

Schedule for 2310554

GENE ENG (2 credits)

Second semester (2022)

Time: WE, FR 08.00 - 09.00

Co-ordinator: Pawinee

Room: SCI10 521

Topic	Hrs.	Date	Instructor
DNA cloning	5	Jan 11, 13, 18, 20, 25	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 27, Feb 1, 3, 8	Teerapong
Northern blot analysis RT-PCR and RT-qPCR Digital PCR DNA microarray RNA Sequencing (RNA-Seq)			
Sequencing Technology and application	4	Feb 10, 15, 17, 22	Vorrapon
First Generation sequencing Second-Generation Sequencing Third Generation sequencing			
Mid-term examination 7 - 13 Mar 2023: 9 มี.ค. 2566 เวลา 13:00-16:00 น.			
Recombinant protein expression and purification	4	Mar 15, 17, 22, 24	Pattana
<i>E. coli</i> expression system Yeast expression system Baculovirus expression system Protein purification			
Gene function analysis	3	Mar 29, 31, Apr 5	Kunlaya
Mutagenesis Homologous Recombination RNA interference (RNAi)			
CRISPR-Cas and application (Genome editing and gene function analysis)	2	Apr 7, 12	Kunlaya
Molecular markers	4	Apr 19, 21, 26, 28	Veerasak
Types of genetic markers (e.g. SNPs) Mapping of genetic markers Applications (e.g. fingerprinting, MAS, GWAS)			
Synthetic biology	2	May 3, 5	Alisa
Final examination 8 - 19 May 2023: 16 พ.ค. 2566 เวลา 13:00-16:00 น.			