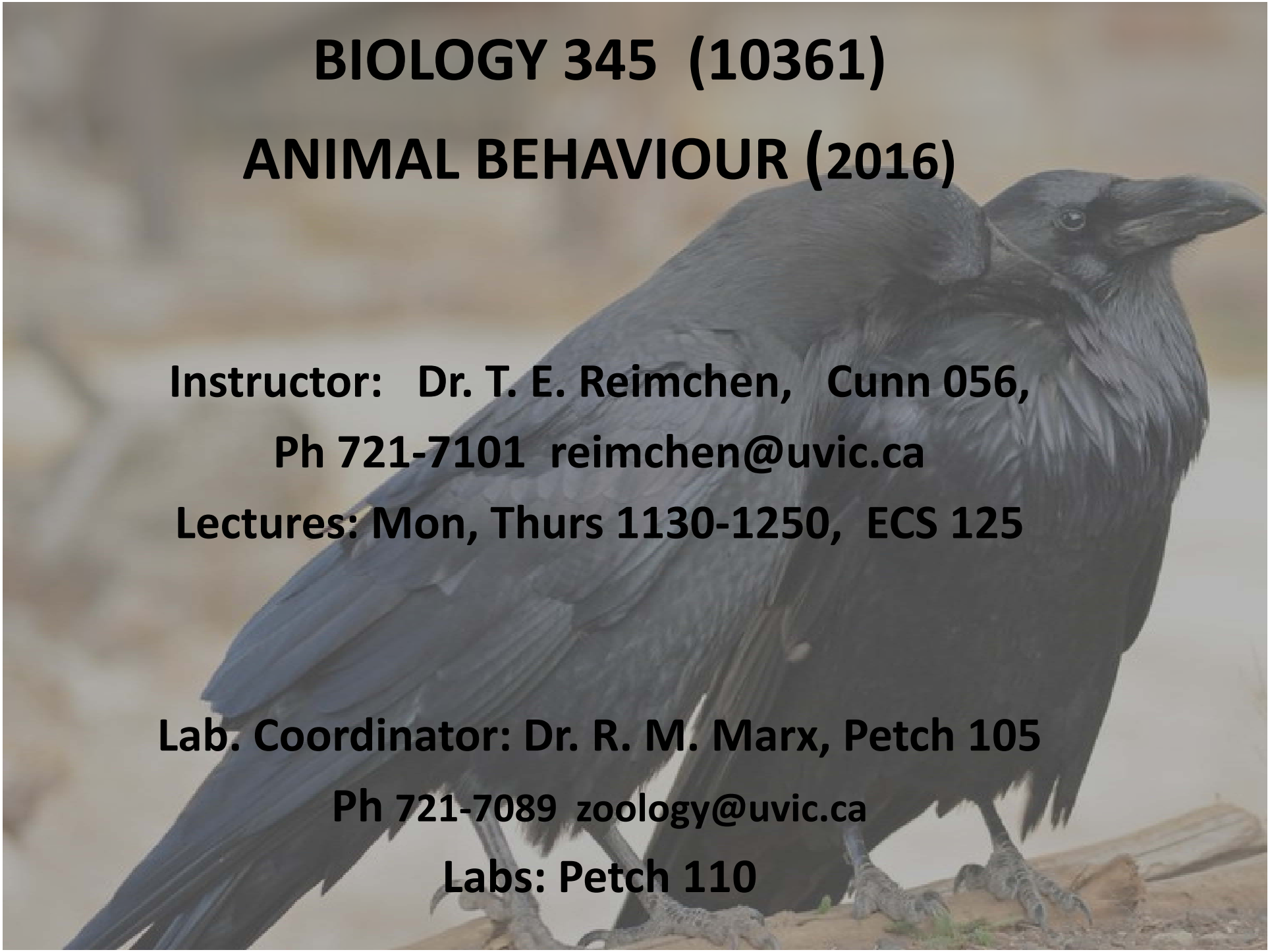


BIOLOGY 345 (10361)

ANIMAL BEHAVIOUR (2016)

Instructor: Dr. T. E. Reimchen, Cunn 056,

Ph 721-7101 reimchen@uvic.ca

Lectures: Mon, Thurs 1130-1250, ECS 125

Lab. Coordinator: Dr. R. M. Marx, Petch 105

Ph 721-7089 zoology@uvic.ca

Labs: Petch 110

General outline of lecture topics

The study of behaviour

Behavioural lateralization – left brain vs right brain

Nervous systems among animal phyla: anatomy, receptors, neurotransmitters

Parsing behaviour: genetic, epigenetic, hormonal, environmental, ecoevolutionary

Animal communication, sensory modes and sensory exploitation

Defenses against predators

Optimal foraging, zoopharmacognosy (self-medication)

Habitat choice and territoriality –where and why?

