

Dutta, Lakshmi

From: Lora Gingerich Dobos [dobos.1@osu.edu]
Sent: Monday, February 04, 2008 4:38 PM
To: Smith, Randy; Kay Halasek
Cc: vasey.1@osu.edu; Weary, Gifford; Dutta, Lakshmi; michael ibba; Robert Calhoun; Adrienne Belt; Marcia Farr
Subject: Psychology Major Revisions
Attachments: Psychology Major Revisions 1-28-2008.pdf; Memo from CAA-C Psychology UG major revisions.doc; Questions Psychology UG major revisions.doc; cover letter.pdf; ATT24751712.htm

February 4, 2008

Dear Kay and Randy:

Subcommittee C of CAA met today and discussed the revised Proposal for Revisions to the Psychology Major. The subcommittee voted to forward the proposal to the full Council at this time with our unanimous support.

Four documents are attached. The pdf file "Psychology..." includes a cover letter and revision of the original proposal. Two work documents, the "Memo..." and "Questions..." include the correspondence between George Valco and Psychology. Finally, the pdf file "Cover..." includes Prof. Adelson's original cover letter and two pages of questions from the Arts and Sciences original review of the proposal.



Dr. Lora Dobos
Chair, Subcommittee C of CAA
Ohio State University
CAMPUS

Dear Dr. Dobos and Committee Members:

Attached is our Proposal for Revisions to the Psychology Major. A brief note on timing is in order before I summarize the proposal. You may recall that the original proposal was submitted by the Psychology Department quite some time ago. As noted in a letter dated November 14, 2007 from your outgoing chair, Dr. George Valco, your committee did review the proposal in a timely manner, and an email letter to us from Dr. Valco seeking comments and clarifications was intended to be sent to us last July 25th. George noted that unfortunately the email letter asking for a response was, in fact, never sent and resided in his email "outbox" until it was discovered late in 2007. We bring this up only to assure the committee that we are indeed very eager to have our new revision reviewed and approved in a timely manner. We want to assure you that the unfortunate long delay was not our doing and should not be construed as a lack of interest in bringing the process to a positive conclusion.

That said; let me try to summarize our responses to the issues raised by the committee in Dr. Valco's letter.

First, you asked that we "provide two tables, one for the BA and one for the BS, that explain the breakdown of total hours for each degree." We have done that. We found the charts that you provided to be very helpful and have built upon them.

Second, you asked that we clarify how Psych 320 fits in the current BS. You will see that currently, as shown in Appendix 7, BS students must take Psych 320 (or possibly H320) as five of 33 elective degree hours. Our revised proposal now includes these five hours (currently Psychology 320, but will be Psychology 220 under the revised proposal) in the 58-hour major.

Third you asked us whether we had "investigated the possibility of reshuffling the requirements to degree to replace previous requirements with the proposed new requirement rather than increasing the total hours to degree. Yes, we did consider that possibility. However, we value the Statistics Department and believe it is in the best interest of our students to build on the foundational Statistics 145 course with Psychology 220. The newly proposed Psychology (H)220 (the syllabus is included with this proposal), will focus almost entirely on the behavioral sciences and pick up where Statistics 145 ends.

The proposed addition of the other new course reflects the growth of the field of psychology and strives to more appropriately prepare our undergraduate majors for graduate and professional programs or work in the field. The faculty considered the reorganization of the requirements and believe that these proposed requirements will provide the necessary exposure to the explosion of the literature in experimental psychology and to the most recent conceptualization of subfields within the discipline of psychology. We also believe that these changes will make our major more consistent with those at peer schools with highly rated psychology departments.

As shown in Appendix 9, the increase in hours that these requirements necessitate brings us closer to the mid-range of required psychology hours among our peer institutions (and other majors at OSU). Our

current requirements leave us on the low end of requirements among peer institutions. We believe these changes are necessary for our students to successfully compete for jobs and graduate school placement with the 70,000 students who graduate with a bachelor's degree in psychology nationally every year.

Fourth, you noted that Subcommittee C members asked if the additional requirements will significantly affect the time to graduation. We responded "no" and you asked us to "answer more completely, and provide a summary of the evidence to substantiate it."

In November, 2006, a student focus group was held for feedback on the proposed major changes. In a group composed of students ranging from a first-quarter freshman through a 5th year senior, there was absolutely no concern expressed about the increase in credit hours—most students said they were already taking beyond the currently required 48 hours in order to focus on areas of particular interest within the field. Students did not believe that these new requirements would cause any major-driven delays in their education. While some of them will extend (or have already extended) their undergraduate education beyond 12 quarters, they did not see the major requirements as being a reason for this extension, nor did they believe the proposed changes would have an impact on extending time to graduation.

As indicated in Appendix 8 (Number of Credit Hours Taken by Psychology Baccalaureate Graduates for Academic Years 2002, 2003, 2004), 65% of our graduates already complete 58 or more hours in the psychology major, even though only 48 are required.

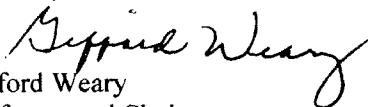
Fifth, you asked us to perform a comparison task that we found to be very useful and illuminating. You asked us to provide an appendix that enumerates the hours required in the major and total to degree at universities with peer psychology programs.

We did that. Again, please see Appendix 9 (Psychology Major and Total Degree Hours at Peer Institutions). We have presented required psychology major course work as a percentage of total course work required for a degree to eliminate the need to adjust for quarters/semesters. As you can see, these proposed major changes will allow us to keep pace with our peer institutions while our current requirements position us at the low end relative to these peer institutions.

Sixth, you noted that it appeared that the description for 220 only (and not H220) was changed to specifically target psychological data. The change was intended for both. We did include a course change request for Psychology H220 in the original proposal and supporting documents. It is included again in this resubmission.

Finally, we have made additional minor editorial changes to the proposal as requested. We hope that you will find responses helpful. We thank you in advance for a speedy review of our proposal. We are hopeful to have it in place for the beginning of the 2008-09 academic year.

