A Proposal to Revise the Psychology Major

College of Social and Behavioral Sciences

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Proposal to Revise the Psychology Major

The Faculty of the Department of Psychology proposes to revise the Psychology Major (B.A. and B.S.). The revision of the major is modest in scope. Its simplicity should permit implementation in Autumn, 2007, for those students declaring the major on or subsequent to the first day of that academic quarter. Existing majors may choose this new set of requirements, or be grandfathered in to the existing major, with ease.

The revision includes three elements:

First, the foundational survey courses (termed Core Requirements, Section I) today number five; the proposal adds a sixth Core Requirement domain, subdividing the former "Cognition/Attention/Performance" category ("A") into two categories to be called "Perception and Action" and "Memory, Decision-Making, and Language" (now A and B). This addition of one Core Requirement course yields a better reflection of the current character of the discipline of Psychology.

Second, the proposal introduces a change in the course structure serving as prerequisite to the Core Requirements: The course Psychology 320 (Introduction to Data Analysis in Psychology), which is currently required for the BS but not the BA in Psychology) will be revised slightly and then will be required of all Psychology majors, along with Psychology 100 and Psychology 300 (both now required of all Psychology majors) to serve as the foundation for the major. Psychology 320 will be renumbered as Psychology 220, to better reflect its foundational content.

Third, the major will continue to specify and require advanced course work (Section II: Advanced Requirements), but three related important changes are proposed here: A) The current very long list of courses (N=59) included many that are no longer offered, or offered quite irregularly, or which did not clearly afford comparable depth (to build on the foundational survey Core Requirement courses), so this long list is now much shorter (N = 35); B) The list of courses is now reorganized into three categories (from five), further reducing the "cafeteria" appearance of the former requirement; C) Finally, students are required to choose at least one course from *each of the three sub-areas* of the Advanced Requirements section (*formerly two of the five sub-areas*), ensuring and affirming that students will achieve breadth as well as depth in the exposure to advanced coursework in psychology.

These changes in the "Section II: Advanced Requirements" feature of the major do not add any additional credit hours to the major. Consequently, the net change in credit

hours required for the Psychology major is an increase of ten (48 to 58). The final element of the Psychology major, "Section III: Elective Courses," will be unchanged in purpose or character.

Revision of the Core Requirements

Of the five existing Core Requirement categories, Category A has been the one with least integrity and comparability across courses. Because of the explosion of research in the domain of what was once known as Experimental Psychology, the coverage in these courses has increasingly become incommensurate across courses and overly specific to convey the breadth and foundation of theory and research in the areas of cognitive psychology, judgment and decision making, perception and action. This foundational part of Psychology can be represented more accurately today by recognizing the expansion of theory and research on these issues, and including course work for the undergraduate major in the areas of "Perception and Action" and "Memory, Decision-Making, and Language" separately.

The P*erception and Action* category will include three courses (302: Introduction to Psychology of Listening and Reading; 309: Human Motor Control and Learning; 310: Basic Psychology: Perception). Each course reflects the foundational issues of theory and research that explores basic issues of brain functioning and information processing.

The *Memory, Decision-Making, and Language* category will also include three courses (312: Learning, Memory and Cognition; 508: Psychology of Judgment and Decision Making; 465: Cognition: Language and Memory). Each course reflects the foundational theory and research related to higher cognitive processing.

One objective in revising the major is that all Core Requirement courses serve to provide an equivalent foundation for further exploration of the discipline of Psychology (within the context of each of the six Core domains [A – F]), preparation for post-graduate education, and to reflect accurately the broad range of issues now addressed within the discipline. Consequently, any given course in one of these six categories should reflect the essential foundational features of that domain of inquiry within Psychology. A second objective in revising the major is to reaffirm that these courses meeting the Core Requirement should not drift toward increasing specificity, depth of treatment, or narrowness, but instead should meet a threshold of general and thorough preparation for further study. Toward that end, most courses meeting the Core Requirement will be "300 level" courses. In exceptional cases, a course that serves as a Core Requirement may retain a number in the 400s or 500s if they serve populations outside the Department, and thus serve multiple purposes beyond providing a foundational survey to majors, but this will generally be

discouraged and found acceptable only when there are compelling reasons. Finally, consistent with these objectives, the course Psychology 522 (Organizational Psychology) will be deleted from The current Category E (Social Psychology, and will be replaced by Psychology 376 (Interpersonal Relationships), as this category is revised to become Category F.

Addition of Psychology 220 (Introduction to Data Analysis in Psychology)

The addition of Psychology 220 (Introduction to Data Analysis in Psychology) to the Psychology Major is intended to ensure that the core features of psychological methods and statistics are better integrated and serve together to offer a more seamless introduction to design and analysis in the discipline. Issues of design and analysis are by their very nature "married."

The inclusion of Psychology 220 to complement the introduction of Psychology 300, Psychological Methods (implemented several years ago), brings the coverage and integration of issues of design and analysis up to a standard necessary for advanced work within the psychology major, and beyond the undergraduate major, in post-graduate study or in the world of work outside the academy. Issues of design and analysis are intimately interlinked, and are delivered with recognition of that linkage in post-graduate study. This change in the undergraduate curriculum permits this unique feature of psychological methods and analysis to be delivered with a distinct disciplinary focus and flavor at the undergraduate level as well.

Too, the change in numbering for the course (220, from 320) will convey that the course is intended to precede Psychology 300, Psychological Methods, and it will be added as a prerequisite to Psychology 300 after a period of transition (permitting current majors to continue to enroll in Psychology 300). Psychology 300 will be revised and revamped to reflect this upgrading. Further, the reduction in numbering nomenclature is also appropriate because the Psychology 220 course (now, 320) is no longer calculus based (i.e., it is most appropriately characterized as lower division course work). The change from 220 to 320, years ago, was based on the introduction of a calculus-based treatment of the material.

A new prerequisite structure will accompany the inclusion of this course, Psychology 220, in the Psychology Major.

First, Psychology 220 will have Statistics 145 as an optional prerequisite (as well as Psychology 100, General Psychology) right alongside the existing prerequisite list, which is "Math 130 or 148 or equivalent." So, the new prerequisite statement will read "Psychology 100 and Statistics 145 or Math 130 or Math 148 or equivalent."

Consequently, a student who places low in mathematics on arrival at Ohio State University would not have to take any additional mathematics to be eligible to enroll in Psychology 220.

Instead, that student would likely enroll in Math 050, 075, or 116, and then take Statistics 145, and then advance on to Psychology 220, which would complete the new major requirement. In other words, there is no higher mathematics prerequisite requirement to be a Psychology Major. However, the student may take very elementary math to begin, followed by Statistics 145, and then complete the data analysis requirement in Psychology through successful completion of Psychology 220.

Those students who have stronger math preparation (e.g., 130, 148, 150), are eligible to enroll directly in Psychology 220 (see statement above) and can bypass Statistics 145. Such students frequently do this already by petition.

It is difficult to estimate the number of students who will continue to take Statistics 145, prior to Psychology 220, under the new regime. However, we expect that many, if not most, majors will do so. Consequently, the material of Psychology 220 will be at a higher level than Statistics 145 and has been designed either to: a) build on Statistics 145 as a foundation, or b) build just as well on more advanced mathematics preparation, instead, as a foundation.

Psychology 321 (Title: Quantitative and Statistical Methods in Psychology) will remain as an additional requirement for graduation with the B.S. in Psychology.

Changes in Categorical Designations for Section II: Advanced Requirements

The existing major requires that students select at least one course from no fewer than two of five sectors of a long list of courses ("Section II: Advanced Requirement"). The objective of this advanced requirement category is both to ensure depth and an additional breadth in students' exposure to the discipline. To date, the list of course has been very long (N = 59), yielding a set of courses that reflects more a set of electives (met by the "Section III: Electives Requirement") than a genuine approximation of depth and breadth.

The Department faculty now believes that the categorical designations at this upper level of course work has been artificially linked to the Core Requirement sectors, and that the sector nomenclature (repeating the Core Requirement nomenclature) may even have the unintended effect of discouraging course offerings that bridge the dividing lines of the discipline (e.g., courses such as "stress and health," "social development," "social neuroscience," and "developmental psychobiology," and many others). The remedy is to re-categorize the "Section II: Advanced Requirements" into three categories (from

five). Too, there is increased certainty in breadth achieved by requiring that students choose at least one course from each of the three categories.

In sum, this new version of the depth and breadth requirement will direct students to "Choose at least one course from each of the three sub-areas of this section."

Summary

The net increase in credit hours for the Psychology Major is ten, bringing the existing major up from 48 credit hours to 58 credit hours (well within convention on this campus, and across the nation).

These three changes in the Psychology Major are simple, and we believe, elegant in their simplicity. The faculty agrees that these changes bring the major into better alignment with the ever-growing and increasingly nuanced exploration of the mind and behavior that falls under the disciplinary umbrella of Psychology. Too, the faculty agrees with the objective of reaffirming that the Core Requirements should meet a threshold of general and thorough preparation for further study in the Major, and beyond.

Finally, the faculty agrees that the major as revised will increasingly encourage the faculty to explore the bridges across dividing lines within the discipline and to introduce and then offer courses that are more integrative and interdisciplinary in nature.

Appenduix 1: Current Psychology Bachelor of Arts major

Bachelor of Arts

Overview of Major Requirements

Forty-eight (48) credits in Psychology department (or department approved) coursework at the 300-level and above (Exception - Psych. 320: Introduction to Data Analysis in Psychology does not count toward the major). This coursework is distributed across three categories: Core Requirements, Advanced Requirements, and Elective Courses.

Psych. 100: General Psychology and Psych. 300: Introduction to Research in Psychology are required of all psychology majors (Psych. 100 fulfills a GEC requirement; Psych. 300 counts toward the major).

B.A. students in psychology must take Stats. 145 or an equivalent course (e.g., Psych 320 or H320) to meet the "Data Analysis" requirement of the GEC.

Minimum of one course in each of the Core Requirement areas (A-E) as listed below in Section I.

