

Biology 4701 - Animal Behaviour Course Outline

2009 autumn term

Lectures – Mondays, Wednesdays & Fridays 11:00-11:50h in Rm. C 2026

Laboratories – Slot 64, Thursdays 14:00-17:00h, Rm. C 4011 Chemistry Bldg (**no lab on September 10**).

Dr. Ian L. Jones

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Office hours: Mondays, Wednesdays & Fridays 13:00-14:00 (walk in), otherwise by appointment.

Textbook: Alcock, J. 2005. Animal Behavior. 9th Edition. Sinauer Associates, Sunderland, Massachusetts, 564 pp. (**very useful - AVAILABLE IN BOOKSTORE**)

Grading:

Mid-term test 20%

Term paper (one short journal paper review) 20%

Laboratory quizzes (almost weekly) 6% and team seminar presentations 19%

Final Exam 35%

Syllabus and approximate lecture schedule (fall 2009)

Aim: an introduction to animal behaviour (closely follows order and content of Alcock's chapters) with frequent reference to topics of current interest in evolutionary ecology, with applications to wildlife conservation and human welfare

September 9 Welcome, check class list and resolve waitlist, review course outline

NO LAB September 10

September 11 Introduction, organization of the **new** 4701, definition of behaviour, evolution of behaviour, hypothesis testing, morals and ethics (Ch. 1)

September 14 Proximate and ultimate causes/ explanations of behaviour (Ch. 2)

September 16 Development of behaviour, nature versus nurture, individual variation (Ch. 3)

September 18 Learning (Ch. 3)

September 16 Neural mechanisms of behavioural control (Ch. 4)

September 18 Neural and hormonal organization of behaviour (Ch. 5)

September 21 Circadian mechanisms: daily and seasonal schedules (Ch. 5)

September 23 Surviving I: antipredator behaviour (Ch. 6)

September 25 Surviving II: risk managing behaviour (Ch. 6)

September 28 Foraging behaviour I: optimal foraging theory (Ch. 7)

September 30 Foraging behaviour II tradeoffs, cooperation and competition, game theory (Ch. 7)

October 2 Foraging behaviour III: foraging – variation across all animals (Ch. 7)

October 5 Migration and movement (Ch. 8)

October 7 Habitat selection (Ch. 8)

October 9 Territoriality (Ch. 8)

October 12 no lecture (Thanksgiving)

October 14 no lecture (Thanksgiving)

October 16 Communication terminology, signals, sensory exploitation, mind-reading, manipulation and deception (Ch. 9)

October 19 Mid-term test

October 23 Communication III: variation across all animals

October 26 (guest - Holly Caravan) altruism, inclusive fitness, eusociality (Ch. 13)

October 28 (guest– Tom Chapman) Reproduction I: Sex roles and sexual conflict (Ch. 10)

October 30 Reproductive behaviour II: Sexual selection & intra-sexual competition for mates (Ch. 10)

November 2 Reproductive behaviour III: Sexual selection and mate choice - mechanisms (Ch. 10)

November 4 Reproductive behaviour IV: copulation – variation across all animals

November 6 Mating systems I: Monogamy (Ch. 11)

November 9 Mating systems II: Polygyny (Ch. 11)

November 11 no lecture (Remembrance day)

November 13 Mating systems III: polyandry, promiscuity, homosexuality (Ch. 11)

November 16 November 18 Parental care I: sex differences in parental care, parent-offspring conflict (Ch. 12)

November 18 TBA

November 20 Parental care II: brood parasitism, parental favoritism (Ch. 12)

November 23 Social behaviour – group living, coloniality (Ch. 13)

November 25 Human behaviour I: the adaptationist approach to human behaviour and the sociobiological controversy (Ch. 14)

November 27 Human behaviour II: human sexual behaviour – mate choice, coercive sex (rape), porn, variation in sexual behaviour (Ch. 14)

November 30 Human behaviour III: altruism again, parental care, applications of evolutionary psychology, magic and superstition (Ch. 14)

December 2 Course summary, question period

FINAL EXAM (probably in SN2064), date and time to be announced

Laboratory sessions

Aim: discuss major topics in animal behaviour and review current scientific advances in behaviour study

*Format: group presentations on important scientific papers, each week's lab (except the first) begins with a **mini-quiz** on the previous week's subject matter*

Approximate schedule:

September 10 NO LAB

September 17 Behavioural co-evolution

September 24 Adaptation and Behaviour

October 1 Optimality modeling

October 8 Communication

October 15 TBA

October 22 Mate choice

October 29 Mating systems

November 5 Parental care, or not

November 12 no lab

November 19 Human Behaviour I

November 26 Human Behaviour II

December 3 no lab