Evolution of sex and mate choice –who and why?

Monogamy/polygyny/polyandry – how often and why?

Parental tactics, brood parasitism, relative investment, infanticide

Self-awareness, consciousness, empathy, animal rights

Sociality, altruism, aggression, conflict and warfare

Evolution of play

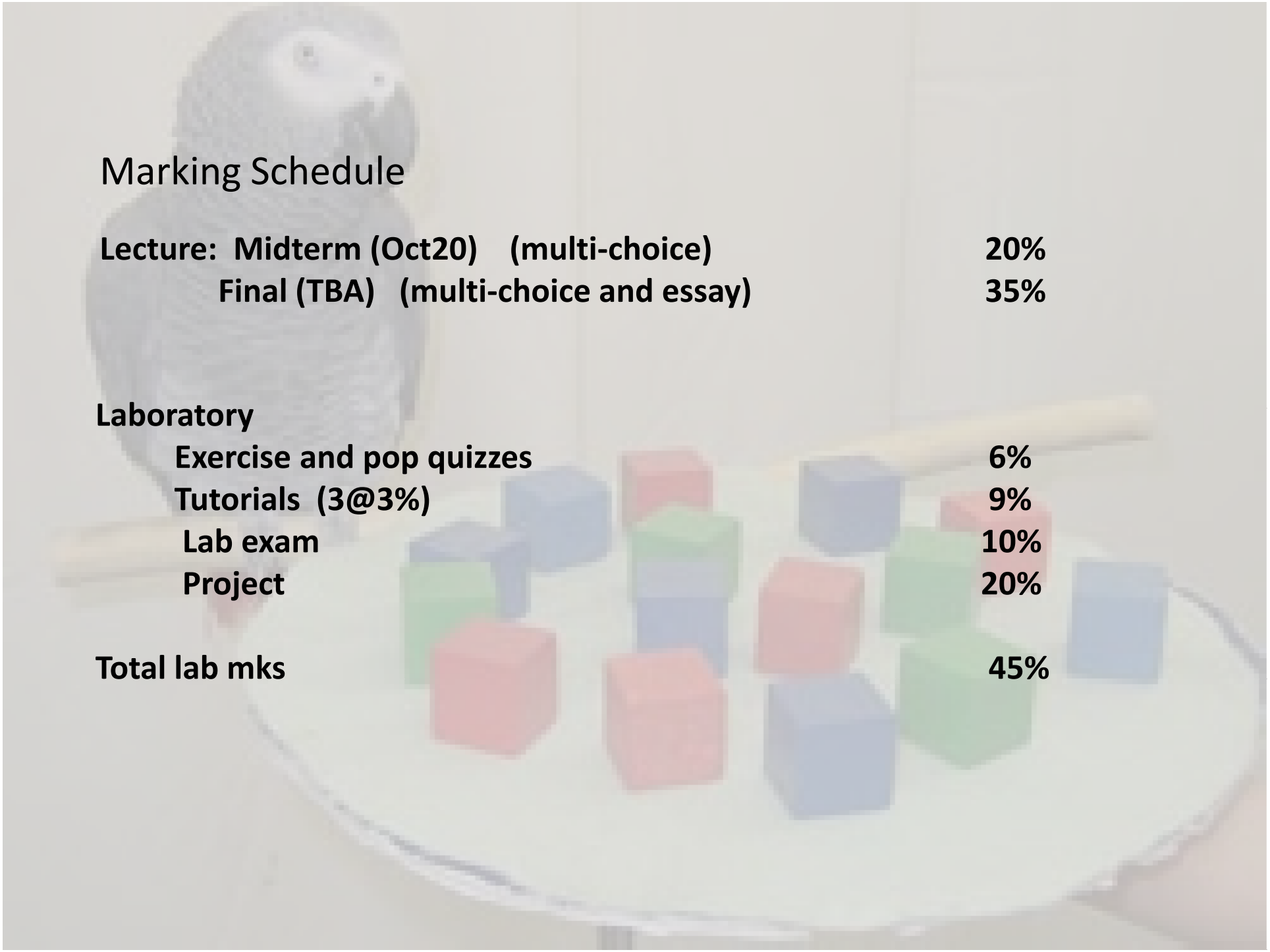
Overview: continuity of process

- **Laboratory**
- Hands-on analyses of simple and complex behaviours across a diversity of taxonomic groups including protists, jellyfish, sea anemones, flatworms, nudibranchs, sea stars, crabs, crayfish and fighting fish.
- Students will undertake a field project with an option of studying either crows, gulls, squirrels or dogs .
- There will be an optional field trip to Goldstream Park to observe the chum salmon spawning migration