Minimum of two additional courses at the 500-level and above (Advanced Requirements). Choose from two of the five sub-areas as listed below in Section II. Note: Psych. 475: The Self and Psych. 695: Seminars in Psychology can be used as advanced requirement courses. Psych. 693 cannot be used to meet this requirement.

Minimum grade of a "C-" in any course to be counted toward the major. Minimum major GPA of 2.0 for graduation (Does not include Psych. 100 nor Stats. 145).

If Psych. 367.01 is used as a second-level writing course for the GEC requirement, it may also be used to satisfy the core requirement in the Social Psychology sub-area. However, the credits are not applied to the total credits for the major.

A third-level writing course (Psych. 500, 510, and 520) is not required for the B.A. in psychology. However, it is recommended, as well as Psych. 321, for those students considering graduate work in psychology.

Psych. 489 Internship in Psychology and Psych. 693 Research credits combined can only apply 6 hours to the major program.

Psych. 389 Career Exploration in Psychology does not count on the major program.

Section I. Core Requirements

(Choose one course from each of the five subareas of this section.)

A. Cognition/Attention/Performance

302 Introduction to the Psychology of Listening and Reading (4) AU
309 Human Motor Control and Learning (3) [4 credits - WI05] AU
311 General Psychology: Motivation & Action (3) only available at regional campuses
312 Learning, Memory, and Cognition (4) AU, WI, SP
508 Psychology of Judgment and Decision-Making (5) [*honors version available SP] AU, WI, SP, SU

B. Clinical/Counseling Psychology

331 Abnormal Psychology (5) AU, WI, SP, SU
335 Psychology of Adjustment (4) AU, SU
540 Introduction to Counseling Psychology (4) AU, WI, SP, SU

C. Developmental Psychology

340 Introduction to Life Span Developmental Psychology (3) AU, WI, SP, SU
550 Psychology of Childhood (4) [*honors version available AU] AU, WI, SP, SU
551 Adolescence (5) AU, WI, SP, SU
552 Psychology of the Adult Years (3) SP

D. Psychobiology

310 Basic Psychology: Perception (4) AU, WI, SP
313 Introduction to Psychobiology (4) AU, WI, SP

E. Social Psychology

H325 Social Psychology (5) WI or SP
367.01 Social Psychology (5) AU, WI, SP, SU
375 Stereotyping and Prejudice (4) AU, WI, SP, SU
522 Organizational Psychology (4) AU

Section II. Advanced Requirements

(Choose at least one course from two of the five subareas of this section. These courses cannot be the same as those taken to meet a Core Requirement. Courses followed by "^" are infrequently taught.)

A. Cognition/Attention/Performance

503 Introduction to Cognitive Psychology (4) ^
508 Psychology of Judgment and Decision-Making (5) AU, WI, SP, SU
510 Research Methods in Cognitive Psychology (5) AU, SP
600 Psychology of Learning (5) AU
602 Psychology of Listening and Reading (3) ^

603 Visual Perception (3) ^
606 High-Level Vision (4) ^
608 Introduction to Mathematical Psychology (3) ^
609 Introduction to Mathematical Models in Experimental Psychology (4) ^
612 Introduction to Cognitive Science (3) WI
615 Psycholinguistics (5) ^
616 Psychological Scaling (4) ^
617 Neural Network Models in Psychology (4) ^
619 Visual Information Processing (5) AU
620 Human Performance (5) AU
625 Introduction to Auditory Perception (3) ^
695 Seminars in Psychology (2-5)
737 Proseminar in Cognitive Science (2) SP

B. Clinical/Counseling Psychology

511 Psychological Testing (4) WI
530 Psychology of Personality (4) AU, WI, SP, SU
531 Health Psychology (4) WI, SP
532 Clinical Psychological Science (5) AU
540 Introduction to Counseling Psychology (4) AU, WI, SP, SU
543 Psychology of Women (5) SU
545 Cross-Cultural Psychology (4) WI
695 Seminars in Psychology (2-5)
720 Psychology Applied to Sport (3) ^

C. Developmental Psychology

550 Psychology of Childhood (4) AU, WI, SP, SU
551 Adolescence (5) AU, WI, SP, SU
552 Psychology of the Adult Years (3) SP
571 Psychology of Developmental Disability (4) [H571 - 5 credits] SP
575 Behavior Modification in Applied Settings (4) ^
652 Behavior Modification with Children and Youth (3) ^
662 Psychology of Creativity (3) SU
681 Development and Psychopathology (5) SP
684 Psychology of Delinquency (5) AU
695 Seminars in Psychology (2-5)
717.01 Family Systems: An Interdisciplinary Approach to Families of Handicapped Children (3)
717.02 The Interdisciplinary Team: Clinical and Administrative Issues (3)
717.03 Developmental Disabilities (3)

D. Psychobiology

500 Experimental Psychology (5) ^
501 Advanced Psychobiology (4) WI
H506 Contemporary Issues in Neuroscience (2) ^
513 Introduction to Cognitive Neuroscience (4) AU

601 Comparative Psychology (3) ^
H613 Biological Bases of Psychopathology (4) SP
623 Biological Clocks and Behavior (4) AU
624 Psychology of Monkey and Apes (3) WI
626 Sensory Psychobiology (3) ^
627 Developmental Psychobiology (4) ^
644 Behavioral Endocrinology (3) WI
650 Psychobiology of Stress (4) AU
695 Seminars in Psychology (2-5)

E. Social Psychology

475 The Self (5) SP
520 Experimental Social Psychology (5) AU, WI, SP
522 Organizational Psychology (4) AU
525 Psychology of Personal Security (5) WI
630 Psychology of Public Attitudes (3) every other AU
695 Seminars in Psychology (2-5)

Section III. Elective Courses

(Any 300-level or higher Psychology Department or department-approved course [other than Psychology 389] not otherwise taken to meet one of the Core and/or Advanced Requirements listed previously, and the courses listed below. See also the current Ohio State University Course Offerings Bulletin.)

301 Psychology of Extraordinary Beliefs (5)
305 Drugs and Behavior (4)
321 Quantitative and Statistical Methods in Psychology (4)
[H321 - 5 credits] AU, WI, SP
332 Psychopathology and Psychotherapy II (3) not available after AU03
333.02 Human Behavior Problems: Sexual (3) WI, SP
350 Contemporary Issues in Developmental Psychology (3)
371 Language and the Mind (5) [*honors version available] AU, WI, SP
376 Interpersonal Relationships (5) AU
394 Group Studies (1-5)
485 Psychology and Law (4)
489 Internship in Psychology (4) AU, WI, SP
505 Contemporary Viewpoints in Psychology (3) SP
594 Group Studies (1-5)
693 Individual Studies (1-15)
697 Study at Foreign Institution
(does not include Psychology London Short-Term Study Program)
H783 Honors Research (4)

Additional Information

1. A psychology major offers liberal arts students considerable depth and breadth of exposure to disciplined inquiry into human and animal behavior. A major in

psychology can provide a strong foundation for professional training or graduate study in psychology. However, the undergraduate degree alone is not sufficient training for a career in psychology.

2. In general, students interested in graduate training in psychology should gain a broad background in psychology rather than concentrate in any one area. Research experience via Psychology 693 is also highly valuable and strongly encouraged/expected. Theprerequisitesfor Psychology 693 are nine credit hours of psychology (including Psych 100) and Psychology 300. Not more than six credit hours of Psychology 693 and Psychology 489 Internship in Psychology (combined) may be applied toward the 48 hours required for the major. However, many students choose to earn more than six credits of 693 research experience.

3. Students who are interested in exploring career options are encouraged to take Psychology 389 Career Exploration in Psychology. This 3-credit hour course is graded S/U and provides students with the opportunity to explore career areas and develop career search skills. This course does not count on the major program.

4. Seminar offerings (Psychology 394, 594, 695 and 794) are available to advanced undergraduates. Students should keep informed of these seminars by contacting the Advising Office or checking their website. A maximum of six hours of Psychology 695 can be applied to the major.

5. H783 is a three-course sequence for students pursuing a senior honors thesis. Those students who wish to undertake a senior honors thesis (an application to the Honors Program is required) work closely with a Department of Psychology faculty mentor. Students propose a research topic, conduct the study, write an honors thesis, and take an oral examination on their work. Completing the honors thesis successfully and maintaining an overall GPA of 3.3 and a 3.5 GPA in psychology permits the student to graduate with "Distinction in Psychology". It is best for students to find a faculty mentor with whom to work by the spring quarter of the year before they graduate. Most often, this will be a faculty member with whom the student has participated in Psychology 693. Only four of the nine credits earned through H783 will be applied to the major. The remainder of the credits is applied to total credits required for graduation. For more information, see http://www2.psy.ohio-state.edu/undergraduate/u_research1.htm.

6. Students who have a research proposal may apply for an undergraduate research scholarship through the Colleges of Arts and Sciences. Scholarship competitions occur both in the Autumn and the Spring. Applications may be obtained at the Honors Office in Denney Hall and in the Psychology Advising Office. In addition, there are two research scholarships (the Alkire Research Scholarship or Frederick Y. Billingslea Research Scholarship) available through the Department of Psychology. Applications are available early in spring quarter for the following academic year.

Students who pursue research in the department may also participate in the Department of Psychology Undergraduate Research Colloquium and the university-wide undergraduate research colloquium held during spring quarter.

7. Students planning to graduate "With Honors in Arts and Sciences" should see http://www2.psy.ohio-state.edu/undergraduate/honors_req.htm for information on Honors Contract requirements for psychology majors.

Appenduix 2: Current Psychology Bachelor of Science major

Bachelor of Science

Overview of Major Requirements

Forty-eight (48) credits in Psychology department (or department approved) coursework at the 300-level and above (Exception - Psych. 320: Introduction to Data Analysis in Psychology does not count toward the major). This coursework is distributed across three categories: Core Requirements, Advanced Requirements, and Elective Courses.

