

Schedule for 2310555
GENE ENGINEER LAB (2 credits)
Second semester (2022)

Time: FR 09.00 - 12.00, 13.00 - 16.00

Co-ordinator: Tanakarn (tanakarn.m@chula.ac)

Room: LAB 603; LECT 603

Topic	Hrs	Date	Instructor
I. DNA extraction and PCR			
1.1 Orientation	6	13-ม.ค.-23	Tanakarn
1.2 Plasmid and chromosomal DNA extraction			
1.3 Agarose gel and UV spectrophotometry	6	13-ม.ค.	Tanakarn
1.4. PCR and agarose gel electrophoresis of PCR product	6	20-ม.ค.	Tanakarn
II. DNA cloning			
2.1 Brief restriction enzyme digestion and ligation	1	27 Jan, 3 Feb, 10 Feb, 17 feb	Pawinee
2.2 Restriction enzyme digestion	2		
2.3 Ligation	3		
2.4 Brief transformation	2		Pawinee
2.5 Transformation	2		
2.6 Brief clone identification	1		
2.7 Plasmid extraction	2		
2.8 Restriction analysis and colony PCR	2		
2.9 Agarose gel electrophoresis	1		
2.10 Discussion	1		
Mid-term examination 7 - 10 Mar			
III. Site--directed mutagenesis			
3.1 Brief side-directed mutagenesis	1	17, 24, 31 Mar	Kittikun
3.2 Site-directed mutagenesis and error-prone PCR	5		
3.3 Transformation of site-directed mutagenesis	1		
3.4 Gel electrophoresis, gel extraction, ligation, and transformation of error-prone PCR reaction	5		Kittikun
3.5 Analysis of mutagenesis results	6		Kittikun
3.6 Discussion	3		Kittikun
IV. RNA extraction and RT-PCR			
4.1 Brief RNA extraction	1	7-เม.ย.	Tanakarn
4.2 Preparation of chemicals & glassware, induction of expression and cell collection	2		
4.3 RNA extraction	3		Tanakarn
4.4 Quantitative and quanlitative determination of RNA	3	21-เม.ย.	Anchalee
4.4 Brief Dnase treatment and RT-PCR	1		
4.5 DNase treatment of total RNA	3		
4.6 Reverse transcription	2		
4.7 PCR	3		Anchalee
4.8 Agarose gel electrophoresis	3		
4.9 Discussion	3	28-เม.ย.	Anchalee, Tanakarn
Final examination 9 - 24 May 2022: 18 May 2565 (8:30-11:30)			