Lab manual
Biology 345: Dr. R. M. Marx
~$15

Lab Schedule Fall 2016

Week of	Topic	*Assignment due*
Sep. 12	Introductory Lab	
Sep. 19	From Taxis to Shadow Reflex	√√; *Phase 1 project results*
Sep. 26	Learning Experiments Part 1	√√; *Tutorial 1*
Oct. 03	Learning Experiments Part 2	√√
Oct. 10	Thanksgiving – No labs	*Oct. 15: Phase 2 project results; proposal for Phase 3*
Oct. 17	Predator - Prey Interactions	√; *Tutorial 2*
Oct. 24	Agonistic Behaviour in Crayfish	√
Oct. 31	Workshop	√; *Tutorial 3*
Nov. 07	Reading Break – No labs	*Nov. 12: Final Project Report*
Nov. 14	Interactions in Siamese Fighting Fish	√;
Nov. 21	Lab exam	
Nov. 28	Project Presentations	
TBA	Optional Field Trip: Goldstream Park for Salmon Migration	



Marking Schedule

Lecture: Midterm (Oct20) (multi-choice)	**20%**
Final (TBA) (multi-choice and essay)	**35%**
Laboratory	
Exercise and pop quizzes	**6%**
Tutorials (3@3%)	**9%**
Lab exam	**10%**
Project	**20%**
Total lab mks	**45%**

General

Cheating and Plagiarism

The University and the Biology Department consider cheating and plagiarism as a serious matter, since ignoring it could be interpreted as endorsing dishonest scholarship. The policy can be found on the online UVic calendar (http://web.uvic.ca/calendar2016-09/undergrad/info/regulations/academic-integrity.html). Please read the policy carefully. In cases of potential dishonesty, the lack of familiarity with this policy is not an excuse. The University of Victoria Biology department reserves the right to use plagiarism detection software or other platforms to assess the integrity of student work.