Psych. 100: General Psychology and Psych. 300: Introduction to Research in Psychology are required of all psychology majors (Psych. 100 fulfills a GEC requirement; Psych. 300 counts toward the major).

B.S. students in psychology must take Psych. 320 (H320 is also available) or pre-approved equivalent course, which will not be counted toward the major. B.S. students must also take Psych. 321 (H321 is also available) and one of the advanced research methods courses (Psych. 500, 510, or 520). Psych. 321 and the advanced research methods course will be counted toward the major.

Minimum of one course in each of the Core Requirement areas (A-E) as listed below in Section I.

Minimum of two additional courses at the 500-level and above (Advanced Requirements). Choose from two of the five sub-areas as listed below in Section II. Note: Psych. 475: The Self and Psych. 695: Seminars in Psychology can be used as advanced requirement courses. Psych. 693 cannot be used to meet this requirement.

Minimum grade of a "C-" in any course to be counted toward the major. Minimum major GPA of 2.0 for graduation (Does not include Psych. 100 or Stats. 245/Psych. 320).

If Psych. 367.01 is used as a second-level writing course for the GEC requirement, it may also be used to satisfy the core requirement in the Social Psychology sub-area and these credits will be applied to the total credits for the major.

Psych. 489 Internship in Psychology and Psych. 693 Research credits combined can only apply 6 hours to the major program.

Psych. 389 Career Exploration in Psychology does not count on the major program.

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(Choose one course from each of the five subareas of this section.)

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309 Human Motor Control and Learning (3) [4 credits - WI05] AU
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312 Learning, Memory, and Cognition (4) AU, WI, SP
508 Psychology of Judgment and Decision-Making (5) [*honors version available SP] AU, WI, SP, SU

B. Clinical/Counseling Psychology

331 Abnormal Psychology (5) AU, WI, SP, SU
335 Psychology of Adjustment (4) AU, SU
540 Introduction to Counseling Psychology (4) AU, WI, SP, SU

C. Developmental Psychology

340 Introduction to Life Span Developmental Psychology (3) AU, WI, SP, SU
550 Psychology of Childhood (4) [*honors version available AU] AU, WI, SP, SU
551 Adolescence (5) AU, WI, SP, SU
552 Psychology of the Adult Years (3) SP

D. Psychobiology

310 Basic Psychology: Perception (4) AU, WI, SP
313 Introduction to Psychobiology (4) AU, WI, SP

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H325 Social Psychology (5) WI or SP
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Appenduix 3: Proposed Psychology BA major

Bachelor of Arts

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Minimum of three additional courses at the 500-level and above (Advanced Requirements, Section II). Choose at least one course from each of the three sub-areas listed below in Section II. Note: Psych. 475: The Self and Psych. 695 Seminars in Psychology can be used as advanced requirement courses. Psych. 693 cannot be used to meet this requirement.

Minimum grade of a "C-" in any course to be counted toward the major. Minimum major GPA of 2.0 for graduation (Does not include Psych. 100).

If Psych. 367.01 is used as a second-level writing course for the GEC requirement, it may also be used to satisfy the core requirement in the Social Psychology Core Requirement sub-area. However, the credits are not applied to the total credits for the major.

A third-level writing course (Psych. 500, 510, and 520) is not required for the B.A. in psychology. However, a third-level writing course~~it~~ is recommended, as well as Psych. 321, for those students considering graduate work in psychology.

Psych. 489 Internship in Psychology and Psychology 699 and Psychology 693 Research credits combined can only apply 6 hours to the major program.

Psych. 389 Career Exploration in Psychology does not count on the major program.

Section I. Core Requirements
(Choose one course from each of the six sub-areas of this section.)

A. Perception and Action
302 Introduction to the Psychology of Listening and Reading (4) AU
309 Human Motor Control and Learning (3) [4 credits - WI05] AU
310 Basic Psychology: Perception (4) AU, WI, SP
(311 General Psychology: Motivation & Action (3) only available at regional campuses)

B. Memory, Decision-Making, and Language
312 Learning, Memory, and Cognition (4) AU, WI, SP
465 Cognition, Language, and Memory (4)
508 Psychology of Judgment and Decision-Making (5)
[*honors version available SP] AU, WI, SP, SU

C. Clinical/Counseling Psychology
331 Abnormal Psychology (5) AU, WI, SP, SU
335 Psychology of Adjustment (4) AU, SU
540 Introduction to Counseling Psychology (4) AU, WI, SP, SU

D. Developmental Psychology
340 Introduction to Life Span Developmental Psychology (3) AU, WI, SP, SU
550 Psychology of Childhood (4) [*honors version available AU] AU, WI, SP, SU
551 Adolescence (5) AU, WI, SP, SU
552 Psychology of the Adult Years (3) SP

E. Psychobiology
313 Introduction to Psychobiology (4) AU, WI, SP

F. Social Psychology
H325 Social Psychology (5) WI or SP
367.01 Social Psychology (5) AU, WI, SP, SU
375 Stereotyping and Prejudice (4) AU, WI, SP, SU
376 Interpersonal Relations (5)

Section II. Advanced Requirements
(Choose at least one course from each of the three sub-areas of this section.)

A. Behavioral Neuroscience and Cognitive Processes
500 Experimental Psychology (5)
501 Advanced Behavioral Neuroscience (4) WI
503 Introduction to Cognitive Psychology (4)
H506 Contemporary Issues in Neuroscience (2)
510 Research Methods in Cognitive Psychology (5) AU, SP
513 Introduction to Cognitive Neuroscience (4) AU
600 Psychology of Learning (5) AU

601 Comparative Psychology (3)
603 Visual Perception (3)
606 High Level Vision (4)
608 Mathematical Psychology (3)
609 Introduction to Mathematical Models (4)
612 Introduction to Cognitive Science (3) WI
H613 Biological Bases of Psychopathology (4) SP
617 Neural Network Models (4)
620 Human Performance (5) AU
623 Biological Clocks and Behavior (4) AU
624 Psychology of Monkey and Apes (3) WI
626 Sensory Psychobiology (3)
644 Behavioral Endocrinology (3) WI
650 Psychobiology of Stress (4) AU

B. Clinical and Developmental Psychological Science
511 Psychological Testing (4) WI
531 Health Psychology (4) WI, SP
532 Clinical Psychological Science (5) AU
540 Introduction to Counseling Psychology (4) AU, WI, SP, SU
571 Psychology of Developmental Disability (4) [H571 - 5 credits] SP
681 Development and Psychopathology (5) SP

C. Social Behavior and Personality
475 The Self (5) SP
520 Experimental Social Psychology (5) AU, WI, SP
522 Organizational Psychology (4) AU
525 Psychology of Personal Security (5) WI
530 Psychology of Personality (4) AU, WI, SP, SU
545 Cross Cultural Psychology (4) W
543 Psychology of Women (5) SU
630 Psychology of Public Attitudes (3) every other AU

Section III. Elective Courses
(Any 300-level or higher Psychology Department or department-approved course [other than Psychology 389] not otherwise taken to meet one of the Core and/or Advanced Requirements listed previously. See the current Ohio State University Course Offerings Bulletin for a complete list.)

Additional Information
1. A psychology major offers liberal arts students considerable depth and breadth of exposure to disciplined inquiry into human and animal behavior. A major in psychology can provide a strong foundation for professional training or graduate study in psychology. However, the undergraduate degree alone is not sufficient training for a career in psychology.

2. In general, students interested in graduate training in psychology should gain a broad background in psychology rather than concentrate in any one area. Research experience via Psychology 699 or Psychology 693 is also highly valuable and strongly encouraged/expected. The prerequisites for Psychology 699 and for Psychology 693 are nine credit hours of psychology (including Psych 100, Psychology 220, and Psychology 300). Not more than six credit hours of Psychology 693, Psychology 699 or Psychology 489 Internship in Psychology (combined) may be applied toward the 58 hours required for the major. However, many students choose to earn more than six credits of 693 and 699 research experience.

3. Students who are interested in exploring career options are encouraged to take Psychology 389 Career Exploration in Psychology. This 3-credit hour course is graded S/U and provides students with the opportunity to explore career areas and develop career search skills. This course does not count on the major program.

4. Seminar offerings (Psychology 394, 594, 695 and 794) are available to advanced undergraduates. Students should keep informed of these seminars by contacting the Advising Office or checking their website. A maximum of six hours of Psychology 695 can be applied to the major.

5. H783 is a three-course sequence for students pursuing a senior honors thesis. Those students who wish to undertake a senior honors thesis (an application to the Honors Program is required) work closely with a Department of Psychology faculty mentor. Students propose a research topic, conduct the study, write an honors thesis, and take an oral examination on their work. Completing the honors thesis successfully and maintaining an overall GPA of 3.3 (and a 3.5 GPA in psychology) permits the student to graduate with "Distinction in Psychology". It is best for students to find a faculty mentor with whom to work by the spring quarter of the year before they graduate. Most often, this will be a faculty member with whom the student has participated in Psychology 693 or Psychology 699. Only four of the nine credits earned through H783 will be applied to the major. The remainder of the credits is applied to total credits required for graduation. For more information, see http://www2.psy.ohio-state.edu/undergraduate/u_research1.htm.

6. Students who have a research proposal may apply for an undergraduate research scholarship through the Colleges of Arts and Sciences. Scholarship competitions occur both in the Autumn and the Spring. Applications may be obtained at the Honors Office in Denney Hall and in the Psychology Advising Office. In addition, there are two research scholarships (the Alkire Research Scholarship or Frederick Y. Billingslea Research Scholarship) available through the Department of Psychology. Applications are available early in spring quarter for the following academic year.

Students who pursue research in the department may also participate in the Department of Psychology Undergraduate Research Colloquium and the university-wide undergraduate research colloquium held during spring quarter.

7. Students planning to graduate "With Honors in Arts and Sciences" should see http://www2.psy.ohio-state.edu/undergraduate/honors_req.htm for information on Honors Contract requirements for psychology majors.

