Vacation work for Freshers in EP and PPL (July 2026)

During the first term (Michaelmas) all students reading Psychology (EP and PPL) will study an Introduction to Psychology. In the first term this includes two courses on (i) Developmental Psychology and (ii) Perception

Have a look at the following:

Developmental psychology

Goswami, U. (2020). *Cognitive development and cognitive neuroscience*. Routledge.

Smith P. K., Cowie, H. & Blades, M. (2011). Understanding Children's Development (5th Edn., earlier editions are fine) Oxford: Blackwell.

For *Developmental Psychology* try to write the following essay (up to 1500 words) –

A policymaker is interested in developing guidance for parents to help them promote their baby's development. You are the psychologist advising the policy team. What would you recommend and why, and what evidence would you use to support your advice?

Perception

For Perception try and have a look at the following textbook:

E. Bruce Goldstein. *Sensation and Perception*. (11th Edn., but earlier editions are also fine). Read the introductory chapter and then read about neural processing, cortical organisation, and perception of motion, colour, depth and size.

Statistics and Probability

In addition, all Psychology students will also study a course on Statistics and Probability. The reading for this course is partly from lecture slides and handouts but also recommended reading includes

"Statistical Methods for the Social Sciences" by Alan Agresti & Barbara Finlay (Fourth Edition; published by Pearson).

I've attached a small stats problem sheet for you to have a look at! (see end of this document).

Then depending on which degree you are reading you will also have courses on Neurophysiology (for EP students) or Philosophy (PPL students)

Neurophysiology

For the first 4 lectures it is strongly recommended to look at the following textbook:

"Nerve and Muscle, 4th Edition." By Keynes, Aidley and Huang (Cambridge).

This will give you a good grounding for the start of the course.

Philosophy

Jonny McIntosh will provide some reading for Philosophy for PPL students.

General

It is strongly recommended that you do start reading during the vacation before term starts for all of these courses. In addition, have a go at the essay question in Psychology provided above.

The preparatory work for Probability Theory and Statistics

Exercise 1:

Write short notes on each of the following topics.

(a) Type I and Type II errors.

(b) the Binomial distribution.

(c) confidence limits.

(d) null and alternative hypotheses.

Exercise 2:

a) Explain briefly what is meant by saying that two events, A and B, are

(i) mutually exclusive;

(ii) independent.

b) In a certain population, one in three people has blue eyes. The probability of a blue-eyed person being left-handed is 1/7 and the probability of a non-blue-eyed person being left-handed is 1/5.

(i) What proportion of the population is left-handed?

(ii) What is the probability that a randomly-chosen person is blue-eyed and left-handed?

(iii) State, with reasons, whether the events of having blue eyes and being left- handed are independent.

Exercise 3:

(a) Define the mean, median, variance and standard deviation of a random sample.

In a study of children's false beliefs, Dowker et al. (2009) measured the non-verbal scores of children in three age-groups. The results are presented in the following table.

Age-group 1	Age-group 2	Age-group 3
7	10	1
10	11	6
10	11	7
10	12	9
10	12	10
11	12	10
15	13	10
16	13	12
16	15	12
18	15	14

b) Plot the data and comment.

c) Using a suitable parametric test and a suitable non-parametric test, determine whether the scores of the three age-groups differ significantly. State the assumptions and hypotheses for each test.

d) State your practical conclusion.