Module specification

1. **Factual information**			
Module title	PSY 360: Advanced Applied Statistics for Psychologists		
Module tutor	Dr. Nikolaos Petridis	Level	6
Module type	Taught: Lecture/guided discussion/ laboratory components	Credit value	15
Mode of delivery	100% face-to-face		

Notional learning hours

Learning and teaching			
Type of learning activity	**Comprises**	**Hours**	**Weeks**
Timetabled contact:	Face to face delivery to include teaching activities, lab exercises, formative assessments	40	11
Independent study:	Preparation for submitting assessments& studying for exams	110	12
	Total:	150	12

2. Rationale for the module and its links with other modules

This is a level 6 elective module in which students are given the opportunity to develop an understanding of the research process and familiarize themselves with main paradigms and advanced statistical methodologiesin Psychology research.
The module helps students understand the strengths and limitations of different research paradigms, various research methodologies and methods in Psychology, as well as apply advanced statistical techniques.
Also in this module the students learn:
a) about the main descriptive statistics techniques, b)inferential statistics techniques, c) non – parametric tests, d) correlational analysisand e) high order (factorial) AN.O.VA statistical methods. Students are also given the opportunity to analyze the aforementioned methods using SPSS, using Psychology examples and data.

3. Aims of the module

This module aims to introduce students to key principles, concepts, steps, and methodologies

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in Psychology research.Students will learn why Psychology is an empirical science and how empirical research can be designed step-by-step in Psychology. Also students will acquire statistical literacy (at the level of advanced statistics) through practical classesthat will allow the learnt concepts and analytic techniques to be practiced, both by hand and through using a computer and the relevant software (SPSS)

4. Pre-requisite modules or specified entry requirements
Psychology 101- Introduction to Psychology Psychology 205 – Research Methods and Statistics I

5. Is the module compensatable?
N/A

6. Are there any PSRB requirements regarding the module?
N/A

7. Intended learning outcomes		
A. **Knowledge and understanding**	Programme Learning Outcome(s) this maps against	Learning and teaching strategy
At the end of the module, learners will be expected to: **A1:**Demonstrate an understanding of advanced statisticalmethodologies and methods in Psychology **A2:** Develop an awareness of the scope and defining features of advanced statistical analysis techniques in key core areas in Psychology **A3:** Show familiarity with application of advanced statistical analysis techniques andrelate these to personal study	A1, A2, A3	Lectures, class discussions, exercise workbooks,quizzes, exam Lectures, class discussions, exercise workbooks, quizzes, exam Lectures, class discussions, exercise workbooks, quizzes, exam

B. **Cognitive skills**	Programme Learning Outcome(s) this maps against	Learning and teaching strategy
At the end of the module learners will be expected to: **B1:** Identify and implement several statistical techniques in different areas of Psychology research. **B2:**Demonstrate skills for selecting the appropriate statistical method, interpret computer software's output for problems related to different areas of Psychology research	B2, B3	Lectures, class discussions, exercise workbooks, quizzes, exam Lectures, class discussions, exercise workbooks, quizzes, exam

C. **Practical and professional skills**	Programme Learning Outcome(s) this maps against	Learning and teaching strategy
At the end of the module, learners will be expected to: **C1:** Display an ability to conduct advanced statistical analysis by hand or using SPSS software. **C2:** Demonstrate the skills to carry out advanced statistical analyses of data **C3:** Be able to reflect effectively on the experience of conducting and interpreting results of statistical methodologies applied in Psychology	C1, C2, C3, C4	Lectures, class discussions, exercise workbooks, quizzes, exam SPSS lab, exam, exercise workbooks Class discussions, exercise workbooks

D.**Key transferable skills**	Programme Learning Outcome(s) this maps against	Learning and teaching strategy
At the end of the module, learners will be expected to: **D1:** Show ability to use a range of data analytical tools (by hand or by computer) **D2:** Demonstrate the ability to identify and critically analyse researchable problems in Psychology **D3.** Use interpersonal and communication skills to clarify research tasks and skills to identify challenges within a variety of analytical contexts.	D1, D2, D3, D4, D5	Lectures, class discussions,exam, exercise workbooks Lectures, SPSS labs, exam, exercise workbooks Class discussions

8. Indicative content.

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- A review of basic statistics (e.g. chi – square, One and two independent t – test, Dependent samples and two dependent t – test etc.)
- Validity and reliability of tools – Cronbach's alpha
- Non – parametric correlation and statistical techniques (Spearman, Mann – Whitney, Wilcoxon, Kruskal – Wallis and Friedman)
- Multiple linear regression
- Factorial AN.O.VA (high order AN.O.VA with interactions) for independent and dependent samples
- Multiple AN.O.VA (MA.NO.VA)
- Analysis of Covariance (AN.CO.VA)
- Dimension reduction statistical techniques (Factor Analysis).

The above indicative content is followed by SPSS lab.

9. Assessment strategy, assessment methods, their relative weightings and mapping to module learning outcomes

Assessment Strategy:

A. FINAL EXAM (30%)

A closed book, two – hour exam in which the first part of the midterm exam, whose weight is 10%, includes 10 multiple choice questions concerning implementation of statistical tests, while the second part, whose weight is 90%, includes short answer questions concerning interpretation of SPSS outputs and assumptions of several statistical analysis methods. Midterm exam will take place in – class and its duration is two hour. Use of pen only.

2 EXERCISE WORKBOOKS (50%):(Essays in which students are called to analyze and confirm or reject problem's research hypothesis, using the appropriate analysis, in SPSS software.)

MIDTERM EXAM (20%): (A closed book, two – hour exam in which the first part of themidterm exam, whose weight is 10%, includes 10 multiple choice questions concerning implementation of statistical tests, while the second part, whose weight is 90%, includes short answer questions concerning interpretation of SPSS outputs and assumptions of several statistical analysis methods. Midterm exam will take place in – class and its duration is two hour. Use of pen only.)