Sincerely,


Gifford Weary
Professor and Chair
Psychology

cc: Tom Nygren, Mike Vasey, Alisa Paulsen

Date: 11/14/2007
To: Professors Gifford Weary and Michael Vasey
From: George J. Valco
Subject: Proposal for Revisions to the Psychology Major
CC: Lora Dobos, Randy Smith



COMMUNICATION
Department of
Electrical & Computer
Engineering

I am the past chair of Subcommittee C of the Council on Academic Affairs (CAA-C). CAA-C conducted a first review of your proposal for revisions to the Psychology Major during summer of 2007. On July 25, 2007 I thought I sent you a set of questions, comments and requests resulting from that review. The current chair of CAA-C is Lora Dobos, a continuing member of the subcommittee, who became the chair when I rotated off CAA at the beginning of autumn quarter. Yesterday Lora sent me an email inquiry about that review. To reply to her inquiry I had to look up the email message I wrote in July. I found the message in my "out" mailbox, however it was flagged with an icon that indicated it had been queued for sending, but was never sent. I am not sure what happened, but apologize for the delay this has caused.

The questions, comments and requests from the review are in a separate document attached to the same email conveying this memo.

Please respond to the questions, comments and requests by making appropriate revisions to the proposal and incorporating the responses to the questions themselves in a cover memo that accompanies the revised proposal. Please note any changes to the proposal in the cover memo as well. Please send your reply to Lora Dobos (dobos.1) with a copy to Randy Smith (smith.70) in the Office of Academic Affairs at your earliest convenience so that the current subcommittee C may keep the proposal moving through the review process. Lora Dobos can be contacted at dobos.1@osu.edu or 292-2870.

Once again I apologize for the delay my email error has caused. While the contact for advancing the proposal through the review process is now Lora Dobos, if you have any questions of me you may contact me at valco.1@osu.edu or 292-5110.

**Questions/Comments from Subcommittee C of CAA
RE: Proposal for Revisions to the Psychology Major**

July 25, 2007

- In order to fully assess this proposal to increase the major following the recent reduction in the GEC to try to reduce the number of hours to degree subcommittee C of CAA needs to see how the major fits into the overall hours to degree for Psychology majors. We did not find that information in the proposal.
 - Please provide two tables, one for the BA and one for the BS, that explain the breakdown of total hours for each degree. The table should be organized into GEC requirements, major requirements and any other courses required for the degree (e.g. free electives). The table should include columns for three situations: 1) the current major with the old GEC (the one in effect at the time the proposal was submitted); 2) the proposed major with the old GEC; 3) the proposed major with the newly approved GEC. For courses to meet the different categories of the GEC clearly identify if the student is required to take specific courses to prepare for the major or if they have free choice within that category. Include the number of hours in parenthesis, e.g. (5).
 - We have included on the last two pages of this document a draft of such tables for both the BA and BS, filled in with information we extracted from the proposal, and credit hours looked up on the Registrar's web site or on the course change forms included with the proposal. Please complete the "GEC" and "Other" sections of the proposal, correct any errors we might have made in interpreting the proposal, and indicate the total hours to degree for each of the three scenarios.
 - Please clarify how Psych 320 fits in the current BS. If it is not counted toward the major but students are required to take it, how does it count in total hours to degree?

- We see that the new requirements are one 5 hr statistics class plus one new class whose number of hours varies. Have you investigated the possibility or reshuffling the requirements to degree to replace previous requirements with the proposed new requirement rather than increasing the total hours to degree?
 - If so, please describe the investigation that was conducted.
 - Please justify the decision to increase the number of hours in the major rather than repackaging the requirements.

- Subcommittee C of the ASC committee on Curriculum and Instruction asked if the additional requirements affect the time to graduation. The answer was that students currently take enough *Elective Courses* in Psychology that the new requirements should not negatively affect the graduation for most students.

Please explain this answer more completely, and provide a summary of the evidence to substantiate it.

- Please provide an appendix that enumerates the hours required in the major and total to degree at universities with peer psychology programs. Clearly identify which

programs are on quarters and which are on semesters.

- In the proposal's discussion of the three elements of the revision, please swap the order of the paragraphs so that prerequisites are discussed prior to the major core.
- In the course change requests, the description for 220 is changed to specifically target psychological data, but a parallel change is not requested for H220. Why not?
- Please paginate the revised proposal.

Psychology BA

Program Category	Existing Major/Old GEC	Proposed Major/Old GEC	Proposed Major/New GEC
GEC			
Data Analysis	Stats. 145 (5) or Psych 320 (5) or H320 (5)		
Social Science	Psych. 100 (5)	Psych. 100 (5)	Psych. 100 (5)
Major	Must Total 48	Must Total 58	Must Total 58
Major - Core			
	Psych. 300 (4)	Psych 220 (5)	Psych 220 (5)
	Core A (3-5)	Psych 300 (4)	Psych 300 (4)
	Core B (4-5)	Core A (3-4)	Core A (3-4)
	Core C (3-5)	Core B (4-5)	Core B (4-5)
	Core D (4)	Core C (4-5)	Core C (4-5)
	Core E (4-5)	Core D (3-5)	Core D (3-5)
		Core E (4)	Core E (4)
		Core F (4-5)	Core F (4-5)
Major - Advanced			
	Advanced I (2-5)	Advanced A (2-5)	Advanced A (2-5)
	Advanced II (2-5)	Advanced B (4-5)	Advanced B (4-5)
		Advanced C (3-5)	Advanced C (3-5)
Major - Electives			
	N courses (10-22)	N courses (6-18)	N courses (6-18)
Other			
Total Hours to Degree	?	?	?

