

Schedule for 2310554			
GENE ENG (2 credits)			
Second semester (2024)			
Time: WE, FR 08.00 - 09.00			Co-ordinator: Pawinee
Room: SCI10 521			
Topic	Hrs.	Date	Instructor
DNA cloning	5	Jan 8, 10, 15, 17, 22	Pawinee
Steps in DNA cloning, PCR DNA vector Enzymes in genetic engineering Bioinformatics (Sequence analysis) Transformation and transfection Screening and detection of the recombinant clones			
Gene expression analysis	4	Jan 24, 29, 31, Feb 5	Teerapong
Northern blot analysis RT-PCR and RT-qPCR Digital PCR DNA microarray RNA Sequencing (RNA-Seq)			
Sequencing Technology and application	4	Feb 7, 14, 19, 21	Vorrapon
First Generation sequencing Second-Generation Sequencing Third Generation sequencing			
Mid-term examination: สอบ 3 - 7 Mar 2025; 6 Mar 2025 13:00 - 16:00 น.			
Recombinant protein expression and purification	4	Mar 12, 14,19, 21	Pattana
<i>E. coli</i> expression system <i>Yeast</i> expression system <i>Baculovirus</i> expression system <i>Protein purification</i>			
Gene function analysis	3	Mar 26, 28, Apr 2	Kunlaya
Mutagenesis Homologous Recombination RNA interference (RNAi)			
CRISPR-Cas and application (Genome editing and gene function analysis)	2	Apr 4, 9	Kunlaya
Molecular markers	4	Apr 11, 18, 23 *นัดนอก ตารางอีก 1 ชม.	Veerasak
Types of genetic markers (e.g. SNPs) Mapping of genetic markers Applications (e.g. fingerprinting, MAS, GWAS)			
Synthetic biology	2	Apr 25 *นัดนอกตารางอีก 1 ชม.	Alisa
Final-term examination: สอบ 28 Apr - 14 May 2025; 7 May 2025 13:00 - 16:00 น.			