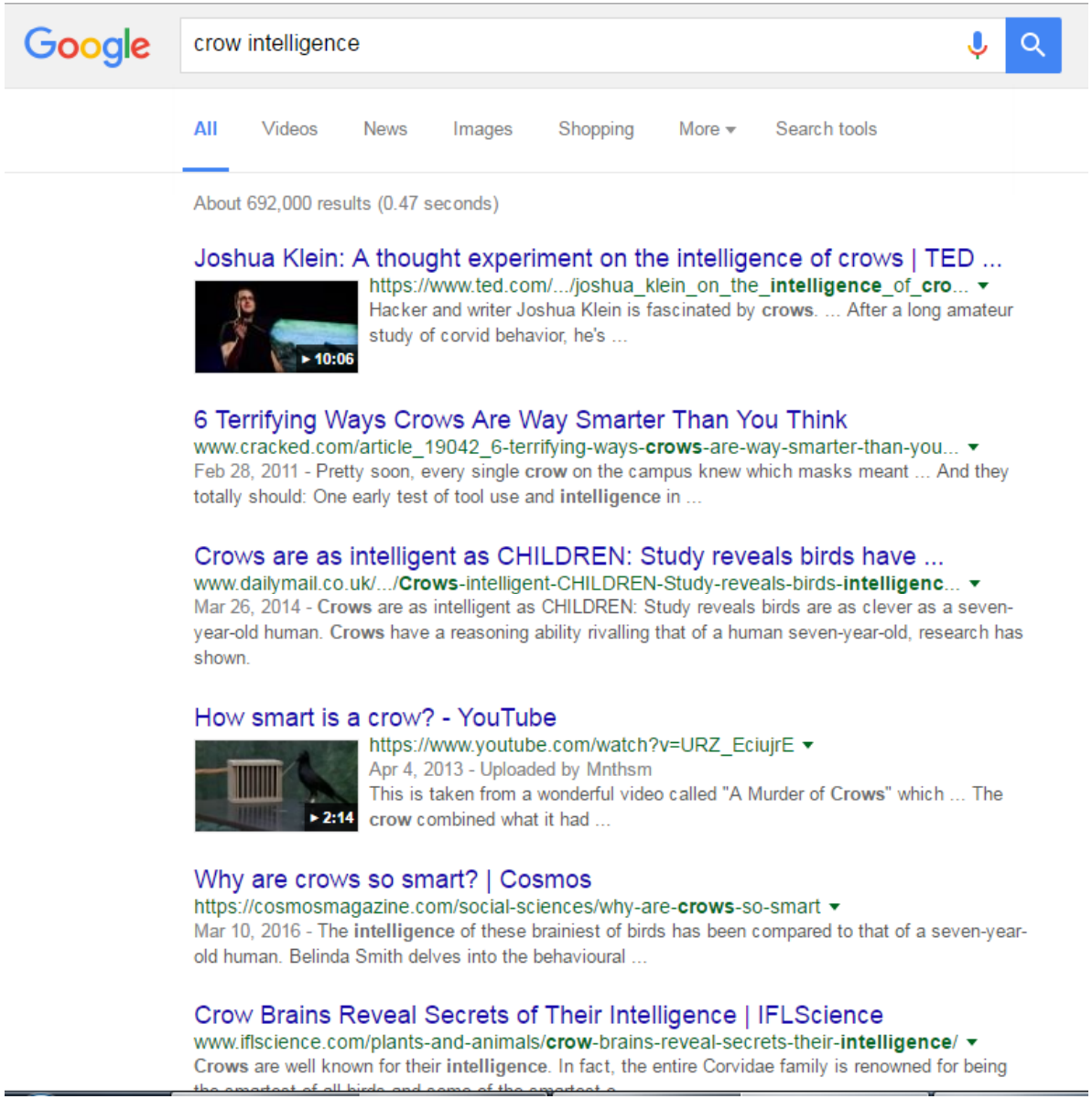
Important dates

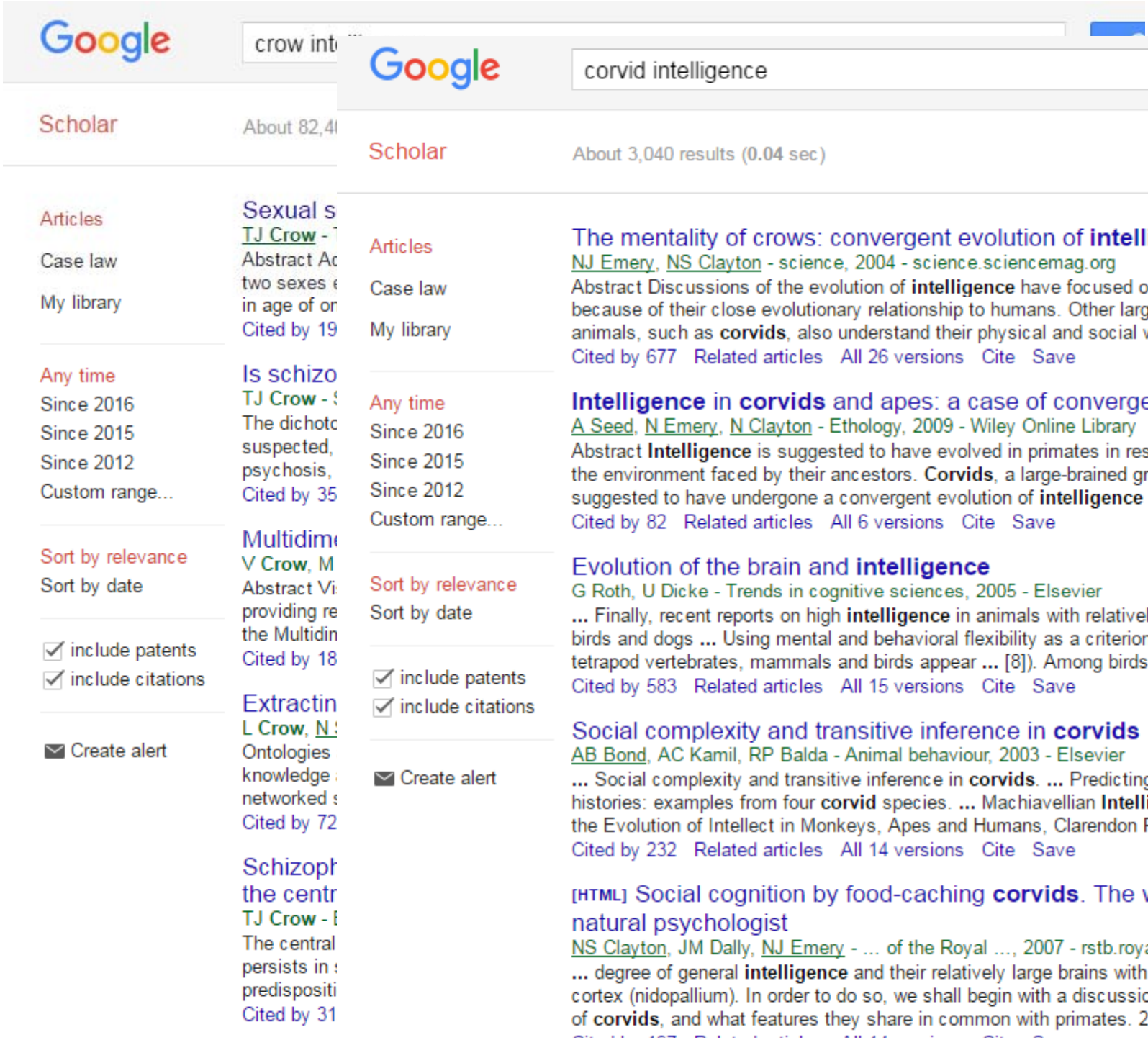
On the UVic website you will find a fuller list of important dates, but the ones we have listed below are the ones that will matter to students in Biology 345 and to students wishing to add the course this term.