Appenduix 4: proposed Psychology BS major

Bachelor of Science

Overview of Major Requirements

Fifty-eight (58) credits in Psychology department (or department approved) coursework. This coursework is distributed across three categories: Core Requirements, Advanced Requirements, and Elective Courses.

Psych. 100: General Psychology, Psychology 220 (Introduction to Data Analysis in Psychology) and Psych. 300: Introduction to Research in Psychology are required of all psychology majors (Psych. 100 fulfills a GEC requirement; Psych. 220 and 300 count toward the major).

B.S. students must also take Psych. 321 (H321 is also available) and one of the advanced research methods courses (Psych. 500, 510, or 520). Psych. 321 and the advanced research methods course will be counted toward the major.

Minimum of one course in each of the Core Requirement areas (A-~~E~~F) as listed below in Section I.

Minimum of three additional courses at the 500-level and above (Advanced Requirements, Section II). Choose at least one course from each of the three sub-areas listed below in Section II. Note: Psych. 475: The Self and Psych. 695 Seminars in Psychology can be used as advanced requirement courses. Psych. 693 cannot be used to meet this requirement.

Minimum grade of a "C-" in any course to be counted toward the major. Minimum major GPA of 2.0 for graduation (Does not include Psych. 100).

If Psych. 367.01 is used as a second-level writing course for the GEC requirement, it may also be used to satisfy the core requirement in the Social Psychology Core Requirement sub-area. However, the credits are not applied to the total credits for the major.

Psych. 489 Internship in Psychology and Psychology 699 and Psychology 693 Research credits combined can only apply 6 hours to the major program.

Psych. 389 Career Exploration in Psychology does not count on the major program.

Section I. Core Requirements
(Choose one course from each of the six sub-areas of this section.)

A. Perception and Action
302 Introduction to the Psychology of Listening and Reading (4) AU
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C. Clinical/Counseling Psychology
331 Abnormal Psychology (5) AU, WI, SP, SU
335 Psychology of Adjustment (4) AU, SU
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D. Developmental Psychology
340 Introduction to Life Span Developmental Psychology (3) AU, WI, SP, SU
550 Psychology of Childhood (4) [*honors version available AU] AU, WI, SP, SU
551 Adolescence (5) AU, WI, SP, SU
552 Psychology of the Adult Years (3) SP

E. Psychobiology
313 Introduction to Psychobiology (4) AU, WI, SP

F. Social Psychology
H325 Social Psychology (5) WI or SP
367.01 Social Psychology (5) AU, WI, SP, SU
375 Stereotyping and Prejudice (4) AU, WI, SP, SU
376 Interpersonal Relations (5)

Section II. Advanced Requirements
(Choose at least one course from each of the three sub-areas of this section.)

A. Behavioral Neuroscience and Cognitive Processes
500 Experimental Psychology (5)
501 Advanced Behavioral Neuroscience (4) WI
503 Introduction to Cognitive Psychology (4)
H506 Contemporary Issues in Neuroscience (2)
510 Research Methods in Cognitive Psychology (5) AU, SP
513 Introduction to Cognitive Neuroscience (4) AU
600 Psychology of Learning (5) AU

601 Comparative Psychology (3)
603 Visual Perception (3)
606 High Level Vision (4)
608 Mathematical Psychology (3)
609 Introduction to Mathematical Models (4)
612 Introduction to Cognitive Science (3) WI
H613 Biological Bases of Psychopathology (4) SP
617 Neural Network Models (4)
620 Human Performance (5) AU
623 Biological Clocks and Behavior (4) AU
624 Psychology of Monkey and Apes (3) WI
626 Sensory Psychobiology (3)
644 Behavioral Endocrinology (3) WI
650 Psychobiology of Stress (4) AU

B. Clinical and Developmental Psychological Science
511 Psychological Testing (4) WI
531 Health Psychology (4) WI, SP
532 Clinical Psychological Science (5) AU
540 Introduction to Counseling Psychology (4) AU, WI, SP, SU
571 Psychology of Developmental Disability (4) [H571 - 5 credits] SP
681 Development and Psychopathology (5) SP

C. Social Behavior and Personality
475 The Self (5) SP
520 Experimental Social Psychology (5) AU, WI, SP
522 Organizational Psychology (4) AU
525 Psychology of Personal Security (5) WI
530 Psychology of Personality (4) AU, WI, SP, SU
545 Cross Cultural Psychology (4) W
543 Psychology of Women (5) SU
630 Psychology of Public Attitudes (3) every other AU

Section III. Elective Courses
(Any 300-level or higher Psychology Department or department-approved course [other than Psychology 389] not otherwise taken to meet one of the Core and/or Advanced Requirements listed previously. See the current Ohio State University Course Offerings Bulletin for a complete list.)

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2. In general, students interested in graduate training in psychology should gain a broad background in psychology rather than concentrate in any one area. Research experience via Psychology 699 or Psychology 693 is also highly valuable and strongly encouraged/expected. The prerequisites for Psychology 699 and for Psychology 693 are nine credit hours of psychology (including Psych 100, Psychology 220, and Psychology 300). Not more than six credit hours of Psychology 693, Psychology 699 or Psychology 489 Internship in Psychology (combined) may be applied toward the 58 hours required for the major. However, many students choose to earn more than six credits of 693 and 699 research experience.

3. Students who are interested in exploring career options are encouraged to take Psychology 389 Career Exploration in Psychology. This 3-credit hour course is graded S/U and provides students with the opportunity to explore career areas and develop career search skills. This course does not count on the major program.

4. Seminar offerings (Psychology 394, 594, 695 and 794) are available to advanced undergraduates. Students should keep informed of these seminars by contacting the Advising Office or checking their website. A maximum of six hours of Psychology 695 can be applied to the major.

5. H783 is a three-course sequence for students pursuing a senior honors thesis. Those students who wish to undertake a senior honors thesis (an application to the Honors Program is required) work closely with a Department of Psychology faculty mentor. Students propose a research topic, conduct the study, write an honors thesis, and take an oral examination on their work. Completing the honors thesis successfully and maintaining an overall GPA of 3.3 (and a 3.5 GPA in psychology) permits the student to graduate with "Distinction in Psychology". It is best for students to find a faculty mentor with whom to work by the spring quarter of the year before they graduate. Most often, this will be a faculty member with whom the student has participated in Psychology 693 or Psychology 699. Only four of the nine credits earned through H783 will be applied to the major. The remainder of the credits is applied to total credits required for graduation. For more information, see http://www2.psy.ohio-state.edu/undergraduate/u_research1.htm.

6. Students who have a research proposal may apply for an undergraduate research scholarship through the Colleges of Arts and Sciences. Scholarship competitions occur both in the Autumn and the Spring. Applications may be obtained at the Honors Office in Denney Hall and in the Psychology Advising Office. In addition, there are two research scholarships (the Alkire Research Scholarship or Frederick Y. Billingslea Research Scholarship) available through the Department of Psychology. Applications are available early in spring quarter for the following academic year.

Students who pursue research in the department may also participate in the Department of Psychology Undergraduate Research Colloquium and the university-wide undergraduate research colloquium held during spring quarter.

7. Students planning to graduate "With Honors in Arts and Sciences" should see http://www2.psy.ohio-state.edu/undergraduate/honors_req.htm for information on Honors Contract requirements for psychology majors.

Appendix 5: Course change requests for Psych. 320 and H320, (including current and revised syllabi

The Ohio State University
Colleges of the Arts and Sciences Course Change Request

Psychology
Academic Unit

Psychology 320
Book 3 Listing (e.g., Portuguese) Course Number

Summer Autumn X Winter Spring Year 2007

Proposed effective date: choose one quarter and put an "X" after it; and fill in the year. See the OAA curriculum manual for deadlines.

A. *Course Offerings Bulletin* Information. Follow instructions in the OAA curriculum manual.
Before you fill out the "Present Course" information, be sure to check the latest edition of the Course *Offerings Bulletin* and subsequent Circulating Forms. You may find that the changes you need have already been made or that additional changes are needed. If the course offered is less than quarter or term, please also complete the Flexibly Scheduled/OffCampus/Workshop Request form.

COMPLETE ALL ITEMS THIS COLUMN **Present Course**	COMPLETE ONLY THOSE ITEMS THAT CHANGE **Changes Requested**
1. Book 3 Listing: Psychology	1.
2. Number: 320	2. 220
3. Full Title: Introduction to Data Analysis	3.
4. 18-Char. Transcript Title: INTRO DATA ANLYSIS	4.
5. Level and Credit Hours U 5	5.
6. Description: Introduction to statistical data analysis; random samples, graphical and numerical techniques of descriptive statistics, correlation, regression, probability, sampling distribution, and hypothesis testing.	6. Introduction to statistical analysis of psychological data; random samples, graphical and numerical techniques of descriptive statistics, correlation, regression, probability, sampling distribution, and hypothesis testing.
7. Qtrs. Offered : Au, Wi, Sp Qtrs	7.
8. Distribution of Contact Time: 2 1.5-hr classes, 1 2-hr lab (e.g., 3 cl, 1 3-hr lab)	8.
9. Prerequisite(s): Math 130 or Math 148 or equiv.	9. Psychology 100 and Statistics 145 or Math 130 or Math 148 or equiv.
10. Exclusion: Not open to students with credit for 219 or 394 Sp Qtr 1995 (Not open to....)	10.
11. Repeatable to a maximum of N/A credits.	11.
12. Off-Campus Field Experience:	12.
13. Cross-listed with: N/A	13.
14. Is this a GEC course? No	14.
15. Grade option (circle): Ltr X S/U P If P graded, what is the last course in the series?	15.
16. Is an honors version of this course available? Yes	16.
17. Other general course information:	17.

B. General Information

1. Do you want the prerequisites enforced electronically (see the OAA manual for what can be enforced)?
   yes

2. Does this course currently satisfy any GEC requirement, if so indicate which category?
   N/A

3. What other units require this course? Have these changes been discussed with those units?
   N/A

4. Have these changes been discussed with academic units that might have a jurisdictional interest in the subject matter? Attach relevant letters.
   N/A

5. Is the request contingent upon other requests, if so, list the requests?

   Yes, the course change is contingent on approval of the revision to the Psychology major.

