

M,W,F 11:30 A.M., Stratton 106; Lab Wednesdays 1:30-4:30, Stratton 106

Dr. Candace Collmer: Stratton 201; 364-3271; 607-257-5737 (home);

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Office Hours - Tues. 9-10 A.M., 1:30-2:30 P.M.; Fri 1:30-2:30 P.M.;

Or any other time by appointment

Texts: A. M. Campbell and L. J. Meyer. 2007. Discovering Genomics, Proteomics, and Bioinformatics. 2nd edition. Jointly published by Cold Spring Harbor Laboratory Press and Pearson/Benjamin Cummings. San Francisco, CA.

The website accompanying the textbook, with links to resources:

http://wps.aw.com/bc_campbell_genomics_2

TENTATIVE CLASS SCHEDULE

Date	Day	Chapter	Read Before Class	Discovery Questions
1/26	M	Introduction; Begin Chapter 1		
1/28	W	Chap. 1.1: What's wrong with my child?	ix-xiii; 1-9 (wrong url on pp xii, xiii)	5, 8, 10-14 + MM 1.1:DQ #1-2
1/30	F	1.2: What's wrong with my child?	pp.9-20; MM 1.2, MM 1.3	17-20, 22, 26-27, 29, 31-32 (add 15-16 next time)
2/2	M	1.2: What's wrong with my child?	20-29; MM 1.4	35-36, 38-40, 42, 45-46
2/4	W	2.1: How are genomes sequenced?	34-45	5, 8-9, 12-15(a,b,d) + MM 2.1:#1-2, MM2.2: #1-4
2/6	F	2.1: How are genomes sequenced?	45-59	(MM2.3: #1), 22,28,30,33,38
2/9	M	2.2: What have we learned from unicellular genomes?	59-74	40, 42, 48, 51-52, 56, 58, (MM2.4: #1), 64
2/11	W	2.3: What have we learned from multicellular genomes?	90-109	82, 87-88, (MM2.5: #2), 94, 96
2/13	F	3.1: Comparative genomics	114-123	4-6, 8, 14
2/16	M	3.2: Evolution of genomes	126-138	21, 23-24, 29, 32, 34-35
2/18	W	3.2: Human evolution	138-145, MM 3.3	37-39, [next time] 41-43
2/20	F	3.3: Genomic identifications	145-155	46-47 50, 53, 55-56
2/23	M	3.3: Genomic identifications	155-162	58-59, 61-62, 64, 65, 67
2/25	W	3.4: Biomedical genome research	162-172	69, 72-73, 75, 80-81
2/27	F	Finish Chapter 3; Give out Exam I		Finish up
3/2	M	4.1: What drives experimental diversity?	178-186	No Discussion Questions
3/4	W	Exam payback time	.	Exam I due 4:30 P.M
3/6	F	4.2: What are SNPs?	186-198	8, 10-11, 17-18, 28, 32, 37, 39
3/9	M	4.3: Is death genetically determined?	198-203	40, 42-43
3/11	W	Trip to Univ-MD School of Medicine		Prokary. Analysis & Annotation
3/13	F	Recap of trip to U-MD SOM 4.4: What are the ethical implications?	203-214	Discussion of reading
3/14-3/22		SPRING BREAK		

3/23	M	5: Why can't I just take a pill to...?	219-231	2, 9, 14, 20, 22, 27
3/25	W	Finish Chapter 5, begin Chapter 6	234-238; animation	Chapter 6: #4-7
3/27	F	6.1: Introduction to microarrays	234-245	4-7, (MM6.3: #2,3), 9-12
3/30	M	6.1: Can chips reveal regulatory sequences?	245-254	17-21, 25, 26, 31, 34, 35, 44
4/1	W	6.2: Alternative uses of DNA microarrays	254-261	45, 51, 54-56, 61, 66, 74, 76-77
4/3	F	7.1: Can microarrays diagnose cancer?	264-269	2, 4, 6, 10, 12, 15, 19, 20, 23-24, 26
4/6	M	7.2: Improving health care with DNA microarrays	273-282	41-42, 45-46, 53-54, 56, 58, 62-63, 67, 72, 79-80
4/8	W	Catch up		
4/10	F	8.1: Introduction to proteomics: What do all these proteins do?	286-295	
4/13	M	8.2: Does a protein's shape reveal its function?	295-299	27, 29, 30, 32
4/15	W	8.3: Which proteins interact with each other?	299-307	33, 36, 38, 40, 44
4/17	F	8.4: How do we measure and ID proteins?	307-19; 323-325	47-48, (MM8.3: #2), 51-52, 54-56, 65-66
4/20	M	9: Why can't we cure more diseases?	331-340	1-6, 9-10, (MM9.1: #1-2), 14-15
4/22	W	9: (cont.)	331-340	17-19, 20-23
4/24	F	Catch up; Take Home Exam II due		Take Home Exam II due
4/27	M	10.1: Dissecting a gene's circuitry	342-455	3, 5, 8-10, 12
4/29	W	10.1: What controls amount, location and timing of a gene?	355-366	15-16, 24-25, MM10.1: #1, 3
5/1	F	11.1: How do genes regulate each other?	370-378	1-3, 5-8
5/4	M	11.1: How are memories formed?	378-391	9, 13-14, 17, 19, 21, 25-27
5/6	W	11.1: Can we learn about cancer through circuits?	391-394	30-33
5/8	F	Finish up		
		FINAL EXAM - Take home		Monday 5/12, 7-10 PM or Friday 5/15, 2-5 PM

I expect your grade to be calculated as:

Discovery Questions - hand-ins <u>and</u> discussion	15%
Take-home Exam I	25%
Take-home Exam II (paper analysis)	10%
Final Exam	25%
<i>Pseudomonas syringae</i> annotation project	<u>25%</u>
TOTAL	100%

BIOL 355L - **LABORATORY**

Spring 2009

Wed. 1:30-4:30 P.M., Stratton 106

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TENTATIVE LABORATORY SCHEDULE

<u>Week</u>	<u>Topic</u>
1 - 1/28/09	- Chapter 1 - Orientation to the text, use of on-line resources linked to the textbook (http://wps.aw.com/bc_campbell_genomics_2) Math Minute 1.1 and Immunoprecipitation animation
2 - 2/4	- Chapter 2 - including Math Minute 2.1, MM 2.2
3 - 2/11	- Chapter 2 (finish)
4 - 2/18	- Chapter 3; Alan Collmer - Introduction to the <i>Pseudomonas syringae</i> genome project - a marriage of wet lab experimentation and bioinformatic approaches
5 - 2/25	- Magdalen Lindeberg - Orientation to the PPI website, the Artemis Genome Viewer, and Comparative Genomics of the <i>Pseudomonas syringae</i> genomes
6 - 3/4	- Introduction to the Gene Ontology (GO) - paper and discussion Exam I (take-home) due 4:30 P.M.
7 - 3/11	- Trip to University of Maryland School of Medicine Prokaryotic Analysis and Annotation: Dr. Michelle Gwinn-Giglio
8 - 3/14-22	SPRING BREAK
9 - 3/25	- Chapter 5, begin Chapter 6
10- 4/1	- Chapter 6
11- 4/8	- Brief project reports - each student
12- 4/15	- Chapter 8
13- 4/22	- Chapter 9
14- 4/29	- Project presentations - 4 students
15- 5/6	- Project presentations - 4 students
