

## FW5085 Functional Genomics and Biotechnology

### Tentative Course Syllabus, Fall 2007

Chung-Jui Tsai ([chtsai@mtu.edu](mailto:chtsai@mtu.edu)), phone: 487-2914

Office: Rm 164 Lab: Rm 147

Course webpage: <http://forest.mtu.edu/faculty/tsai/FW5085.html>

Week 1	Sep 3	No class, Labor Day	Week 9	Oct 29	Post-transcriptional Gene Silencing
	Sep 5	Introduction to Biotechnology & Functional Genomics, <b>HW1</b>		Oct 31	RNAi-mediated Gene Silencing
	Sep 7	No class, Instructor attends NSF meeting		Nov 2	Micro-RNAs and Small RNAs
Week 2	Sep 10	Recombinant DNA Technology	Week 10	Nov 5	No class, instructor attends National Academies Workshop
	Sep 12	Recombinant DNA Technology		Nov 7	No class, instructor attends National Academies Workshop
	Sep 14	Gene Discovery, <b>HW2</b>		Nov 9	Forward and Reverse Genetics, <b>Term paper subject due</b>
Week 3	Sep 17	Gene Discovery	Week 11	Nov 12	Forward Genetics
	Sep 19	Expressed Sequencing Tags		Nov 14	Reverse Genetics
	Sep 21	Expressed Sequencing Tags, <b>HW3</b>		Nov 16	Proteomics
Week 4	Sep 24	New Sequencing Technologies		Nov 19	Thanksgiving Break
	Sep 26	Microarray		Nov 21	
	Sep 28	Microarray Data Analysis, <b>HW4</b>		Nov 23	
Week 5	Oct 1	DNA Markers and Genome Sequencing	Week 12	Nov 26	Proteomics
	Oct 3	Mapping and Association Genetics		Nov 28	Metabolomics (Dr. Harding), <b>Exam 2 (5-7 pm)</b>
	Oct 5	Association Genetics		Nov 30	Metabolomics (Dr. Harding)
Week 6	Oct 8	Plant Tissue Culture	Week 13	Dec 3	Ecological Genomics
	Oct 10	Agrobacterium Transformation		Dec 5	Ecological Genomics
	Oct 12	T-DNA Transfer Mechanism, <b>HW5</b>		Dec 7	Systems Biology (Dr. Harding)
Week 7	Oct 15	T-DNA Transfer Mechanism	Week 14	Dec 10	Systems Biology (Dr. Harding), <b>Term paper due</b>
	Oct 17	T-DNA Transfer Mechanism, <b>Exam 1 (5-7 pm)</b>		Dec 12	Genetically Modified Organisms
	Oct 19	Direct Transformation, In-Planta Transformation		Dec 14	Genetically Modified Organisms
Week 8	Oct 22	Regulation of Gene Expression	Finals week	Dec 17	Term Paper Presentations
	Oct 24	Regulation of Gene Expression		Dec 19	
	Oct 26	Manipulation of Gene Expression – antisense		Dec 21	