Psychology BS

Program Category	Existing Major/Old GEC	Proposed Major/Old GEC	Proposed Major/New GEC
GEC			
Social Science	Psych. 100 (5)	Psych. 100 (5)	Psych. 100 (5)
Major	Must Total 48	Must Total 58	Must Total 58
Major - Core			
	Psych. 300 (4)	Psych 220 (5)	Psych 220 (5)
	Psych 321 (4) or H321 (5)	Psych 300 (4)	Psych 300 (4)
	Psych. 500, 510, or 520 (5)	Psych 321 (4) or H321 (5)	Psych 321 (4) or H321 (5)
	Core A (3-5)	Psych. 500, 510, or 520 (5)	Psych. 500, 510, or 520 (5)
	Core B (4-5)	Core A (3-4)	Core A (3-4)
	Core C (3-5)	Core B (4-5)	Core B (4-5)
	Core D (4)	Core C (4-5)	Core C (4-5)
	Core E (4-5)	Core D (3-5)	Core D (3-5)
		Core E (4)	Core E (4)
		Core F (4-5)	Core F (4-5)
Major – Advanced			
	Advanced I (2-5)	Advanced A (2-5)	Advanced A (2-5)
	Advanced II (2-5)	Advanced B (4-5)	Advanced B (4-5)
		Advanced C (3-5)	Advanced C (3-5)
Major - Electives			
	0 to N courses (0-13)	0 to N courses (-4*-9)	0 to N courses (-4*-9)
Other			
	Psych. 320 (5) or H320 (5)		
Total Hours to Degree	?	?	?

* It appears that if a student takes courses from several categories with the largest number of hours in those categories they will go beyond the 58 hours required for the proposed revised major.

From: Smith, Randy
Sent: Friday, May 11, 2007 8:28 AM
To: 'George J Valco'; Dobos, Lora (.1); 'farr.18@osu.edu'; 'ROBERT CALHOUN'; 'eyswim@gmail.com'
Cc: Dutta, Lakshmi; 'winer@mps.ohio-state.edu'
Subject: Proposal for Review

All:

Attached (below) is a proposal from the Department of Psychology to revise its undergraduate major program. It has been approved by the Colleges of the Arts and Sciences Committee on Curriculum and Instruction.

The contacts for the proposal are: **Professors Gifford Weary, Chair, (weary.1) and Michael Vasey (vasey.1).**

After the Subcommittee has had a chance to review the proposal, but before it meets with the Department representative, Professor Brian L. Winer, Chair of the Council on Academic Affairs and I should meet with the Subcommittee to provide important contextual information.

Randy

W. Randy Smith
Vice Provost

<https://xpedio.oit.ohio-state.edu/xpedio/groups/public/documents/proposal/revisepsychologymajor.pdf>



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February 26, 2007

Dr. Brian Winer
 4042 Physics Research Building
 191 West Woodruff Avenue
 CAMPUS

Dear Brian:

On February 9, 2007, the ASC Committee on Curriculum and Instruction approved changes to the undergraduate major in Psychology. Previous to this action, the proposed changes were approved by the Psychology Department and SBS Curriculum Committees.

The attached proposal includes a ten credit increase in the major from 48 to 58 credits. This increase reflects the evolution experienced by the discipline of psychology in recent years. Specifically, the former "Cognition/Attention/Performance" category is now divided into two new categories: "Perception and Action", and "Memory, Decision-Making, and Language." Five credits of the proposed increase relate to this need for two separate domains in these areas.

An additional five credit increase relates to the need for students to be exposed to increased statistics content. While a research methods course requirement was instituted some years ago in the major, the department now believes that additional expectations within the field necessitate a discipline-based statistics course. Under the proposed changes, both statistics and research methods content will be prerequisites to advanced courses in the major.

The department has established that these changes are consistent with revisions at peer institutions. Since currently about 80% of psychology majors currently graduate with credit hours that equal or exceed the proposed number in this revision, the department does not believe that this change will be overly burdensome for its majors.

Please contact me with any questions.

Sincerely,

Edward H. Adelson
 Associate Executive Dean

cc: Randy Smith
 Jessica Mercerhill
 Clifford Weary

Date: January 24, 2007

Subject: Proposed Revisions to the Psychology Major

From: Jay Hobgood (Subcommittee C chair)

Subcommittee C discussed the proposed revisions to the major requirements for the B.A. and B.S. degrees offered by the Department of Psychology on November 28, 2006. After a discussion the subcommittee voted unanimously to approve the revised major requirements for both the B.A. and the B.S. degrees.

The principal revisions to the major are:

1. The *Core Requirements* categories are expanded from five to six by subdividing the current "Cognition/Attention/Performance" category into two categories called "Perception and Action" and "Memory, Decision-Making, and Language". Students will be required to take one course in each of the categories. The justification for this change is that it will better reflect the current character of the discipline of Psychology.
2. Psychology 320 is renumbered as Psychology 220 and will be required along with Psychology 100 and Psychology 300 of all B.A. and B.S. students. Psychology 320 is currently only required for the B.S. degree. The justification for this change is to ensure that the core features of psychological methods and statistics are better integrated and provide students with the level of knowledge necessary for advanced work within the Psychology major.
3. The *Advanced Requirements* categories are reduced from five to three and the list of courses in those categories is reduced from a total of 59 to 35. Students are required to choose "at least one course from each of the three categories" which is a change from the current requirement to choose "one course from two of the five categories". The justification for this change is that it will ensure that students achieve breadth as well as depth in their exposure to advanced coursework in Psychology.
4. These changes will increase the total hours required for the Psychology major from 48 hours to 58 hours.

The principal foci of questions and discussion during the Subcommittee's meeting were:

1. Since Psychology 313 is the only course in the "Psychobiology" category of the *Core Requirements*, will there be enough sections offered to meet demand? The answer was that there are enough sections.
2. Will the additional requirements affect time to graduation? The answer was that students currently take enough *Elective Courses* in Psychology that the new requirements should not negatively affect time to graduation for most students.

3. How do the additional requirements affect "Pre-med" students? This issue will be examined by Psychology.
4. What are the differences between the B.S. and the B.A. requirements? B.S. will be required to take Psychology 321 and one advanced methods class (either Psychology 500, 510 or 520). These courses will be allowed to count toward the other requirements for the major. B.A. and B.S. students will be required to take the same total number of hours in the major.
5. Current students were offered an opportunity to give feedback on the proposed revisions and the feedback was positive overall.