Further guidelines to be submitted for all assessments to students in due course

8. Indicative content.

Assessment Task	Weighting	Week submitted	Grading (Pass / Fail / %)	Module Learning Outcome(s) the assessment task maps to
2 exercise workbooks	50%	Weeks 4 and 10	%	Please see the table below
Midterm Exam	20%	Week 8	%	
Final Exam	30%	Week of finals	%	

Assessment tasks	A1	A2	A3	B1	B2	C1	C2	C3	D1	D2	D3
Exercise workbooks	x	x	x	x	x	x	x	x	x	x	x
Quizzes	x	x	x	x	x	x	x	x	x	x	x
Final exam	x	x	x	x	x		x		x	x	

Beyond summative assessments, formative assessments will remain a critical assessment method of this module. **'Formative' assignments will be set for teaching purposes only and the scores will not count towards the overall continuous assessment score (OCAS)** but its use can be an extremely valuable technique to enhance student understanding, evaluate student participation, and build engagement.

10. Teaching staff associated with the module

Name and contact details

Dr Nikolaos Petridis, npetrid@act.edu, Office hours TBA

11. Key reading list				
Author	Year	Title	Publisher	Location
Pallant, J.	2002	SPSS Survival Manual: A Step by Step Guide to Data Analysis using IBM SPSS (7th ed.)	Routledge	London

12. Other indicative text (e.g. websites)
Further material to be uploaded on ACTivity (Moodle)

13. List of amendments since last (re)validation		
Area amended	Details	Date Central Quality informed

GRADING & ACADEMIC POLICIES
ASSESSMENT DEADLINES
Students must submit work by the deadlines set in the module outline. Where coursework is submitted late and there are no accepted extenuating circumstances it will be penalized in line with the following tariff: Submission within 6 working days: a 10% reduction for each working day late down to the 40% pass mark and no further. Submission that is late by 7 or more working days is refused, mark of 0. Submission after the deadline will be assumed to be the next working day. Mitigating circumstances will be evaluated by the AS&PC

Assessment of non-degree students taking OU-validated courses (e.g., Study Abroad)
Same method of assessment, i.e. only “summative” assessments determine final grade. However, since those students are not pursuing an OU degree, they are not subject to resits or second marking, and final grade is calculated as the (weighted) average of all “summative” assessments, without requirement of passing all summative assessments to pass the course.
REVISED ABSENCE POLICY

Students are expected to attend and participate in all of their courses throughout the term, including the first week. Those who fail to do so may be administratively withdrawn from individual courses of the College. This may affect the students' scholarship and financial aid eligibility.
A student is considered to have successfully attended a course if he/she has attended 75% of the course lectures. Thus, for a typical ACT course with 42 hours of contact time, the **maximum number of absences stands at 10 hours per course.** This policy applies to all ACT students, degree-seeking and Study Abroad. Please note that absences are counted on an hourly basis.Absences due to participation in school-related trips and activities may count toward this limit.

ACADEMIC INTEGRITY

All academic divisions at ACT, both undergraduate and graduate, will apply the following policy on academic integrity and be included in the syllabus: "A student committing an act of Academic Dishonesty in a given course will receive an F (0 percentage points) in the assignment where the academic infraction took place. If a student commits an act of Academic Dishonesty for a second time in the same course, this student will receive a failing grade in that course". The individual faculty is responsible for enforcing the policy in a conscientious manner, for reporting all cases to the Academic Standards & Performance Committee (AS&PC) for record-keeping and for informing the affected students of their right to appeal the faculty's decision to the AS&PC. Faculty must also insert the college's policy on Academic Integrity in their course syllabi"

Policy on the Use of Artificial Intelligence (updated 2024)

All assignments you submit, including examinations, must be your own original work. Submissions are checked; if the use of AI is detected and confirmed after an oral defense, your assignment will be considered an act of Academic Dishonesty. If students fail to orally defend their work, they automatically agree to a case of Academic Dishonesty. Where a course allows AI use for learning purposes, your instructor will provide specific guidelines.

Policy on the use of technology in class

Cell phones: Cell phones must be turned off and put away during all classes.

The use of laptops/tablets is not generally recommended. Students may use these devices, however, if doing so contributes to their learning and is not disruptive to others in the class. **If misuse of** laptops/tablets **occurs during class time, laptops/tablets may be banned for the remainder of the class for ALL students.**
Policy on Class recordings
Students are not allowed to record class sessions.
Statement on Equity, Diversity and Inclusion
It is my intent that students from all diverse backgrounds and perspectives be well-served by this course and that the diversity that students bring to this class be viewed as a resource, strength, and benefit. My objective is to present materials and activities that are respectful of diversity in ability, age, culture, ethnicity, gender identity, nationality, race, religion, sexuality, and socioeconomic status. In this course, we welcome diverse perspectives, backgrounds, and experiences. We engage each other with respect, honesty, and open-mindedness.

Special Accommodations

If you have specific physical, psychological, or any other learning disabilities that you believe may require accommodations for this module, you should visit the Dean's office by bringing the appropriate documentation.
The Learning Hub (1st floor, Bissell Library) is staffed by experienced English faculty and you are encouraged to use its services.

GRADING SCALE

Grade Description	UK points	US Letter Grade	US point grade
Excellent	70+	A	4.0
Very Good (high)	65-69	A-	3.67
Very Good (low)	60-64	B+	3.33
Good (high)	55-59	B	3.0
Good (low)	50-54	B-	2.67
Satisfactory (high)	45-49	C+	2.33

Satisfactory (low)	40-44	C	2.0
Fail	0-39	F	0