

PLANT EVOLUTION

Course: BIOL 415, Evolutionary Processes in Plants

Lecture: 10-11 am, Tuesday & Thursday, West Mall Swing Space Building 406

Tutorial: 2-4 pm, Thursday, West Mall Swing Space Building 406

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Office Hours: 11-12 am, Tuesday, Biodiversity 319 or 304 (Julia), by appointment (Mariana)

Website: <http://www3.botany.ubc.ca/rieseberglab/plantevol/plantevo.html>

TENTATIVE SCHEDULE

TOPIC	Date	Lecturer	Readings
1. Introduction Discussion	Jan-4	Costa	None
Evolution of Populations			
2. Genetic drift & population structure	Jan-9	Costa	Dlugosh & Parker 2008
3. Gene flow Discussion	Jan-11	Costa	Fenart et al. 2007
4. Phylogeography	Jan-16	Costa	Blackman et al.2011
5. Local adaptation Discussion	Jan-18 (Quiz)	Pascual	Savolainen 2011 Fournier-Level et al. 2011
6. Coevolution	Jan-23	Costa	Whittall & Hodges 2007 Edger et al. 2015
7. Mating system evolution Discussion (Introduce research proposal assignment)	Jan-25	Costa	Grossenbacher et al. 2015
8. Sexual system evolution	Jan-30	Costa	Barrett 2002
Plant Speciation			
9. The nature of plant species Discussion (Group discussion of ideas for research proposal)	Feb-1 (Quiz)	Costa	Rieseberg et al. 2006
10. Reproductive isolation	Feb-6	Costa	Lowry et al. 2008
11. Chromosomal speciation	Feb-8	Costa	Stathos & Fishman 2014

Discussion (Bring/discuss proposal outlines)

12. Polyploid speciation Feb-13 Lee Salman-Minkov et al. 2016

13. Hybrid speciation Feb-15 (Quiz) Costa Schumer et al. 2014
Discussion

Reading week

14. Speciation and macroevolution Feb-27 Pascual Hodges & Arnold 1995
Discussion

First Research Proposal Due Feb-28

Plant Evolution and Us

15. Plant conservation genetics Mar-1 Costa Solórzano et al. 2014
Discussion

16. Climate change and plant evolution Mar-6 Pascual Parmesan & Hanley 2015

17. Weed evolution Mar-8 (Quiz) Costa Colautti & Barrett 2013
Discussion

18. Plant domestication Mar-13 Costa Fuller et al. 2014

19. Crop diversity Mar-15 Costa Tanksley et al. 1997
Discussion

Plant Genome Evolution

20. Population genomics of adaptation Mar-20 Pascual Weigel & Nordborg 2015

21. Paleopolyploidy Mar-22 (Quiz) Costa Jaillon et al. 2007
Discussion (Bring/discuss proposal outlines)

22. Nuclear genome evolution Mar-27 Costa Naito et al. 2009

23. Organelle genome evolution Mar-29 Costa Bock et al. 2014
Discussion

Project presentations - I Apr-3 (Quiz)

Project presentations - II Apr-5
Discussion (Project Presentations III)

Second Research Proposal Due Apr-6