A Proposal to Revise the Psychology Major

College of Social and Behavioral Sciences

September 22, 2006

Resubmitted January 28, 2008

Appendices

1. Current Psychology Bachelor of Arts major
2. Current Psychology Bachelor of Science major
3. The proposed Psychology BA major
4. The proposed Psychology BS major
5. Course change requests for Psychology 320 and H320, including current and revised syllabi
6. Psychology BA credit hour comparison
7. Psychology BS credit hour comparison
8. Number of psychology credit hours taken by psychology baccalaureate graduates for academic years 2002, 2003, 2004
9. Psychology major and total degree hours at peer institutions

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 entering the university or 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 proposal introduces a change in the course structure serving as prerequisite to the Core Requirements: The course Psychology (H)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 for 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. The five credit hours for Psychology (H)220 will count on the major program.

Second, the foundational survey courses (termed Core Requirements, Section I) today number five; the proposal adds a sixth Core Requirements 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 and more appropriately prepares our graduates for graduate and professional programs or work in the field.

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 requirements; 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 course work 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): Psychology (H)220 and the addition of a sixth Core course. The final element of the Psychology major, "Section III: Elective Courses," will be unchanged in purpose or character.

Addition of Psychology (H)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. The 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 (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.

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 *Perception 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; 465: Cognition: Language and Memory; 508: Psychology of Judgment and Decision Making). 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.

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 sections 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 recategorize 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, as shown in Appendix 9). As indicated in Appendix 6, well over half of our graduates already complete 58 or more credit hours in the major. In addition, a student focus group, convened to discuss the proposed major, was unanimous in their assertion that this increase in major hours would not cause any major-driven delays in their education.

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.

Appendix 1: Current Psychology BA 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 (Exceptions – Psychology 320: Introduction to Data Analysis in Psychology, Psychology 389: Career Exploration in Psychology, and Psychology 597: Contemporary Issues e.g., 597.01, 597.02, and 597.03 do not count toward the major). This coursework is distributed across three categories: Core Requirements, Advanced Requirements, and Elective Courses.
- Psychology 100: General Psychology and Psychology 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 Statistics 145 or a pre-approved 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: Psychology 475: The Self and Psychology 695: Seminars in Psychology can be used as advanced requirement courses. Psychology 693 and 699 cannot be used to meet this requirement.
- Minimum grade of a “C-” in any course to be counted toward the major and minimum major GPA of 2.0 for graduation (does not include Psychology 100, Statistics 145, or Psychology 320).
- If Psychology 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 (Psychology 500, 510, and 520) is not required for the B.A. in psychology. However, it is recommended, as well as Psychology 321, for those students considering graduate work in psychology.
- Psychology 489: Internship in Psychology, Psychology 699: Undergraduate Research in Psychology, and Psychology 693: Individual Studies credits combined can only apply 6 hours to 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) SP |
| 309 | Human Motor Control and Learning (4) AU |

- 311 General Psychology: Motivation & Action (3) *only available at some regional campuses*
 312 Learning, Memory, and Cognition (4) AU, WI, SP
 508 Psychology of Judgment and Decision-Making (5) [*honors version available AU & SP] AU, WI, SP, SU

B. Clinical/Counseling Psychology

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

C. Developmental Psychology

- 340 Introduction to Life Span Developmental Psychology (5) [*honors version available WI] 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. Behavioral Neuroscience

- 310 Basic Psychology: Perception (4) AU, WI, SP, SU
 313 Behavioral Neuroscience (5) AU, WI, SP, SU

E. Social Psychology

- 325 Social Psychology (5) [*honors version available WI or SP] WI, SP
 367.01 Social Psychology (5) AU, WI, SP, SU
 375 Stereotyping and Prejudice (4) AU, WI, SP, SU
 522 Organizational Psychology (4) SU

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

- 465 Cognition: Language and Memory (4)
 503 Introduction to Cognitive Psychology (4) WI
 508 Psychology of Judgment and Decision-Making (5) [*honors version available AU & SP] AU, WI, SP, SU
 510 Research Methods in Cognitive Psychology (5) AU, SP
 H512 *Human Memory and Cognition* (5) #
 600 Psychology of Learning (5) AU
 602 *Psychology of Listening and Reading* (3) #
 603 *Visual Perception* (3) #
 606 *High-Level Vision* (4) # (SP08 next scheduled)
 608 *Introduction to Mathematical Psychology* (3) # (WI08 next scheduled)
 609 *Introduction to Mathematical Models in Experimental Psychology* (4) # (AU07 next scheduled)
 612 Introduction to Cognitive Science (3) AU
 615 *Psychology of Language* (3) # (SP08 next scheduled)
 616 *Psychological Scaling* (4) #
 617 *Neural Network Models in Psychology* (4) # (SP08 next scheduled)

- 619 *Visual Information Processing* (5) #
- 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

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

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
- 554 Language Development (5) AU
- 555 Adolescent Sexuality (5) WI, SP
- 560 *Educational Psychology* (5) *only available at regional campuses*
- 571 Psychology of Developmental Disability (4) 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. Behavioral Neuroscience

- 500 *Experimental Psychology* (5) # (*AU07 next scheduled*)
- 501 Advanced Behavioral Neuroscience (4) WI
- H506 *Contemporary Issues in Neuroscience* (2) #
- 513 Introduction to Cognitive Neuroscience (4) AU
- 601 Comparative Psychology (3) WI
- H613 Biological Bases of Psychopathology (4) SP
- 623 Biological Clocks and Behavior (4) AU
- 624 Psychology of Monkey and Apes (5) WI
- 626 *Sensory Psychobiology* (3) #
- 627 *Developmental Psychobiology* (4) #
- 644 Hormones and Behavior (4) 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) SU
525	Psychology of Personal Security (5) WI
515	Psychology of Emotions (5) WI
518	Attitudes: Structure, Function, and Consequences (4) SP
630	Psychology of Public Attitudes (3) even years in AU
695	Seminars in Psychology (2-5)

Section III. Additional Elective Courses (Any 300-level or higher Psychology Department or department-approved course [EXCEPT Psychology 320; 389; 597.01; 597.02; 597.03] not otherwise taken to meet one of the Core and/or Advanced Requirements listed previously, and the courses listed below).

