

BIOCHEMISTRY FOR BIOENGINEERINGS (3 credits)

First semester (2025)

Time: Mon 9.00-10.30, Wed 9.00-10.30		Co-ordinator: Kuakarun	
(*) 2 h 9.00- 11.00			
Room: TBA (ENG3 Room.408)			
Topic	Hrs.	Date	Instructor
1. Foundations of biochemistry	2	4, 6, 13, 18 Aug	Rath
2. Structure and catalysis			
2.1 Carbohydrates	2		Rath
2.2 Lipids	2		Rath
2.3 Nucleotides and nucleic acids	2	20, 25, 27, Aug, 1, 3(*) Sep	Kittikhun (ตามเดิม)
2.4 Amino acids and proteins	2		Kittikhun (ตามเดิม)
2.5 Enzymes	4		Kittikhun (ตามเดิม)
3. Bioenergetics and Metabolism			
3.1 Overview of bioenergetics and metabolism	2	8, 10, 15, 17 Sep	Pattana
3.2 Carbohydrate metabolism	3		Pattana
3.3 Lipid metabolism	1		Pattana
Mid-term examination: 22 - 26 Sep 2025; [TBA]			
3.3 Lipid metabolism (continue)	1	29 Sep, 1 Oct	Pattana
3.4 Metabolism of N-containing compounds	2		Pattana
3.5 Integration of metabolism and metabolic regulation	2	6 Oct(*)	Kuakarun
4. Information pathways		8, 15, 20, 22 Oct, 27 Oct (*)	
4.1 DNA replication	2		Pawinee
4.2 Transcription	2		Pawinee
4.3 Translation	2		Pawinee
4.4 Gene regulation	2		Pawinee
5. DNA Technology		3(*), 10(*), 12(*), 17(*), 19 Nov	
5.1 Genetic engineering	4		Kuakarun
5.2 Metabolic engineering	5		Kuakarun
Final-term examination: 24 Nov - 8 Dec 2025; [TBA]			