6. **Purpose of the proposed change. (If the proposed change affects the content of the course, attach a revised syllabus and course objectives and e-mail to asccurrofc@osu.edu.)**
   The change reflects redefinition of the course as a required lower level course in the revised Psychology major.

7. Please list Majors/Minors affected by the proposed change. Attach revisions of all affected programs. This course is (check one): ☒ Required on major(s)/minor(s) ☐ A choice on major(s)/minors(s) ☐ An elective within major(s)/minor(s) ☐ A general elective:
   Note: It is not currently required of psychology majors but will be under the revised psychology major.

8. Describe any changes in library, equipment or other teaching aids needed as a result of the proposed change or if the proposed change involves budgetary adjustments, describe the method of funding:
   N/A

Approval Process The signatures on the lines in ALL CAPS (e.g. ACADEMIC UNIT) are required.

1.	Academic Unit Undergraduate Studies Committee Chair	Robert Arkin Printed Name	5 OCT 2006 Date
2.	Academic Unit Graduate Studies Committee Chair	Printed Name	Date
3.	**ACADEMIC UNIT CHAIR/DIRECTOR**	Gifford Weary **Printed Name**	10·05·06 **Date**

4. **After the Academic Unit Chair/Director signs the request, forward the form to the ASC Curriculum Office, 105 Brown Hall, 190 West 17th Ave. or fax it to 688-5678. Attach the syllabus and any supporting documentation in an e-mail to asccurrofc@osu.edu. The ASC Curriculum Office will forward the request to the appropriate committee.**

5.	**COLLEGE CURRICULUM COMMITTEE**	**Printed Name**	**Date**
6.	**ARTS AND SCIENCES EXECUTIVE DEAN**	**Printed Name**	**Date**
7.	Graduate School (if appropriate)	Printed Name	Date
8.	University Honors Center (if appropriate)	Printed Name	Date
9.	Office of International Affairs (study tours only)	Printed Name	Date
10.	**ACADEMIC AFFAIRS**	**Printed Name**	**Date**

Psychology 220 Introduction to Data Analysis

Instructor: Trisha Van Zandt
Lazenby 230, 688-4081
Office hours: By appointment or drop in
E-mail: van-zandt.2@osu.edu

T.A.s: Lauren Wiemer
Lazenby 240A
Office hours: T 2:00-3:00, W 11:00-12:00
E-mail: wiemer.3@osu.edu

Hao Wu
Lazenby 240C
Phone: 292-5919
Office hours: MW 1:30-2:30
E-mail: wuhao_pku@yahoo.com

Web site: This course will use Carmen.

Texts:
1. Howell, D. C. (2004). *Fundamental Statistics for the Behavioral Sciences* (5^{th} Edition). Belmont, CA: Brooks/Cole.
2. Williams, P. (2003; recommended, not required). *Interactive Statistics.* Sinauer Associates, Inc. URL: `http://www.introstats.net`.

Students with disabilities: This syllabus is available in alternative formats upon request. In addition, if you may need an accommodation based on the impact of a disability, you should contact the instructor immediately. Students with special needs should contact the Office of Disability Services (ODS) at 292-3307 for certification if they have not already done so. Upon such certification, the ODS and the instructor will make every effort to accommodate special needs. However, to ensure that evaluation of student performance in the course is conducted in a manner that is fair to all students, special accommodations will not be granted in the absence of ODS certification.

Academic Misconduct: All students at the Ohio State University are bound by the Code of Student Conduct (see `http://studentaffairs.osu.edu/resource_csc.asp`). Suspected violations of the code in this class will be dealt with according to the procedures detailed in that code. Specifically, any alleged cases of misconduct will be referred to the Committee on Academic Misconduct.

Grading policies

I will use the following fixed grading scale:

A	A-	B+	B	B-	C+	C	C-	D+	D
93%	90%	87%	83%	80%	77%	73%	70%	67%	60%

To prevent against unfair exams, I will call the grade of the second highest scorer on any exam 100%, and the cutoffs will be computed from that grade. So, for example, if I write a really hard test and the second highest score is 72%, and you earn 60%, your score on that exam will be $60/72 = 83\%$. (Note that I have never had to do this!)

There will be three exams, each worth 15% of your grade. We will have 3 short in-class quizzes, each worth 5% of your grade (for a total of 15%). Homeworks, which will be assigned on an approximately weekly basis, will be worth 40% of your grade. Because solution sets will be posted, no late homeworks will be accepted. You will have opportunities to make up missing homeworks in the form of optional work that will be assigned throughout the quarter. I repeat, homeworks are worth 40% of your grade! Don't blow them off! If you do, even if you do perfectly on all exams and quizzes, the best grade you will be able to earn is a D.

Exams will be closed-book, but you may bring one 8.5"x11" page of notes to the exam. In the event of a last-minute emergency, you MUST call me, your TA, or Angie Mercer (2-4131) BEFORE THE EXAM BEGINS. ALL MAKE-UP EXAMS WILL BE ORAL AND NO LATER THAN THREE DAYS AFTER THE MISSED EXAM. Acceptable excuses for missing an exam are a death in your family, personal illness or the illness of your child or spouse, and unforseen accidents like your car breaking down or getting stuck in a elevator on the way to the exam. I will need documented proof of these events should they occur, so get a funeral card, a note from your physician, and/or an invoice from the towing company with the date on it.

Under certain circumstances, you may arrange to take an exam early. Discuss rescheduling an exam with the instructor well in advance of the exam.

I reserve the right to modify the weights on exams, quizzes and homeworks as I see appropriate. I also reserve the right to give unannounced or "pop" quizzes, either for extra credit or otherwise.

Some important stuff

- Quizzes will begin at the start of class time on the scheduled date. Each quiz will take no longer than 10 minutes. If you are late, you will miss the quiz. I will not provide makeup quizzes to people who arrive late, except in cases of documented emergencies.
- Come to class. It makes a difference. I give out test questions in class. I work through examples. I answer questions. You're paying me to provide you with instruction. Don't waste your (or your parents') money by skipping class and trying to learn it all on your own.

Tentative class schedule

Week	Dates		Howell	Williams	Topics
				Descriptive Statistics	
1	Mar	27	Ch 1,2(1,2)	Ch 1	Introduction, preliminary concepts
		29	Ch 3(1-3)	Ch 2(1-4)	Frequency distributions, percentiles
		31			Recitation
2	April	3	Ch 3(4-6)	Ch 2(3)	Graphic representations
		5*	Ch 4	Ch 3(1,2)	Central tendency
		7			Recitation
3		10	Ch 5(1-6)	Ch 3(3,4)	Variability, dispersion
		12	Ch 9(1-4)	Ch 3(5),11(1-3)	Covariance and correlation
		14			Recitation
4		17	Ch 9(6,7),10(1-5)	11(4)	Correlation and regression
		19			Examples, test review
		21	Exam 1 (Covers readings and lectures through Week 3)		
				Inferential Statistics	
5		24	Ch 7	Ch 4(1)	Probability
		26	Ch 6(1,2)	Ch 3(6),4(2)	The normal distribution
		28			Recitation
6	May	1*	Ch 8(2),12(1)	Ch 4(3)	Sampling distributions
		3	Ch 6(3)	Ch 9(1,2, stop before 9.2.1)	Confidence intervals
		5			Recitation
7		8	Ch 12(7)		Confidence intervals cont.
		10			Examples, test review
		12	Exam 2 (Covers readings and lectures from Weeks 4-6)		
8		15	Ch 8(1-5)	Ch 5(1,2)	Hypothesis testing
		17	Ch 8(6-8)	Ch 5(3-6),7	The z-test
		19			Recitation
9		22*	8(7),15(1-3)	7(4)	The z-test and power
		24			Power and effect size
		26			Recitation
10		29			Memorial Day
		31			Examples, test review
	June	2	Exam 3 (Covers readings and lectures from Weeks 7-10)		

* - Quiz day

Psychology 320 Introduction to Data Analysis
Spring 2006
LECTURES: MW 9:30 - 10:48, TO 247
RECITATION: F 9:30 - 10:48, TO 247

Instructor: Trisha Van Zandt
Lazenby 230, 688-4081
Office hours: By appointment or drop in
E-mail: van-zandt.2@osu.edu

T.A.s: Lauren Wiemer
Lazenby 240A
Office hours: T 2:00-3:00, W 11:00-12:00
E-mail: wiemer.3@osu.edu

Hao Wu
Lazenby 240C
Phone: 292-5919
Office hours: MW 1:30-2:30
E-mail: wuhao_pku@yahoo.com

Web site: This course will use Carmen.

Texts:
1. Howell, D. C. (2004). *Fundamental Statistics for the Behavioral Sciences* (5^{th} Edition). Belmont, CA: Brooks/Cole.
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To prevent against unfair exams, I will call the grade of the second highest scorer on any exam 100%, and the cutoffs will be computed from that grade. So, for example, if I write a really hard test and the second highest score is 72%, and you earn 60%, your score on that exam will be $60/72 = 83\%$. (Note that I have never had to do this!)

There will be three exams, each worth 15% of your grade. We will have 3 short in-class quizzes, each worth 5% of your grade (for a total of 15%). Homeworks, which will be assigned on an approximately weekly basis, will be worth 40% of your grade. Because solution sets will be posted, no late homeworks will be accepted. You will have opportunities to make up missing homeworks in the form of optional work that will be assigned throughout the quarter. I repeat, homeworks are worth 40% of your grade! Don't blow them off! If you do, even if you do perfectly on all exams and quizzes, the best grade you will be able to earn is a D.