301	Psychology of Extraordinary Beliefs (5) AU, WI, SP
305	Drugs and Behavior (4) AU, WI, SP
321	Quantitative and Statistical Methods in Psychology (4) [H321 – 5 credits, WI, SP] AU, WI, SP
333.02	Human Behavior Problems: Sexual (3) AU, WI, SP
350	Contemporary Issues in Developmental Psychology (3) AU
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) SP
505	Historical Development of Psychology (5) SP
594	Group Studies (1-5)
646	Psychology of Asian Americans: Children, Youth, and Families (5) SP
693	Individual Studies (1-15)
697	Study at Foreign Institution (<i>does not include Psychology London Short-Term Study Program—this program does not apply to major program degree hours</i>)
699	Undergraduate Research (1-15)
H783	Honors Research (3) (this 3-course sequence: H783.01, H783.02, H783.03 is offered SP, AU, WI and AU, WI, SP)

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 is also highly valuable and strongly encouraged/expected. The prerequisites for Psychology 699 are nine credit hours of psychology (including Psych 100) and Psychology 300. Not more than **six** credit hours of Psychology 699, Psychology 693: Individual Studies 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 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 but it will count toward general elective hours for your degree.
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 3.4 (3.3 for students who entered the university prior to AU06) and a 3.5 GPA in psychology permits the student to graduate with "With Research 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 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://undergrad.psy.ohio-state.edu/html/699.htm>
6. Students who have a research proposal may apply for an undergraduate research scholarship through the Colleges of Arts and Sciences and the College of Social and Behavioral Sciences. Scholarship competitions occur both in the Autumn and the Spring. 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 Denman Undergraduate Research Forum held during spring quarter.

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

Appendix 2: Current Psychology BS 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 (Exceptions – Psychology 320: Introduction to Data Analysis in Psychology, Psychology 389: Career Exploration in Psychology, and Psychology 597: Contemporary Issues e.g., 597.01, 597.02, and 597.03 do not count toward the major). This coursework is distributed across three categories: Core Requirements, Advanced Requirements, and Elective Courses.
- Psychology 100: General Psychology and Psychology 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 Psychology 320 (H320 is also available) or pre-approved equivalent course, which will not be counted toward the major. B.S. students must also take Psychology 321 (H321 is also available) and one of the advanced research methods courses (Psychology 500, 510, or 520). Psychology 321 and the advanced research methods course will be counted toward the major. Students must earn a C- or higher in Psychology 320 to advance to Psychology 321.
- 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: Psychology 475: The Self and Psychology 695: Seminars in Psychology can be used as advanced requirement courses. Psychology 693 and 699 cannot be used to meet this requirement.
- Minimum grade of a "C-" in any course to be counted toward the major and minimum major GPA of 2.0 for graduation (does not include Psychology 100 or Psychology 320).
- If Psychology 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.
- Psychology 489: Internship in Psychology, Psychology 699: Undergraduate Research in Psychology, and Psychology 693: Individual Studies credits combined can only apply 6 hours to the major program

Section I. Core Requirements (Choose one course from each of the five subareas of this section.)

A. Cognition/Attention/Performance

- | | |
|-----|--|
| 303 | Introduction to the Psychology of Listening and Reading (4) SP |
| 309 | Human Motor Control and Learning (4) AU |

- 314 General Psychology: Motivation & Action (3) *only available at some regional campuses*
- 315 Learning, Memory, and Cognition (4) AU, WI, SP
- 509 Psychology of Judgment and Decision-Making (5) [*honors version available AU & SP] AU, WI, SP, SU

B. Clinical/Counseling Psychology

- 332 Abnormal Psychology (5) AU, WI, SP, SU
- 336 Psychology of Adjustment (4) SP
- 541 Introduction to Counseling Psychology (4) AU, WI, SP, SU

C. Developmental Psychology

- 341 Introduction to Life Span Developmental Psychology (5) [*honors version available WI] AU, WI, SP, SU
- 553 Psychology of Childhood (4) [*honors version available AU] AU, WI, SP, SU
- 554 Adolescence (5) AU, WI, SP, SU
- 555 Psychology of the Adult Years (3) SP

D. Behavioral Neuroscience

- 311 Basic Psychology: Perception (4) AU, WI, SP, SU
- 313 Behavioral Neuroscience (5) AU, WI, SP, SU

E. Social Psychology

- 325 Social Psychology (5) [*honors version available WI or SP] WI, SP
- 367.02 Social Psychology (5) AU, WI, SP, SU
- 376 Stereotyping and Prejudice (4) AU, WI, SP, SU
- 523 Organizational Psychology (4) SU

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

- 465 Cognition: Language and Memory (4)
- 503 Introduction to Cognitive Psychology (4) WI
- 508 Psychology of Judgment and Decision-Making (5) [*honors version available AU & SP] AU, WI, SP, SU
- 510 Research Methods in Cognitive Psychology (5) AU, SP
- H512 *Human Memory and Cognition (5) #*
- 600 Psychology of Learning (5) AU
- 602 *Psychology of Listening and Reading (3) #*
- 603 *Visual Perception (3) #*
- 606 *High-Level Vision (4) # (SP08 next scheduled)*
- 608 *Introduction to Mathematical Psychology (3) # (WI08 next scheduled)*
- 609 *Introduction to Mathematical Models in Experimental Psychology*
- 612 Introduction to Cognitive Science (3) AU
- 615 *Psychology of Language (3) # (SP08 next scheduled)*
- 616 *Psychological Scaling (4) #*
- 617 *Neural Network Models in Psychology (4) # (SP08 next*

	<i>scheduled)</i>
619	<i>Visual Information Processing (5) #</i>
620	Human Performance (5) AU
625	<i>Introduction to Auditory Perception (3) #</i>
695	Seminars in Psychology (2-5)
738	Proseminar in Cognitive Science (2) SP