Wednesday, September 7	First day of classes
Monday, September 12	First day of labs in Biology 345
Tuesday, September 20	Last day for 100% reduction of tuition fees for standard first-term and full-year courses
Friday, September 23	Last day for adding classes
Monday, October 10	Thanksgiving holiday
Tuesday, October 11	Last day for 50% reduction in tuition fees for standard courses 100% of tuition fees will be assessed for courses dropped after this date
Monday, October 31	Last day for withdrawing from courses without penalty of failure
Wed-Fri, November 9-11	Reading break, no classes and no labs
Friday, December 2	Last day of classes
Monday, December 5	First day of final exam period
Monday, December 19	Last day of final exam period

UVic is committed to promoting, providing and protecting a supportive and safe learning and working environment for all its members.

Topic/author search

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NJ Emery, NS Clayton - science, 2004 - science.sciencemag.org
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A Seed, N Emery, N Clayton - Ethology, 2009 - Wiley Online Library
Abstract Intelligence is suggested to have evolved in primates in response to complexities the environment faced by their ancestors. Corvids, a large-brained group of birds, have beer suggested to have undergone a convergent evolution of intelligence [Emery & Clayton (...
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G Roth, U Dicke - Trends in cognitive sciences, 2005 - Elsevier
... Finally, recent reports on high intelligence in animals with relatively small brains, such as birds and dogs ... Using mental and behavioral flexibility as a criterion for intelligence, amor tetrapod vertebrates, mammals and birds appear ... [8]). Among birds, corvids, parrots and
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Social complexity and transitive inference in corvids
AB Bond, AC Kamil, RP Balda - Animal behaviour, 2003 - Elsevier
... Social complexity and transitive inference in corvids. ... Predicting cognitive capacities fr histories: examples from four corvid species. ... Machiavellian Intelligence: Social Expertis the Evolution of Intellect in Monkeys, Apes and Humans, Clarendon Press, Oxford (1988 ...
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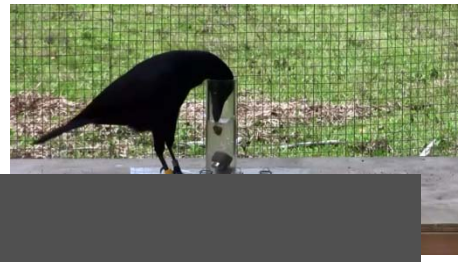
[HTML] Social cognition by food-caching corvids. The western scrub-jay natural psychologist
NS Clayton, JM Dally, NJ Emery - ... of the Royal ..., 2007 - rstb.royalsocietypublishing.org
... degree of general intelligence and their relatively large brains with expanded avian prefro cortex (nidopallium). In order to do so, we shall begin with a discussion of the general biology of corvids, and what features they share in common with primates. 2. Corvid biology and ..



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Within the animal kingdom, complex brains and high intelligence have evolved several to many times independently, e.g. among ecdysozoans in some groups of insects (e.g. blattoid, dipteran, hymenopteran taxa), among lophotrochozoans in octopodid molluscs, among vertebrates in teleosts (e.g. cichlids), corvid and psittacid birds, and cetaceans, elephants and primates. High levels of intelligence are invariantly bound to multimodal centres such as the mushroom bodies in insects, the vertical lobe in octopodids, the pallium in birds and the cerebral cortex in primates, all of which contain highly ordered associative neuronal networks. The driving forces for high intelligence may vary among the mentioned taxa, e.g. needs for spatial learning and foraging strategies in insects and cephalopods, for social learning in cichlids, instrumental learning and spatial orientation in birds and social as well as instrumental learning in primates.

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