

COURSE SCHEDULE
SCID506 Concept of Molecular Biosciences Credit 2(2-0-4)
Aug 11-Sep 27, 2021
Faculty of Science, Mahidol University

| Period | DATE | TIME | TOPIC | LECTURER |
|---|----------|-----------|--|--------------------|
| Unit I Chemical principles in biological science | | | | |
| | W 11 Aug | 0900-1000 | Course Orientation (Mandatory-everyone must attend.) | Jirundon |
| 1 | | 1000-1100 | pH, pKa, and ionization | Jirundon/ Danaya |
| 2 | | 1100-1200 | Bonding, force, interaction, and stereochemistry of molecules | Danaya/ Jirundon |
| 3 | F 13 Aug | 0900-1000 | Bonding, force, interaction, and stereochemistry of molecules | Danaya/ Jirundon |
| 4,5 | | 1000-1200 | Protein structure and function | Danaya/ Jirundon |
| | | 1300-1500 | Questions & Answers for Unit I | Jirundon & Danaya |
| M 16 Aug 0900-1200 EXAM I (Unit I) 50 point | | | | |
| Unit II Biomolecules | | | | |
| 6,7 | W 18 Aug | 0900-1100 | Thermodynamics and biological oxidation | Kittisak/ Ruchanok |
| 8,9 | F 20 Aug | 0900-1100 | Enzyme kinetics and catalysis | Ruchanok/ Kittisak |
| | | 1100-1200 | Special topic for Unit II: Mitochondrial Carrier Proteins and Disease | Laran |
| | | 1300-1400 | Questions & Answers for Unit II | Kittisak |
| 10 | | 1400-1500 | Lipid and biomembrane | Jirundon/ Danaya |
| 11 | | 1500-1600 | Carbohydrate and glycobiology | Jirundon/ Danaya |
| | M 23 Aug | 1100-1200 | Questions & Answers for Unit II | Ruchanok |
| Unit III Chemical and energy metabolism | | | | |
| 12 | W 25 Aug | 0900-1000 | Oxidative Phosphorylation | Kittisak/ Ruchanok |
| 13 | | 1000-1100 | Photophosphorylation, light & life | Kittisak/ Ruchanok |
| | | 1100-1200 | Questions & Answers for Unit II | Jirundon |
| 14,15 | F 27 Aug | 0900-1100 | Metabolism of carbohydrate | Sarawut/ Laran |
| M 30 Aug 0900-1200 EXAM II (Unit II) 60 point | | | | |
| | W 1 Sep | | Self-study | |
| 16,17 | F 3 Sep | 0900-1100 | Metabolism of lipids | Sarawut/ Laran |
| 18,19 | M 6 Sep | 0900-1100 | Metabolism of nucleic acid and amino acid | Laran/ Jamorn |
| | | 1100-1200 | Questions & Answers for Unit III | Laran |
| | | 1300-1400 | Questions & Answers for Unit III | Kittisak |
| | W 8 Sep | 0900-1000 | Special topic for Unit III: Cell Metabolism & regulation | Sarawut |
| | | 1000-1100 | Questions and Answers for Unit III | Sarawut |
| | F 10 Sep | | Self-study | |
| M 13 Sep 0900-1200 EXAM III (Unit III) 80 point | | | | |
| Unit IV Gene and genetic regulation | | | | |
| 20,21,22 | W 15 Sep | 0900-1200 | DNA replication, repair and recombination | Danaya/ Waraporn |
| 23,24 | F 17 Sep | 0900-1100 | Gene expression and control I | Kornkamon/ Mikhail |
| | | 1100-1200 | Questions & Answers for Unit IV | Danaya |
| 25,26 | M 20 Sep | 0900-1100 | Gene expression and control II | Kornkamon/ Mikhail |
| | | 1100-1200 | Special topic for Unit IV: Genes, genomes and biological function | Mikhail |
| | | 1300-1400 | Questions & Answers for Unit IV | Kornkamon |
| | W 22 Sep | | Self-study | |

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|--------|----------|-----------|----------------------------|----------|
| | F 24 Sep | | Self-study (วันมหิดล) | |
| | M 27 Sep | 0900-1200 | EXAM IV (Unit IV) 70 point | |

Course Coordinator: Dr. Jirundon Yuvaniyama E-mail: jirundon.yuv@mahidol.edu