

Schedule for 2310555			
GENE ENGINEER LAB (2 credits)			
Second semester (2024)			
Time: FR 09.00 - 12.00, 13.00 - 16.00		Co-ordinator: Tanakarn	
Room: LAB 504; LECT 503 (เทอมปลายห้อง 503 ว่าง แต่ รบกวน อ.ผู้สอนจองสำหรับ ชม. lecture ของแต่ละท่านเองนะคะ)			
Topic	Hrs	Date	Instructor
I. DNA extraction and PCR			
1.1 Orientation	6	10, Jan	Tanakarn
1.2 Plasmid and chromosomal DNA extraction	6	17, Jan	Tanakarn
1.3 Agarose gel and UV spectrophotometry			
1.4. PCR and agarose gel electrophoresis of PCR product	6	24-Jan	Tanakarn
II. DNA cloning			
2.1 Brief restriction enzyme digestion and ligation	1	31 Jan, 7, 14, 21 Feb (28 Feb เรียน mutagenesis อ.กิตติคุณ)	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		Pawinee
2.8 Restriction analysis and colony PCR	2		
2.9 Agarose gel electrophoresis	1		
2.10 Discussion	1		
Mid-term examination: สอบ 3 - 7 Mar 2025; 07-03-2025 13:00 - 16:00 น.			
III. Site--directed mutagenesis			
3.1 Brief side-directed mutagenesis	1	28 Feb, 14, 21, 28, Mar	Kittikhun (ตามเดิม)
3.2 Site-directed mutagenesis and error-prone PCR	5		Kittikhun (ตามเดิม)
3.3 Transformation of site-directed mutagenesis	1		
3.4 Gel electrophoresis, gel extraction, ligation, and transformation of error-prone PCR reaction	5		Kittikhun (ตามเดิม)
3.5 Analysis of mutagenesis results	6		Kittikhun (ตามเดิม)
3.6 Discussion	3		
IV. RNA extraction and RT-PCR			
4.1 Brief RNA extraction	1	4, 11, Apr	Tanakarn
4.2 Preparation of chemicals & glassware, induction of expression and cell collection	2		
4.3 RNA extraction	3		
4.4 Quantitative and quanlitative determination of RNA	3		Tanakarn
4.4 Brief Dnase treatment and RT-PCR	1	18, Apr	Anchalee
4.5 DNase treatment of total RNA	3		
4.6 Reverse transcription	2		

4.7 PCR	3	25, Apr	
4.8 Agarose gel electrophoresis	3		Anchalee
4.9 Discussion	3		Anchalee, Tanakarn
Final-term examination: สอบ 28 Apr - 14 May 2025; 07-05-2025 08:30 - 11:30 น.			