B. Clinical/Counseling Psychology

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

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
554	Language Development (5) AU
555	Adolescent Sexuality (5) WI, SP
560	<i>Educational Psychology (5) only available at regional campuses</i>
571	Psychology of Developmental Disability (4) SP
575	<i>Behavior Modification in Applied Settings (4) #</i>
652	<i>Behavior Modification with Children and Youth (3) #</i>
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. Behavioral Neuroscience

500	<i>Experimental Psychology (5) # (AU07 next scheduled)</i>
501	Advanced Behavioral Neuroscience (4) WI
H506	<i>Contemporary Issues in Neuroscience (2) #</i>
513	Introduction to Cognitive Neuroscience (4) AU
601	Comparative Psychology (3) WI
H613	Biological Bases of Psychopathology (4) SP
623	Biological Clocks and Behavior (4) AU
624	Psychology of Monkey and Apes (5) WI
626	<i>Sensory Psychobiology (3) #</i>
627	<i>Developmental Psychobiology (4) #</i>
644	Hormones and Behavior (4) 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) SU
525	Psychology of Personal Security (5) WI
515	Psychology of Emotions (5) WI
518	Attitudes: Structure, Function, and Consequences (4) SP
630	Psychology of Public Attitudes (3) even years in AU
695	Seminars in Psychology (2-5)

Section III. Additional Elective Courses (Any 300-level or higher Psychology Department or department-approved course [EXCEPT Psychology 320; 389; 597.01; 597.02; 597.03] not otherwise taken to meet one of the Core and/or Advanced Requirements listed previously, and the courses listed below).

301	Psychology of Extraordinary Beliefs (5) AU, WI, SP
305	Drugs and Behavior (4) AU, WI, SP
321	Quantitative and Statistical Methods in Psychology (4) [H321 – 5 credits, WI, SP] AU, WI, SP
333.02	Human Behavior Problems: Sexual (3) AU, WI, SP
350	Contemporary Issues in Developmental Psychology (3) AU
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) SP
505	Historical Development of Psychology (5) SP
594	Group Studies (1-5)
646	Psychology of Asian Americans: Children, Youth, and Families (5) SP
693	Individual Studies (1-15)
697	Study at Foreign Institution (<i>does not include Psychology London Short-Term Study Program—this program does not apply to major program degree hours</i>)
699	Undergraduate Research (1-15)
H783	Honors Research (3) (this 3-course sequence: H783.01, H783.02, H783.03 is offered SP, AU, WI AND AU, WI, SP)

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 is also highly valuable and strongly encouraged/expected. The prerequisites for Psychology 699 are nine credit hours of psychology (including Psych 100) and Psychology 300. Not more than six credit hours of Psychology 699, Psychology 693: Individual Studies 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 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 but it will count toward general elective hours for your degree.
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 3.4 (3.3 for students who entered the university prior to AU06) and a 3.5 GPA in psychology permits the student to graduate with "With Research 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 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://undergrad.psy.ohio-state.edu/html/699.htm>
6. Students who have a research proposal may apply for an undergraduate research scholarship through the Colleges of Arts and Sciences and the College of Social and Behavioral Sciences. Scholarship competitions occur both in the Autumn and the Spring. 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 Denman Undergraduate Research Forum held during spring quarter.

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

Appendix 3: Proposed Psychology BA major

Bachelor of Arts

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).

Minimum of one course in each of the Core Requirement areas (A-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.

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 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 (5)
 [*honors version available WI] 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. Behavioral Neuroscience

- 313 Introduction to Behavioral Neuroscience (5) AU, WI, SP, SU

F. Social Psychology

- 325 Social Psychology (5) [*honors version available WI] AU, WI, 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 3.4 (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 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-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
- 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 (5)
[*honors version available WI] 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. Behavioral Neuroscience

- 313 Introduction to Behavioral Neuroscience (5) AU, WI, SP, SU

F. Social Psychology

- 325 Social Psychology (5) [*honors version available WI] AU, WI, 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.

**Appendix 5: Course Change Requests for Psychology 320 and H320, including
Syllabi for Current and Proposed Courses**

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**

1. Book 3 Listing: Psychology
2. Number: 320
3. Full Title: Introduction to Data Analysis
4. 18-Char. Transcript Title: INTRO DATA ANALYSIS
5. Level and Credit Hours U 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.
7. Qtrs. Offered : Au, Wi, Sp Qtrs
8. Distribution of Contact Time: 2 1.5-hr classes, 1 2-hr lab (e.g., 3 cl, 1 3-hr lab)
9. Prerequisite(s): 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....)
11. Repeatable to a maximum of N/A credits.
12. Off-Campus Field Experience:
13. Cross-listed with: N/A
14. Is this a GEC course? No
15. Grade option (circle): Ltr X SU P
If P graded, what is the last course in the series?
16. Is an honors version of this course available? Yes
17. Other general course information:

COMPLETE ONLY THOSE ITEMS THAT CHANGE
Changes Requested

1. _____
2. 220 _____
3. _____
4. _____
5. _____
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. _____
8. _____
9. Psychology 100 and Statistics 145 or Math 130 or Math 148 or equiv.
10. _____
11. _____
12. _____
13. _____
14. _____
15. _____
16. _____
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

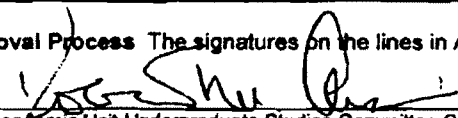
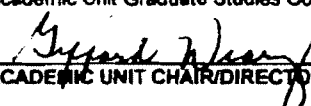
5. Is the request contingent upon other requests, if so, list the requests?
Yes, the course change is contingent on approval of the revision to the Psychology major.