Exams will be closed-book, but you may bring one 8.5"x11" page of notes to the exam. In the event of a last-minute emergency, you MUST call me, your TA, or Angie Mercer (2-4131) BEFORE THE EXAM BEGINS. ALL MAKE-UP EXAMS WILL BE ORAL AND NO LATER THAN THREE DAYS AFTER THE MISSED EXAM. Acceptable excuses for missing an exam are a death in your family, personal illness or the illness of your child or spouse, and unforseen accidents like your car breaking down or getting stuck in a elevator on the way to the exam. I will need documented proof of these events should they occur, so get a funeral card, a note from your physician, and/or an invoice from the towing company with the date on it.

Under certain circumstances, you may arrange to take an exam early. Discuss rescheduling an exam with the instructor well in advance of the exam.

I reserve the right to modify the weights on exams, quizzes and homeworks as I see appropriate. I also reserve the right to give unannounced or "pop" quizzes, either for extra credit or otherwise.

Some important stuff

- Quizzes will begin at the start of class time on the scheduled date. Each quiz will take no longer than 10 minutes. If you are late, you will miss the quiz. I will not provide makeup quizzes to people who arrive late, except in cases of documented emergencies.
- Come to class. It makes a difference. I give out test questions in class. I work through examples. I answer questions. You're paying me to provide you with instruction. Don't waste your (or your parents') money by skipping class and trying to learn it all on your own.

Tentative class schedule

Week	Dates		Howell	Williams	Topics
				Descriptive Statistics	
1	Mar	27	Ch 1,2(1,2)	Ch 1	Introduction, preliminary concepts
		29	Ch 3(1-3)	Ch 2(1-4)	Frequency distributions, percentiles
		31			Recitation
2	April	3	Ch 3(4-6)	Ch 2(3)	Graphic representations
		5*	Ch 4	Ch 3(1,2)	Central tendency
		7			Recitation
3		10	Ch 5(1-6)	Ch 3(3,4)	Variability, dispersion
		12	Ch 9(1-4)	Ch 3(5),11(1-3)	Covariance and correlation
		14			Recitation
4		17	Ch 9(6,7),10(1-5)	11(4)	Correlation and regression
		19			Examples, test review
		21	Exam 1 (Covers readings and lectures through Week 3)		
				Inferential Statistics	
5		24	Ch 7	Ch 4(1)	Probability
		26	Ch 6(1,2)	Ch 3(6),4(2)	The normal distribution
		28			Recitation
6	May	1*	Ch 8(2),12(1)	Ch 4(3)	Sampling distributions
		3	Ch 6(3)	Ch 9(1,2, stop before 9.2.1)	Confidence intervals
		5			Recitation
7		8	Ch 12(7)		Confidence intervals cont.
		10			Examples, test review
		12	Exam 2 (Covers readings and lectures from Weeks 4-6)		
8		15	Ch 8(1-5)	Ch 5(1,2)	Hypothesis testing
		17	Ch 8(6-8)	Ch 5(3-6),7	The z-test
		19			Recitation
9		22*	8(7),15(1-3)	7(4)	The z-test and power
		24			Power and effect size
		26			Recitation
10		29			Memorial Day
		31			Examples, test review
	June	2	Exam 3 (Covers readings and lectures from Weeks 7-10)		

* - Quiz day

The Ohio State University
Colleges of the Arts and Sciences Course Change Request

Psychology
Academic Unit

Psychology — H320
Book 3 Listing (e.g., Portuguese) — Course Number

Summer Autumn X Winter Spring Year 2007

Proposed effective date: choose one quarter and put an "X" after it; and fill in the year. See the OAA curriculum manual for deadlines.

A. *Course Offerings Bulletin* Information. Follow instructions in the OAA curriculum manual. Before you fill out the "Present Course" information, be sure to check the latest edition of the Course *Offerings Bulletin* and subsequent Circulating Forms. You may find that the changes you need have already been made or that additional changes are needed. If the course offered is less than quarter or term, please also complete the Flexibly Scheduled/OffCampus/Workshop Request form.

COMPLETE ALL ITEMS THIS COLUMN	COMPLETE ONLY THOSE ITEMS THAT CHANGE
Present Course	**Changes Requested**
1. Book 3 Listing: Psychology	1.
2. Number: H320	2. H220
3. Full Title: Introduction to Data Analysis	3.
4. 18-Char. Transcript Title: INTRO DATA ANLYSIS	4.
5. Level and Credit Hours U 5	5.
6. Description: Introduction to statistical data analysis, graphical and numerical techniques, correlation, regression, probability, sampling distributions, and hypothesis testing.	6.
7. Qtrs. Offered : Wi Qtr	7.
8. Distribution of Contact Time: 2 1.5-hr classes, 1 2-hr lab (e.g., 3 cl, 1 3-hr lab)	8.
9. Prerequisite(s): Math 148 or equiv; and honors standing or permission of instructor	9. Psychology 100 and Math 148 or equiv; and honors standing or permission of instructor.
10. Exclusion: Not open to students with credit for Statistics 245 (Not open to....)	10.
11. Repeatable to a maximum of N/A credits.	11.
12. Off-Campus Field Experience:	12.
13. Cross-listed with: N/A	13.
14. Is this a GEC course? No	14.
15. Grade option (circle): Ltr X S/U P If P graded, what is the last course in the series?	15.
16. Is an honors version of this course available? Yes	16.
17. Other general course information:	17.

B. General Information

1. Do you want the prerequisites enforced electronically (see the OAA manual for what can be enforced)?
   yes

2. Does this course currently satisfy any GEC requirement, if so indicate which category?
   N/A

3. What other units require this course? Have these changes been discussed with those units?
   N/A

4. Have these changes been discussed with academic units that might have a jurisdictional interest in the subject matter? Attach relevant letters.
   N/A

5. Is the request contingent upon other requests, if so, list the requests?

   Yes, the course change is contingent on approval of the revision to the Psychology major.

6. **Purpose of the proposed change. (If the proposed change affects the content of the course, attach a revised syllabus and course objectives and e-mail to asccurrofc@osu.edu.)**
   The change reflects redefinition of the course as a required lower level course in the revised Psychology major.

7. Please list Majors/Minors affected by the proposed change. Attach revisions of all affected programs. This course is (check one): ☒ Required on major(s)/minor(s) ☐ A choice on major(s)/minors(s) ☐ An elective within major(s)/minor(s) ☐ A general elective:
   Note: It is not currently required of psychology majors but will be under the revised psychology major.

8. Describe any changes in library, equipment or other teaching aids needed as a result of the proposed change or if the proposed change involves budgetary adjustments, describe the method of funding:
   N/A

Approval Process The signatures on the lines in ALL CAPS (e.g. ACADEMIC UNIT) are required.

1.	Academic Unit Undergraduate Studies Committee Chair	Robert Arkin Printed Name	5 Oct 2006 Date
2.	Academic Unit Graduate Studies Committee Chair	Printed Name	Date
3.	**ACADEMIC UNIT CHAIR/DIRECTOR**	Gifford Weary **Printed Name**	10.05.06 **Date**

4. **After the Academic Unit Chair/Director signs the request, forward the form to the ASC Curriculum Office, 105 Brown Hall, 190 West 17th Ave. or fax it to 688-5678. Attach the syllabus and any supporting documentation in an e-mail to asccurrofc@osu.edu. The ASC Curriculum Office will forward the request to the appropriate committee.**

5.	**COLLEGE CURRICULUM COMMITTEE**	**Printed Name**	**Date**
6.	**ARTS AND SCIENCES EXECUTIVE DEAN**	**Printed Name**	**Date**
7.	Graduate School (if appropriate)	Printed Name	Date
8.	University Honors Center (if appropriate)	Printed Name	Date
9.	Office of International Affairs (study tours only)	Printed Name	Date
10.	**ACADEMIC AFFAIRS**	**Printed Name**	**Date**

REVISED SYLLABUS
Psychology H220 Introduction to Data Analysis in Psychology

Class: Mon Wed Fri 1:30-2:48 **Labs:** either Fri 11:30-12:48 or Fri 1:00 - 2:18

Instructor: Dr. Thomas Nygren **Office:** 240H Lazenby Hall **Phone:** 292-2935
E-mail: nygren.1@osu.edu

TA Office & Phone: Lazenby 337, 292-8117

Required Texts: Kirk, R. (2000). **Statistical Reasoning in Psychology and Education. (4th Ed.)** Fort Worth, TX: Harcourt Brace.

Stigler, Stephen M. (1999). **Statistics on the Table: The History of Statistical Concepts and Methods.** Cambridge, MA: Harvard University Press.

Readings: Approximately 10 chapters from Stigler's Statistics on the Table, about one or two per week.

Course Objectives: This Honors course is intended for students who desire an introduction to basic data analysis and statistical methods. One objective is to introduce you to basic concepts and techniques in applications of statistics, measurement, and experimental design. This course will prepare you for advanced statistics courses like H321, individual study courses such as Psychology 693, or senior thesis work (H783). A second objective is to give you the training necessary to read and critically evaluate and to write and orally present statistical analyses from empirical research. A final objective is to give you first-hand insight into how statisticians solve data analysis problems in real environments. We will do this though a series of guest lecture presentations or short field trips.

Evaluation: Student performance in the class will be evaluated on the basis of homework exercises, three exams, a final paper/project, and a conference-style oral presentation of the paper. Exams will cover both the lecture and text material and will usually consist of two separate parts, a closed-book and an open-book section. Closed-book items are typically short answer questions pertaining to concepts and ideas. Open-book questions typically involve working out data analysis problems similar to homework exercises. Students will be graded on the class project both in terms of the oral and written presentation.

Grading Weights: Weighting is as follows: three exams @ 20% each, final project -- 15%, oral presentation -- 10%, homework exercises -- 10%, class participation and discussion -- 5%.

Class Format: We will attempt to run each class in the following way. There will be two traditional lecture periods per week on Mondays and Wednesdays and one lab session on Fridays dealing with the core material of the course. Friday sessions will be set aside for an integration period in which students will learn more about data analysis problems and applications in a number of different research and business domains. We will sometimes have guest speakers on these days who will present data analysis issues in their own fields. We may also have periodic field trips to nearby places (e.g., Battelle) to meet with individuals whose work entails statistics and data analysis. Following each of these Friday sessions students will write a brief one page summary of the relevant issues presented by the individual(s) and how this work relates to what we are studying.

