

**CELL & MOLECULAR BIOLOGY (SCID500) Credit 3(3-0-6)**

**COURSE SCHEDULE**

**June 24-Aug 1, 2025**

**Faculty of Science, Mahidol University**

<b>DATE</b>	<b>TIME</b>		<b>TOPIC</b>	<b>Room</b>	<b>LECTURER</b>
Tue Jun 24	09.00-10.00	OR	Introduction to the Course	L02	Puey
	10.00-12.00	L1	Water and Life	L02	Jirundon
<u>Unit I: Life and Information Flow in Cell</u>					
Wed Jun 25	09.00-11.00	L2,3	Biomolecules of Cells	L02	Jirundon
	11.00-12.00	L4	Structural Biology	L02	Jirundon
Thu Jun 26	09.00-11.00	L5	Molecular recognition, protein engineering, and structure-based drug design	L02	Jirundon
	11.00-12.00	SL1	Special Lecture (TBA)	L02	Thanyada (CU)
Fri Jun 27	09.00-11.00	L6,7	Chemical Nature of Genetic Materials & DNA Replication	L02	Laran
				L02	Laran
Mon Jun 30	09.00-11.00	L8,9	Gene Regulation & Gene Expression	L02	Laran
Tue Jul 1	09.00-11.00	L10,11	Gene Technology	L02	Laran
	11.00-12.00	SL2	Special Lecture (TBA)	L02	Laran
Wed Jul 2			Self-study		
<b>Thu Jul 3</b>	<b>09.00-12.00</b>		<b>EXAM Unit I (L1-11) (55 Points)</b>	<b>Room MDL3</b>	
<u>Unit II: Energy Flow in Biosystem</u>					
Fri Jul 4	09.00-10.00	L12	Chemical Metabolisms	L02	Sittinan
	10.00-11.00	L13	Chemotrophic & Phototrophic Energy Metabolisms	L02	Sittinan
Mon Jul 7	09.00-11.00	L14,15	The Catalysts of Life	L02	Ruchanok
	11.00-12.00	L16	Bioenergetics	L02	Ruchanok
<b>Tue Jul 8</b>	<b>09.00-11.00</b>	<b>SL3</b>	<b>Special Lecture (From code to care: nanopore sequencing for real-world clinical impact)</b>	<b>L02</b>	<b>Thidathip (SI)</b>
<u>Unit III: Cell Structure and Function</u>					
Wed Jul 9	09.00-11.00	L17,18	Membrane: Structure and Transport Function	L02	Tai
Thu Jul 10			Self-study (วันอาสาฬหบูชา)		
Fri Jul 11			Self-study (วันเข้าพรรษา)		
Mon Jul 14	09.00-11.00	L19,20	ER, Golgi and lysosomes	L02	Puey
Tue Jul 15	09.00-11.00	L21,22	Cytoskeleton	L02	Puey
<b>Wed Jul 16</b>	<b>09.00-11.00</b>	<b>SL4</b>	<b>Special Lecture (Ion Channel as a Drug Target)</b>	<b>L02</b>	<b>Chatchai (RA)</b>
Thu Jul 17	09.00-11.00	L23,24	Mitochondria, chloroplast and peroxisomes	L02	Amornrat
	11.00-12.00	L25	Nucleus	L02	Amornrat
Fri Jul 18			Self-study		
<b>Mon Jul 21</b>	<b>09.00-12.00</b>		<b>EXAM Unit II-III (L12-25) (70 Points)</b>	<b>Room MDL3</b>	

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<u>Unit IV: Cell Signaling</u>					
Tue Jul 22	09.00-11.00	L26,27	Electrical Signaling in Excitable Cells	L02	Tai
Wed Jul 23	09.00-11.00	L28,29	Cell Surface Receptors Intracellular Signal Transduction	L02	Arthit
	11.00-12.00	SL5	Special Lecture (Nano-Messengers in Action: The Theranostic Power of Extracellular Vesicles)	L02	Arthit
Thu Jul 24	09.00-11.00	L31,32	Cell Adhesion and Extracellular Substances	L02	Krai
<u>Unit V: Cell Division, Cellular Differentiation, Cell Death and Development</u>					
Fri Jul 25	09.00-11.00	L33,34	Cell Division	L02	Rutaiwan
	11.00-12.00	L35	Cell Cycle & Cell Death	L02	Rutaiwan
Mon Jul 28			Self-study (ซดเชยวันพระชนมพรรษา ร.10)		
Tue Jul 29	09.00-11.00	L36,37	Cell Development	L02	Somyoth
	11.00-12.00	L38	Cell Differentiation	L02	Somyoth
Wed Jul 30	09.00-11.00	SL6	Special Lecture (Stem cells in regenerative medicine)	L02	Punn (SI)
Thu Jul 31			Self-study		
<b>Fri Aug 1</b>	<b>09.00-12.00</b>		<b>EXAM Unit IV-V (L26-38) (65 Points)</b>	<b>Room MDL3</b>	