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 ascurofc@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 17 th Ave. or fax it to 688-5678. Attach the syllabus and any supporting documentation in an e-mail to ascurofc@osu.edu . The ASC Curriculum Office will forward the request to the appropriate committee. | Printed Name | Date |
| 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* (5th 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 unforeseen 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
<i>Descriptive Statistics</i>				
1	Mar 27 29 31	Ch 1,2(1,2) Ch 3(1-3)	Ch 1 Ch 2(1-4)	Introduction, preliminary concepts Frequency distributions, percentiles Recitation
2	April 3 5* 7	Ch 3(4-6) Ch 4	Ch 2(3) Ch 3(1,2)	Graphic representations Central tendency Recitation
3	10 12 14	Ch 5(1-6) Ch 9(1-4)	Ch 3(3,4) Ch 3(5),11(1-3)	Variability, dispersion Covariance and correlation Recitation
4	17 19 21	Ch 9(6,7),10(1-5)	11(4)	Correlation and regression Examples, test review
Exam 1 (Covers readings and lectures through Week 3)				
<i>Inferential Statistics</i>				
5	24 26 28	Ch 7 Ch 6(1,2)	Ch 4(1) Ch 3(6),4(2)	Probability The normal distribution Recitation
6	May 1* 3 5	Ch 8(2),12(1) Ch 6(3)	Ch 4(3) Ch 9(1,2, stop before 9.2.1)	Sampling distributions Confidence intervals Recitation
7	8 10 12	Ch 12(7)		Confidence intervals cont. Examples, test review
Exam 2 (Covers readings and lectures from Weeks 4-6)				
8	15 17 19	Ch 8(1-5) Ch 8(6-8)	Ch 5(1,2) Ch 5(3-6),7	Hypothesis testing The z-test Recitation
9	22* 24 26	8(7),15(1-3)	7(4)	The z-test and power Power and effect size Recitation
10	29 31			Memorial Day 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* (5th Edition). Belmont, CA: Brooks/Cole.
2. Williams, P. (2003; recommended, not required). *Interactive Statistics*. Sinauer Associates, Inc. URL: <http://www.introstats.net>.

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

H320
Course Number

Summer Autumn X Winter Spring Year 2008

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

1. Book 3 Listing: Psychology _____
2. Number: H320 _____
3. Full Title: Introduction to Data Analysis _____
4. 18-Char. Transcript Title: INTRO DATA ANALYSIS _____
5. Level and Credit Hours U 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
(25 words or less) _____
7. Qtrs. Offered : AU, WI _____
8. Distribution of Contact Time: 2 1.5-hr classes, 1 2-hr lab (e.g., 3 cl, 1 3-hr lab) _____
9. Prerequisite(s): 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....) _____
11. Repeatable to a maximum of N/A credits. _____
12. Off-Campus Field Experience: _____
13. Cross-listed with: N/A _____
14. Is this a GEC course? No _____
15. Grade option (circle): Ltr X S/U P
If P graded, what is the last course in the series? _____
16. Is an honors version of this course available? Y X N
Is an Embedded Honors version of this course available? Y N _____
17. Other general course information: _____

COMPLETE ONLY THOSE ITEMS THAT CHANGE

Changes Requested

1. _____
2. H220 _____
3. _____
4. _____
5. _____
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. _____
8. _____
9. Psychology 100 and Math 148 or equiv; and honors standing or permission of instructor _____
10. _____
11. _____
12. _____
13. _____
14. _____
15. _____
16. _____
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 ascurofc@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 17 th Ave. or fax it to 688-5678. Attach the syllabus and any supporting documentation in an e-mail to ascurofc@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 through 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. <u>Statistical concepts in psychology</u> 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. <u>The average man is 168 years old.</u> 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. <u>Karl Pearson and the Cambridge Economists.</u> 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. <u>Galton and the identification of fingerprints</u> 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. <u>Regression toward the mean</u> Galton's discovery of a phenomenon that many consider one of the greatest discoveries in the history of science. Chapter 17. <u>Gauss and the invention of least squares.</u> 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. <u>The dark ages of probability</u> Some little known early use in England of probability in both philosophy and mathematics Chapter 13. <u>John Craig and the probability of history.</u> 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. <u>The trial of the Pyx.</u> 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. <u>Normative terminology.</u> 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. <u>Stigler's law of eponymy.</u> Reward in scientific discovery . He claimed that "no scientific discovery is named after its original discoverer." Chapter 15. <u>Who discovered Bayes' Theorem.</u> 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. <u>Daniel Bernoulli, Leonhard Euler, and maximum likelihood</u> . 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. <u>Francis Ysidro Edgeworth, Statistician</u> . 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:	<i>Student Presentations of final project in Labs</i>	
Readings:	Chapter 19. <u>Karl Pearson and degrees of freedom</u> . 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.
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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.**

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 like 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 through 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. <u>Statistical concepts in psychology</u> 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. <u>The average man is 168 years old.</u> 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. <u>Karl Pearson and the Cambridge Economists.</u> 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. <u>Galton and the identification of fingerprints</u> Applying statistics to turning the recording of fingerprints into a forensic science	
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Friday Lab:	Exam #1	
Readings:	Chapter 9. <u>Regression toward the mean</u> Galton's discovery of a phenomenon that many consider one of the greatest discoveries in the history of science. Chapter 17. <u>Gauss and the invention of least squares.</u> 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?	
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Week 7	The Binomial distribution and more on sampling distributions.	Chapters 8, 9
Friday Lab:	Exam #2	
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Week 8 An introduction to hypothesis testing and confidence intervals for means and proportions Chapter 10
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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

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- **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 Anormalé 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 like 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)?
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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.

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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.