Prerequisites: Math 148 or equivalent. Not open to students who have taken Statistics 245.

Academic Misconduct: All students at the Ohio State University are bound by the Code of Student Conduct (see http://oaa.ohio-state.edu/coam/code.html). Violations of the code in this class will be dealt with according to the procedures detailed in that code. Specifically, any alleged cases of misconduct will be referred to the Committee on Academic Misconduct.

Tentative Schedule for Honors 220

CLASS **TOPIC** **Text Section**

Week 1 Introduction/Overview of the course. A brief history of statistics in psychology, quantitative psychology, and quantitative psychologists at Ohio State. Chapter 1
Friday Lab: Overview of lab computers and SPSS statistical software
Readings: Chapter 10. Statistical concepts in psychology A discussion of why statistics advanced so much faster in psychology than in other sciences

Week 2 Displaying data, frequencies, and relative frequencies. Graphing techniques. Estimators. Measures of central tendency. Chapters 2, 3
Friday Lab: Possible Guest speaker from business. Topic: Controversies in presenting data to consumers
Readings: Chapter 2. The average man is 168 years old. Adolphe Quetelet's effort to give meaning to averages of a collection of individuals.

Week 3 Measures of variability. Measures of association. The Pearson and Spearman correlation coefficients. The phi coefficient . Chapters 4, 5
Friday Lab: Possible guest speaker from ETS or insurance. Topic: Controversies in using correlations and regression equations in choosing applicants for jobs, programs, or life/health insurance policies.
Readings: Chapter 1. Karl Pearson and the Cambridge Economists. The story Karl Pearson's effort to study the relationship of alcoholism to genetic and environmental factors; his call to put "statistics on the table."
Chapter 6. Galton and the identification of fingerprints Applying statistics to turning the recording of fingerprints into a forensic science

Week 4 More correlation. Regression and prediction. A brief introduction to multiple correlation and regression. Chapter 6
Friday Lab: **Exam #1**
Readings: Chapter 9. Regression toward the mean Galton's discovery of a phenomenon that many consider one of the greatest discoveries in the history of science.
Chapter 17. Gauss and the invention of least squares. Did Legendre really introduce least squares in 1805 or was Gauss correct in his controversial statement that he had actually used the method in his work several years earlier?

Week 5 Probability, random variables, and probability distributions. Chapter 7
Friday Lab: Possible guest speaker from meteorology or medicine. Topic: How do experts make probably judgments; Bayes theorem and probability revision.
Readings: Chapter 12. The dark ages of probability Some little known early use in England of probability in both philosophy and mathematics
Chapter 13. John Craig and the probability of history. John Craig's quantitative attempt to show the decay of faith in the scriptures over time which he used to forecast exactly the Second Coming of Jesus Christ

Week 6 The Normal distribution and sampling distributions. Chapter 8
Friday Lab: Possible guest speaker with expertise in polling or focus groups. Topic: How do polls and focus groups work?
Readings: Chapter 21. The trial of the Pyx. The systematic use of sampling procedures for quality control in making coins at the London Mint. Using a statistical inspection technique known as the Trial of the Pyx.
Chapter 22. Normative terminology. Reasons for use of the "normal" name for the familiar bell-shaped curve.

Week 7 The Binomial distribution and more on sampling distributions. Chapters 8, 9
Friday Lab: Exam #2
Readings: Chapter 14. Stigler's law of eponymy. Reward in scientific discovery . He claimed that "no scientific discovery is named after its original discoverer."
Chapter 15. Who discovered Bayes' Theorem. An example of Stigler's law.

Week 8	An introduction to hypothesis testing and confidence intervals for means and proportions	Chapter 10
Friday Lab:	Possible guest speaker from business in a domain like consumer behavior and marketing.	
Readings:	Chapter 16. Daniel Bernoulli, Leonhard Euler, and maximum likelihood. Early development of the principle that "among all explanations for the observed data, choose as best the one that makes the data the most probable."	

Week 9	Statistical inference; formal hypothesis testing. Practical significance vs. statistical significance. Power and effect size.	Chapter 10
Friday Lab:	Possible speaker from Battelle. Topic: Issues and controversies in null hypothesis significance testing – practical and statistical significance.	
Readings:	Chapter 5. Francis Ysidro Edgeworth, Statistician. Pioneer work of Edgeworth who made the philosophical case for application of probabilistic methods and introduced the roots of ANOVA.	

Week 10	More one-sample tests; t-tests and alternatives, Whitney U test, Wilcoxon test	Chapters 11, 17
Friday Lab:	***Student Presentations of final project in Labs***	
Readings:	Chapter 19. Karl Pearson and degrees of freedom. The controversy between Sir Ronald Fisher and Karl Pearson over analyses of contingency tables, chi-square values, and degrees of freedom.	

Week #11 (Finals week) EXAM #3

Chapters from Stephen M. Stigler's:
Statistics on the Table: The History of Statistical Concepts and Methods.

**1. Karl Pearson and the Cambridge Economists. The story Karl Pearson's effort to study the relationship of alcoholism to genetic and environmental factors; his call to put "statistics on the table."
**2. The average man is 168 years old. Adolphe Quetelet's effort to give meaning to averages of a collection of individuals.
3. Jevons as a statistician. Overview of William Stanley Jevons' work on aggregation of social data.
4. Jevons on the King-Davenant Law of Demand A short paper on Jevons' statistical ideas on supply and demand
**5. Francis Ysidro Edgeworth, Statistician Pioneer work of Edgeworth who made the philosophical case for application of probabilistic methods and introduced the roots of ANOVA.
**6. Galton and the identification of fingerprints Applying statistics to turning the recording of fingerprints into a forensic science.
7. Stochastic Simulation of the 19th century Galton's invention of a device for stochastic simulation.
8. The history of statistics in 1933 Galton and the founding of the discipline of mathematical statistics in the 1930s.
**9. Regression toward the mean Galton's discovery of a phenomenon that many consider one of the greatest discoveries in the history of science.
**10. Statistical concepts in psychology A discussion of why statistics advanced so much faster in psychology than in other sciences.
11. Apollo Mathematicus The story of an effort in the 1690s to develop scientific medicine on a mathematical model.
**12. The dark ages of probability Some little known early use in England of probability in both philosophy and mathematics.
**13. John Craig and the probability of history. John Craig's quantitative attempt to show the decay of faith in the scriptures over time which he used to forecast the Second Coming of Jesus Christ.
**14. Stigler's law of eponymy. Reward in scientific discovery B He claimed that ANo scientific discovery is named after its original discoverer.
**15. Who discovered Bayes' Theorem. An example of Stigler's law.
**16. Daniel Bernoulli, Leonhard Euler, and maximum likelihood. Early development of the principle that among all explanations for the observed data, choose as best the one that makes the data the most probable.
**17. Gauss and the invention of least squares. Did Legendre really introduce least squares in 1805 or was Gauss correct in his controversial statement that he had actually used the method in his work several years earlier?
18. Cauchy and the witch of Agnesi. The controversy between Augustin Cauchy and I. J. Bienayme with respect to the relevance and importance of the Cauchy distribution.
**19. Karl Pearson and degrees of freedom. The controversy between Sir Ronald Fisher and Karl Pearson over analyses of contingency tables, chi-square values, and degrees of freedom.
20. Statistics and standards. How statistical methods became so important and valuable in the determination of standards for weights and measures.
**21. The trial of the Pyx. The systematic use of sampling procedures for quality control in making coins at the London Mint B using a statistical inspection technique known as the Trial of the Pyx.
**22. Normative terminology. Reasons for use of the Anormal@ name for the familiar bell-shaped curve.

**** These are chapters that are tentatively scheduled to be used as readings.**

H220 Final Homework Project Instructions

Evaluation: The final project and presentation will count toward a combined 25% of your grade.

Project: This project is intended to help you explore some of the material you have learned in more detail. This could be done in one of several ways:

1. First, you could explore a particular topic discussed in the book in more detail. Here are a few examples, but there are many others that you could generate from the text material:

a. How do people who take polls (e.g., presidential elections) do their sampling and how do they insure accuracy?
b. How are standardized tests tike the ACT and SAT developed and how are they used. Are the Agood@ predictors?
c. What kinds of scales are used most often in psychology (nominal, ordinal, interval, ratio)?
d. Find some examples of uses of statistics in print or broadcast media. Are there examples of misuses? For example, can you find examples of where people have made causal inferences from correlations or used means when medians should have been used?
e. Find some examples of where regression (i.e., prediction) has been used.

2. Use some of the statistical procedures we have discussed on some set of data.
You could either collect some data yourself from friends etc. or you could use some data that I have. My data consists of scores on personality measures and decision making tasks. If you collect your own data I would not expect you a lot -- just enough to do some analyses (maybe 10 to 20 or so people). I will have my data available on computer diskettes so that you could work on SPSS with it.

There are many possible things you can do with these data and you do not need to do all of them. Pick at least 2 different hypotheses you could test and do a test on each (e.g., a t-test, some correlation or regression). Then summarize your work in a short presentation. The presentation should describe what you did, how you did it, and your results. Results can be in the form of descriptive statistics, histograms, tables, graphs, etc. Much of the presentation will probably be in the form of summary tables or graphs with explanations.

FINAL PROJECT:
There will **not** be a formal paper to turn in, but I will ask you to provide a one or two page summary of your project. In addition, you will be asked to give a Powerpoint presentation and turn in a copy of the presentation on a diskette or email it to me as an attachment.

FINAL PRESENTATION:
In order to accommodate everyone your presentation should last no more than 10 minutes total. Plan to give your talk in about 7-8 minutes. That will leave 2-3 minutes for questions. Ten minutes is not a very long time so you will need to choose what you want to talk about very carefully. To use your time effectively you should use a Powerpoint or similar presentation method. I or the teaching associate can help you with this.

