including a relevant example assignment/question/prompt is encouraged for clarity.*

List the Instructor's student learning outcomes that are relevant to the GEP Health & Exercise Studies Objective 4:
Obj. 4) Gain a thorough working knowledge, appreciation, and understanding of the spirit and rules, history, safety, and etiquette of physical activities and sport.

Measure(s) for the above outcome(s): *Describe the assessments that will be used to determine if students have achieved the outcome. Including a relevant example assignment/question/prompt is encouraged for clarity.*
Global Knowledge Open when gep_category = GLOBAL
Each course in the Global Knowledge category of the General Education Program will provide instruction and guidance that help students to achieve objective #1 plus at least one of objectives 2, 3, and 4:

List the Instructor’s student learning outcomes that are relevant to the GEP Global Knowledge Objective 1:
Obj. 1) Identify and examine distinguishing characteristics, including ideas, values, images, cultural artifacts, economic structures, technological or scientific developments, and/or attitudes of people in a society or culture outside the United States.

Measure(s) for the above outcome(s): Describe the assessments that will be used to determine if students have achieved the outcome. Including a relevant example assignment/question/prompt is encouraged for clarity.

Please complete at least 1 of the following student objectives.
List the Instructor’s student learning outcomes that are relevant to the GEP Global Knowledge Objective 2:
Obj. 2) Compare these distinguishing characteristics between the non-U.S. society and at least one other society.

Measure(s) for the above outcome(s): Describe the assessments that will be used to determine if students have achieved the outcome. Including a relevant example assignment/question/prompt is encouraged for clarity.

List the Instructor’s student learning outcomes that are relevant to the GEP Global Knowledge Objective 3:
Obj. 3) Explain how these distinguishing characteristics relate to their cultural and/or historical contexts in the non-U.S. society.

Measure(s) for the above outcome(s): Describe the assessments that will be used to determine if students have achieved the outcome. Including a relevant example assignment/question/prompt is encouraged for clarity.

List the Instructor’s student learning outcomes that are relevant to the GEP Global Knowledge Objective 4:
Obj. 4) Explain how these distinguishing characteristics change in response to internal and external pressures on the non-U.S. society.

Measure(s) for the above outcome(s): Describe the assessments that will be used to determine if students have achieved the outcome. Including a relevant example assignment/question/prompt is encouraged for clarity.

US Diversity Open when gep_category = USDIV
Each course in the US Diversity category of the General Education Program will provide instruction and guidance that help students to achieve at least 2 of the following objectives:
Please complete at least 2 of the following student objectives.

List the Instructor's student learning outcomes that are relevant to the GEP U.S. Diversity Objective 1:
Obj. 1) Analyze how religious, gender, ethnic, racial, class, sexual orientation, disability, and/or age identities are shaped by cultural and societal influences.

Measure(s) for the above outcome(s): Describe the assessments that will be used to determine if students have achieved the outcome. Including a relevant example assignment/question/promp is encouraged for clarity.

List the Instructor's student learning outcomes that are relevant to the GEP U.S. Diversity Objective 2:
Obj. 2) Categorize and compare historical, social, political, and/or economic processes producing diversity, equality, and structured inequalities in the U.S.

Measure(s) for the above outcome(s): Describe the assessments that will be used to determine if students have achieved the outcome. Including a relevant example assignment/question/promp is encouraged for clarity.

List the Instructor's student learning outcomes that are relevant to the GEP U.S. Diversity Objective 3:
Obj. 3) Interpret and evaluate social actions by religious, gender, ethnic, racial, class, sexual orientation, disability, and/or age groups affecting equality and social justice in the U.S.

Measure(s) for the above outcome(s): Describe the assessments that will be used to determine if students have achieved the outcome. Including a relevant example assignment/question/promp is encouraged for clarity.

List the Instructor's student learning outcomes that are relevant to the GEP U.S. Diversity Objective 4:
Obj. 4) Examine interactions between people from different religious, gender, ethnic, racial, class, sexual orientation, disability, and/or age groups in the U.S.

Measure(s) for the above outcome(s): Describe the assessments that will be used to determine if students have achieved the outcome. Including a relevant example assignment/question/promp is encouraged for clarity.

Attach Additional GEP Information if applicable

Requisites and Scheduling
What percentage of the seats offered will be open to all students?

a. If seats are restricted, describe the restrictions being applied.
b. Is this restriction listed in the course catalog description for the course?

List all course pre-requisites, co-requisites, and restrictive statements (ex: Jr standing; Chemistry majors only). If none, state none.

List any discipline specific background or skills that a student is expected to have prior to taking this course. If none, state none. (ex: ability to analyze historical text; prepare a lesson plan)

Additional Information
Complete the following 3 questions or attach a syllabus that includes this information. If a 400-level or dual level course, a syllabus is required.

Title and author of any required text or publications.

Major topics to be covered and required readings including laboratory and studio topics.

List any required field trips, out of class activities, and/or guest speakers.

Consultation

Instructional Resources Statement

Course Objectives/Goals

Student Learning Outcomes

Student Evaluation Methods

Topical Outline/Course Schedule

Syllabus

Additional Documentation

Additional Comments

Justification for this request

Course Reviewer Comments

mlnosbis (Wed, 18 Jan 2017 15:13:14 GMT): This is a minor action changing the course number and prerequisite.

allloyd (Thu, 26 Jan 2017 14:35:33 GMT): Passed college committee 1/24/17

Key: 5113

Preview Bridge