OEB 106: Plant Development and Differentiation

NEW Room: Biolabs 2064

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TF: Grace Pisano, gpisano@g.harvard.edu (office hour by appointment)

Date	Topic	Readings
09/05/19	Introduction: Why plants are not animals (and why you should care).	
09/07/19	Basics of Plant Hormones	
09/12/19	Basic techniques in plant developmental genetics, Part I	Howell: Chap. 1&2
09/14/19	Basic techniques in plant developmental genetics, Part II	
09/19/19	Embryogenesis	Howell Chap. 3
09/21/19	Endosperm & Seed Development	Howell Chap. 11
09/26/19	Germination & Early Seedling Development	Howell Chap. 4
09/28/19	Shoot Apical Meristems	Howell Chap. 5 S&S Chap. 4-6
10/03/19	Primordium Initiation	Howell Chap. 13
10/05/19	Vascular Development I: Primary Growth	
10/10/19	Leaves I	

10/12/19	Leaves II	Howell Chap. 6
10/17/19	**First Exam**	
10/19/19	Vascular Development II: Secondary Growth **[Paper Topic Due]**	S&S Chap. 19-16
10/24/19	Roots	Howell Chap. 12
10/26/19	Epidermal modifications: Trichomes, Root hairs, etc. (Guest Lecture by Dr. Yan Gong)	
10/31/19	Flowering Time and Inflorescence Structure	Howell Chap. 7
11/02/19	Floral Meristems I	Howell Chap. 8
11/07/19	Floral Meristems II	
11/09/19	Floral Meristems III	Howell Chap. 9
11/14/19	Stamens, Pollen & Pistils	Howell Chap. 10
11/16/19	Pollination & Fruit	Howell Chap. 11
11/21/19	Senescence & Asexual reproduction	
11/28/19	Hormones II: Mechanisms of signal transduction **[First Paper Draft Due]**	
11/30/19	Comparative genomics & plant evo-devo	
12/05/19	**Second Exam**	
12/10/19	**Paper Assignment Due**	

The *suggested* text is:

Howell, S. H. 1998. Molecular genetics of plant development. Cambridge Univ. Press.

Used on Amazon $5-20. https://www.amazon.com/Molecular-Genetics-Development-Stephen-Howell/dp/0521587840/ref=tmm_pap_swatch_0?_encoding=UTF8&qid=1689338102&sr=1-1

Selected chapters from:

Steeves, T. A. and Sussex, I. M. 1989. Patterns in Plant Development (Second Edition). Cambridge University Press. [will be handed out in class]

Course requirements:

- Participants are expected to attend class regularly, come prepared to ask (and answer!) questions and contribute to discussions.
- There will be two written semester exams that will be given during regular class time. These exams will make up 70% of the grade and will consist mostly of short answer essay questions.
- Participants will also write a short review paper (8-10 pages) on a topic of their choice related to Plant Development (further details will be forthcoming). This will make up the remaining 30% of the course grade.