Appendix 6: Psychology BA Credit Hour Comparison

Program Category	Existing Major/Old GEC	Proposed Major/Old GEC	Proposed Major/New GEC
GEC	105	105	95
Data Analysis	Stats. 145 (5) or Psych 320 (5) or H320 (5)	Stat 145 (5)	Stat 145 (5)
Social Science	Psych. 100 (5) SS course (5) SS course (5)	Psych. 100 (5) SS course (5) SS course (5)	Psych. 100 (5) SS course (5)
Major	Must Total 48	Must Total 58	Must Total 58
Major - Core	Total = @26 hrs	Total = @35hrs	Total = @35hrs
	Psych. 300 (4)	Psych 220 (5)	Psych 220 (5)
	Core A (3-5)	Psych 300 (4)	Psych 300 (4)
	Core B (4-5)	Core A (3-4)	Core A (3-4)
	Core C (3-5)	Core B (4-5)	Core B (4-5)
	Core D (4-5)	Core C (4-5)	Core C (4-5)
	Core E (4-5)	Core D (3-5)	Core D (3-5)
		Core E (5)	Core E (5)
		Core F (4-5)	Core F (4-5)
Major – Advanced	Total = @10 hrs	Total = @13 hrs	Total = @13 hrs
	Advanced I (2-5)	Advanced A (2-5)	Advanced A (2-5)
	Advanced II (2-5)	Advanced B (4-5)	Advanced B (4-5)
		Advanced C (3-5)	Advanced C (3-5)
Major - Electives	Total = 12 hrs	Total = 10 hrs	Total = 10 hrs
Other	38 hrs	28 hrs	28 hrs
Total Hours to Degree	191	191	181

Appendix 7: Psychology BS Credit Hour Comparison

Program Category	Existing Major/Old GEC	Proposed Major/Old GEC	Proposed Major/New GEC
GEC	105	105	100
Social Science	Psych. 100 (5)	Psych. 100 (5)	Psych. 100 (5)
	SS course (5)	SS course (5)	SS course (5)
	SS course (5)	SS course (5)	
Major	Must Total 48	Must Total 58	Must Total 58
Major - Core	Total = @29 hrs	Total = @39 hrs	Total = @39 hrs
	Psych. 300 (4)	Psych 220 (5)	Psych 220 (5)
	Psych 321 (4) or H321 (5)	Psych 300 (4)	Psych 300 (4)
		Psych 321 (4) or H321 (5)	Psych 321 (4) or H321 (5)
	Core A (3-5)		
	Core B (4-5)	Core A (3-4)	Core A (3-4)
	Core C (3-5)	Core B (4-5)	Core B (4-5)
	Core D (4)	Core C (4-5)	Core C (4-5)
	Core E (4-5)	Core D (3-5)	Core D (3-5)
		Core E (5)	Core E (5)
		Core F (4-5)	Core F (4-5)
Major – Advanced	Total = 9 hrs	Total = 14 hrs	Total = 14 hrs
	Advanced I--Psych. 500, 510, or 520 (5)	Advanced A (2-5) may be Psych. 500 or 510 (5)	Advanced A (2-5) may be Psych. 500 or 510 (5)
	Advanced II (2-5)	Advanced B (4-5)	Advanced B (4-5)
		Advanced C (3-5) may be Psych. 520 (5)	Advanced C (3-5) may be Psych. 520 (5)
Major - Electives	Total = 10 hrs	Total = 5 hrs	Total = 5 hrs
Other	33 hrs	28 hrs	23 hrs
Must Include	Psych. 320 (5) or H320 (5)		
Total Hours to Degree	191	191	181

Appendix 8: Number of Psychology Credit Hours Taken by Psychology Baccalaureate Graduate for Academic Years 2002, 2003, 2004.

Total Psych Credit Hours	Psych Major Only						Psych and Other, Double Majors						Totals	
	BA Graduates			BS Graduates			Total Psych Credit Hours	BA Graduates			BS Graduates			
	2002	2003	2004	2002	2003	2004		2002	2003	2004	2002	2003		2004
48	5		3	2			48	2		1				19
49	6		1	1			49	5		3				18
50	16		3	9		1	50	2		2				49
51	9			2		1	51	2		1				27
52	9		1	3		1	52	1		2	2		1	33
53	15		18	4		1	53			5	2		1	70
54	20		8	3		1	54	2		5	1		1	63
55	13		11	3			55	1		4	1		1	51
56	14		10	2			56	4			2			51
57	11		15	3			57	1		2	2			60
58	17		25	5		6	58			5				91
59	10		17	3		1	59	1		4				60
60	10		18	4		9	60	2		2				61
61	7		18	2		8	61	1		1	1		1	64
62	14		16	3		6	62			1			1	59
63	7		13	1		6	63				1		1	52
64	7		20	1		9	64			2	1			64
65	7		10			4	65	1						45
66	6		7	2		2	66							25
67	2		8	4		2	67			1				30
68	2		9	3		1	68				1			21
69	4		9	1		2	69				1		1	33
70	4		10	2		3	70				1		2	32
71	2		6	1		5	71			1	1		2	26
72	5		3	3		4	72							24
73	3		6	1		3	73							16
74	1		2	1		2	74							13
75	1		4			3	75			1				12
76			4	1		1	76						1	11
77	5		2			2	77							12
78	1		1	1		2	78							12
79	2		2	1			79							5
80			2	2		1	80							9
81			1			2	81							6
82			1			1	82				1			5
83	2		1			1	83							4
84			1				84				1			5
85	2					2	85			1				7
86				2			86							5
87						1	87							1
88			1	1			88							3
Totals	239	303	287	77	108	94		25	30	44	19	15	13	1254

Appendix 9: Psychology Major and Total Degree Hours at Peer Institutions

University	Total Hrs	Major Hrs	% Major of Total Hrs
Univ. of Pennsylvania	33 credit units	13 credit units	39%
Stanford	180 units	70 units	39%
OSU (proposed)	181 credits	68 credits	37%
Northwestern	45 courses	15 courses	33%
OSU (current)	181 credits	58 credits	32%
Ohio University	192 hours	50 hours	26%

N.B. To permit easy and accurate comparison and avoid errors in conversion, major and total degree hours were left in the units used by each institution and percentage of major hours relative to total degree hours is suggested as the meaningful unit of comparison across institutions. In addition, since it is not always clear how other institutions count introductory courses toward degree hours, we have increased the OSU major hours to include the pre-requisite hours (Psychology 100 and Statistics 145) which are not counted as hours toward the major but are required for all majors. These courses are included in the major hours for other institutions as well.