Psychology 2001 - Psychological Statistics

Lecturer
Dr Margaret Charles
Room 635 Mungo Maccallum.

The course consists of one lecture (13) and a one-hour tutorial (12) each week. An outline of the semester's program will be distributed in the first lecture. For most lectures, there is an accompanying handout of notes for the assistance of students. Tutorials will provide students with the opportunity to work through examples utilising the concepts introduced in lectures, and it is strongly recommended that students purchase the textbook in order to have access to further exercises. Appropriate references to the text and suggested exercises will be on the program to be handed out in the first lecture.

Statistics is a topic which cannot be crammed at the last minute, and for this reason assessments occur at regular intervals throughout the semester. Tests will be held at approximately monthly intervals through the teaching year (for exact dates, see handout in first lecture). Attendance at these tests is compulsory. Apart from the first test of the year, all tests are open book. There will be a practice test about a month into the semester, which does not count towards the final assessment. Marks from the two assessable tests together form the classwork component of the semester's assessment. The overall assessment in statistics in each semester is comprised of 50% classwork, 50% examination. The examination consists of multiple choice questions and is held in the examination period at the end of each semester.

In Semester 1, the aim of the course is to introduce students to some of the fundamental concepts in statistics as used in Psychology. The use of descriptive statistics, such as the mean, variance and standard deviation is covered. An understanding of these concepts is necessary for the understanding of the useful properties of the normal curve and our use of z-scores and probability statements for locating individuals and scores within such distributions.

The rationale underlying the statistical tests of hypotheses is covered initially in overview, then developed via an explication of the concept of the sampling distribution of a statistic, and the use of the z-test for testing hypotheses about a single population mean.

Statistical hypothesis testing is a fallible procedure, and we will examine the errors which can be made in carrying out statistical inference procedures, and the power of the test, or the probability of detecting an effect if there is one. Alternatives to hypothesis testing, such as the effect size statistic and the use of confidence intervals, will also be covered.

A more realistic application of inferential statistics is introduced with the use of the t-test, where the population variance must be estimated. Some of the issues to be considered in designing experiments and interpreting results in the light of the internal validity of the experiment will be introduced.

Text:
This course follows first year Perception, developing a number of themes from that course and introducing new ones. The emphasis is on understanding the mechanisms of vision, and other senses, and their role in behaviour and consciousness.

The course will be delivered in three sections; 5 lectures from Dr van der Zwan, 5 from Dr Predebon, and 3 from Professor Curthoys. An outline of the material to be covered is provided below.

**Dr. van der Zwan:**
The relationship between sensation, perception, and behaviour.
The problem/issue of consciousness and its role in behaviour.
Revision of cortex and visual system, with special reference to streams and their specialisations.

Association of structure with function using examples.
Receptive fields: Complicated receptive fields and also processing beyond the classical receptive field. The elaboration of tuning properties through the visual cortex.

Investigations of perceptual behaviours: Motion aftereffects (revision), tilt aftereffects, IOT.

Neurotrophins: Their role in development and normal functioning.
Their contribution to recovery from injury, and their role in plasticity.

Complex behaviours: Imagery, attention, and others.

**Dr. Predebon:**
Depth perception and binocular vision.
Binocular disparity and stereopsis; Julesz patterns, the matching problem, local and global stereopsis.

Contemporary approach to form perception.
Contrast and spatial frequency representation; contrast sensitivity function (CSF); Fourier analysis and synthesis.
Perceiving objects; focussed and pre-attentive processing.

Perceptual stability and constancy.
Constancy and illusions.
The relationship between perception and visually directed action.

Perceiving movement.
The image-retina and eye-head systems, outflow theory.
Apparent movement; the Ternus effect.
The aperture problem.

(continued next page)
Professor Curthoys:
The frames of references for perceptual judgements; perceived orientation.
The role of retinal orientation.
Ocular torsion position.
Vestibular-visual interaction.

Perception in natural conditions. Saccadic suppression.

Spatial navigation.

Texts - no set text, recommended reading -
PSYC2001 - Individual and Group Differences in Cognitive Abilities

Lecturer
Dr Lazar Stankov

Week 1
Introduction to the study of individual differences in cognitive abilities
Notes from the 1st Year Course in Intelligence. Gardner et al. Chapters 1 & 2

Week 2
Primary Mental Abilities and H. Gardner’s theory of Multiple Intelligences.

Week 3
The role of genetic and environmental factors: Some methodological issues.
Brody: Chapter 5.

Week 4
R. Sternberg’s Triarchic Theory of Intelligence

Week 5
Jensen’s neo-Spearmanian views: The role of genetics.
Brody: Chapter 5

Emphasis on groups:

Week 6
Intelligence within the educational sphere.
Brody: Chapter 9. Gardner et al. Chapter 8

Week 7
Giftedness and talent
Brody: Chapter 9.

Week 8
Intelligence in the workplace.
Brody: Chapter 9.

Week 9
Gender differences in intellectual abilities
Brody: Chapter 10.

Week 10
Racial, ethnic, and SES differences in intellectual abilities.
Brody: Chapter 10.

Week 11
The aging of human abilities
Brody: Chapter 8.

Week 12
Intelligence, social policies, fashions and epidemics.

Week 13
Study of intelligence today and possible future trends

Note
References supplementing each lecture are given in italics. They refer to the list below.

Text
While there is no text, the following four items are placed in Closed Reserve:


Please see attached essential reading "Individual Differences tutorial reading" at the end of these course outlines.

University of Sydney - Administrative Guidelines Psychology 2001, 1998
PSYC2001 - Personality

Lecturers
Ms Fiona Hibberd (4 lectures)
Mrs Olga Katchan (9 lectures)

A. Sigmund Freud's Dynamic Model and the Psychoanalytic Heritage
1. Psychoanalytic conceptions of the components of personality and aspects of mental functioning. The concept of instinctual drive; motivational composition of the id, ego and superego. Theory of neuroses; the defense mechanisms.

2. Freud's account of the developmental stages; The oral, anal and phallic phases; the oedipus complex of males and females; fixation and regression.

3. Freud's work on fantasy and its impact on subsequent developments: The interpretation of dreams; jokes and their relation to the unconscious; Freud's view on art and creativity.

B. Dissentions
1. Carl Gustav Jung's Analytical Psychology

2. Jung's Heritage: Eysenck's biological typology

3. Alfred Adler's Individual Psychology

C. Extensions and Revisions
1. Erik Erikson's Psychosocial Perspective.

2. The Behavioural Approach: Dollard and Miller; Skinner

3. The Social Learning Approach: Albert Bandura

D. The Third Force
1. Abraham Maslow's Humanistic Perspective: Self-Actualisation Theory and the Hierarchy of Motives

Text

Please see attached essential reading "Personality tutorial reading" at the end of these course outlines.