Psychology H320 Spring, 2004
Introduction to Data Analysis in Psychology

Class: Mon Wed Fri 1:30-2:48 **Labs:** either Fri 11:30-12:48 or Fri 1:00 - 2:18

Instructor: Dr. Thomas Nygren **Office:** 240H Lazenby Hall **Phone:** 292-2935
E-mail: nygren.1@osu.edu

TA Office & Phone: Lazenby 337, 292-8117

Required Texts: Kirk, R. (2000). **Statistical Reasoning in Psychology and Education. (4th Ed.)** Fort Worth, TX: Harcourt Brace.

Stigler, Stephen M. (1999). **Statistics on the Table: The History of Statistical Concepts and Methods.** Cambridge, MA: Harvard University Press.

Readings: Approximately 10 chapters from Stigler's Statistics on the Table, about one or two per week.

Course Objectives: This Honors course is intended for students who desire an introduction to basic data analysis and statistical methods. One objective is to introduce you to basic concepts and techniques in applications of statistics, measurement, and experimental design. This course will prepare you for advanced statistics courses like H321, individual study courses such as Psychology 693, or senior thesis work (H783). A second objective is to give you the training necessary to read and critically evaluate and to write and orally present statistical analyses from empirical research. A final objective is to give you first-hand insight into how statisticians solve data analysis problems in real environments. We will do this though a series of guest lecture presentations or short field trips.

Evaluation: Student performance in the class will be evaluated on the basis of homework exercises, three exams, a final paper/project, and a conference-style oral presentation of the paper. Exams will cover both the lecture and text material and will usually consist of two separate parts, a closed-book and an open-book section. Closed-book items are typically short answer questions pertaining to concepts and ideas. Open-book questions typically involve working out data analysis problems similar to homework exercises. Students will be graded on the class project both in terms of the oral and written presentation.

Grading Weights: Weighting is as follows: three exams @ 20% each, final project -- 15%, oral presentation -- 10%, homework exercises -- 10%, class participation and discussion -- 5%.

Class Format: We will attempt to run each class in the following way. There will be two traditional lecture periods per week on Mondays and Wednesdays and one lab session on Fridays dealing with the core material of the course. Friday sessions will be set aside for an integration period in which students will learn more about data analysis problems and applications in a number of different research and business domains. We will sometimes have guest speakers on these days who will present data analysis issues in their own fields. We may also have periodic field trips to nearby places (e.g., Battelle) to meet with individuals whose work entails statistics and data analysis. Following each of these Friday sessions students will write a brief one page summary of the relevant issues presented by the individual(s) and how this work relates to what we are studying.

Prerequisites: Math 148 or equivalent. Not open to students who have taken Statistics 245.

Academic Misconduct: All students at the Ohio State University are bound by the Code of Student Conduct (see http://oaa.ohio-state.edu/coam/code.html). Violations of the code in this class will be dealt with according to the procedures detailed in that code. Specifically, any alleged cases of misconduct will be referred to the Committee on Academic Misconduct.

Tentative Schedule for Honors 320

CLASS **TOPIC** **Text Section**

Week 1 Introduction/Overview of the course. A brief history of statistics in psychology, quantitative psychology, and quantitative psychologists at Ohio State. Chapter 1
Friday Lab: Overview of lab computers and SPSS statistical software
Readings: Chapter 10. Statistical concepts in psychology A discussion of why statistics advanced so much faster in psychology than in other sciences

Week 2 Displaying data, frequencies, and relative frequencies. Graphing techniques. Estimators. Measures of central tendency. Chapters 2, 3
Friday Lab: Possible Guest speaker from business. Topic: Controversies in presenting data to consumers
Readings: Chapter 2. The average man is 168 years old. Adolphe Quetelet's effort to give meaning to averages of a collection of individuals.

Week 3 Measures of variability. Measures of association. The Pearson and Spearman correlation coefficients. The phi coefficient . Chapters 4, 5
Friday Lab: Possible guest speaker from ETS or insurance. Topic: Controversies in using correlations and regression equations in choosing applicants for jobs, programs, or life/health insurance policies.
Readings: Chapter 1. Karl Pearson and the Cambridge Economists. The story Karl Pearson's effort to study the relationship of alcoholism to genetic and environmental factors; his call to put "statistics on the table."
Chapter 6. Galton and the identification of fingerprints Applying statistics to turning the recording of fingerprints into a forensic science

Week 4 More correlation. Regression and prediction. A brief introduction to multiple correlation and regression. Chapter 6
Friday Lab: **Exam #1**
Readings: Chapter 9. Regression toward the mean Galton's discovery of a phenomenon that many consider one of the greatest discoveries in the history of science.
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Readings: Chapter 12. The dark ages of probability Some little known early use in England of probability in both philosophy and mathematics
Chapter 13. John Craig and the probability of history. John Craig's quantitative attempt to show the decay of faith in the scriptures over time which he used to forecast exactly the Second Coming of Jesus Christ

Week 6 The Normal distribution and sampling distributions. Chapter 8
Friday Lab: Possible guest speaker with expertise in polling or focus groups. Topic: How do polls and focus groups work?
Readings: Chapter 21. The trial of the Pyx. The systematic use of sampling procedures for quality control in making coins at the London Mint. Using a statistical inspection technique known as the Trial of the Pyx.
Chapter 22. Normative terminology. Reasons for use of the "normal" name for the familiar bell-shaped curve.

Week 7 The Binomial distribution and more on sampling distributions. Chapters 8, 9
Friday Lab: Exam #2
Readings: Chapter 14. Stigler's law of eponymy. Reward in scientific discovery . He claimed that "no scientific discovery is named after its original discoverer."
Chapter 15. Who discovered Bayes' Theorem. An example of Stigler's law.

Week 8	An introduction to hypothesis testing and confidence intervals for means and proportions	Chapter 10
Friday Lab:	Possible guest speaker from business in a domain like consumer behavior and marketing.	
Readings:	Chapter 16. Daniel Bernoulli, Leonhard Euler, and maximum likelihood. Early development of the principle that "among all explanations for the observed data, choose as best the one that makes the data the most probable."	

Week 9	Statistical inference; formal hypothesis testing. Practical significance vs. statistical significance. Power and effect size.	Chapter 10
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Week 10	More one-sample tests; t-tests and alternatives, Whitney U test, Wilcoxon test	Chapters 11, 17
Friday Lab:	***Student Presentations of final project in Labs***	
Readings:	Chapter 19. Karl Pearson and degrees of freedom. The controversy between Sir Ronald Fisher and Karl Pearson over analyses of contingency tables, chi-square values, and degrees of freedom.	

Week #11 (Finals week) EXAM #3

Chapters from Stephen M. Stigler's:
Statistics on the Table: The History of Statistical Concepts and Methods.

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**15. Who discovered Bayes' Theorem. An example of Stigler's law.
**16. Daniel Bernoulli, Leonhard Euler, and maximum likelihood. Early development of the principle that among all explanations for the observed data, choose as best the one that makes the data the most probable.
**17. Gauss and the invention of least squares. Did Legendre really introduce least squares in 1805 or was Gauss correct in his controversial statement that he had actually used the method in his work several years earlier?
18. Cauchy and the witch of Agnesi. The controversy between Augustin Cauchy and I. J. Bienayme with respect to the relevance and importance of the Cauchy distribution.
**19. Karl Pearson and degrees of freedom. The controversy between Sir Ronald Fisher and Karl Pearson over analyses of contingency tables, chi-square values, and degrees of freedom.
20. Statistics and standards. How statistical methods became so important and valuable in the determination of standards for weights and measures.
**21. The trial of the Pyx. The systematic use of sampling procedures for quality control in making coins at the London Mint B using a statistical inspection technique known as the Trial of the Pyx.
**22. Normative terminology. Reasons for use of the Anormal@ name for the familiar bell-shaped curve.

**** These are chapters that are tentatively scheduled to be used as readings.**

H320 Final Homework Project Instructions

Evaluation: The final project and presentation will count toward a combined 25% of your grade.

Project: This project is intended to help you explore some of the material you have learned in more detail. This could be done in one of several ways:

1. First, you could explore a particular topic discussed in the book in more detail. Here are a few examples, but there are many others that you could generate from the text material:

a. How do people who take polls (e.g., presidential elections) do their sampling and how do they insure accuracy?
b. How are standardized tests tike the ACT and SAT developed and how are they used. Are the Agood@ predictors?
c. What kinds of scales are used most often in psychology (nominal, ordinal, interval, ratio)?
d. Find some examples of uses of statistics in print or broadcast media. Are there examples of misuses? For example, can you find examples of where people have made causal inferences from correlations or used means when medians should have been used?
e. Find some examples of where regression (i.e., prediction) has been used.

2. Use some of the statistical procedures we have discussed on some set of data.
You could either collect some data yourself from friends etc. or you could use some data that I have. My data consists of scores on personality measures and decision making tasks. If you collect your own data I would not expect you a lot -- just enough to do some analyses (maybe 10 to 20 or so people). I will have my data available on computer diskettes so that you could work on SPSS with it.

There are many possible things you can do with these data and you do not need to do all of them. Pick at least 2 different hypotheses you could test and do a test on each (e.g., a t-test, some correlation or regression). Then summarize your work in a short presentation. The presentation should describe what you did, how you did it, and your results. Results can be in the form of descriptive statistics, histograms, tables, graphs, etc. Much of the presentation will probably be in the form of summary tables or graphs with explanations.

FINAL PROJECT:
There will **not** be a formal paper to turn in, but I will ask you to provide a one or two page summary of your project. In addition, you will be asked to give a Powerpoint presentation and turn in a copy of the presentation on a diskette or email it to me as an attachment.

FINAL PRESENTATION:
In order to accommodate everyone your presentation should last no more than 10 minutes total. Plan to give your talk in about 7-8 minutes. That will leave 2-3 minutes for questions. Ten minutes is not a very long time so you will need to choose what you want to talk about very carefully. To use your time effectively you should use a Powerpoint or similar presentation method. I or the teaching associate can help you with this.