

Course Syllabus

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| 1. Course Code | SCBE207 |
| Course Title | Cell and Molecular Biology |
| Room | Online/SC1-157 |

2. Course Outline

| week | Topics/Seminar | Date/Time | | | Instructors |
|------|---|--------------------|------------|-------|-------------|
| | | Date | Time | Hours | |
| 1 | ○ Welcome to cell biology ○ Small molecules and macromolecules of the cells | Fri 22 Jan | 9.00-12.00 | 3 | Theeraporn |
| 2 | ○ Introduction to the cell ○ How cells are studied ○ Cell visualization techniques | Fri 29 Jan | 9.00-12.00 | 3 | Theeraporn |
| 3 | ○ Fractionation of cells and analysis of their molecules ○ Isolating cells and growing them in culture | Fri 5 Feb | 9.00-12.00 | 3 | Theeraporn |
| 4 | ○ The composition of cells & Nucleus | Fri 12 Feb | 9.00-12.00 | 3 | Theeraporn |
| 5 | ○ Protein sorting and transport (Endoplasmic reticulum, Golgi apparatus, and Lysosomes) | Fri 19 Feb | 9.00-12.00 | 3 | Theeraporn |
| 6 | ○ No class (holiday) | Fri 26 Feb | | | Theeraporn |
| 7 | ○ Membrane & Transport | Fri 5 Mar | 9.00-12.00 | 3 | Theeraporn |
| 8 | ○ Cytoskeletons | Fri 12 Mar | 9.00-12.00 | 3 | |
| 9 | Midterm Exam (week 1-8) | 15-19 March | | | |
| 10 | ○ Cells in their social context | Fri 26 Mar | 9.00-12.00 | 3 | Theeraporn |
| 11 | ○ Bioenergetics and Metabolism: (Mitochondria, Chloroplasts, and Peroxisomes) | Fri 2 April | 9.00-12.00 | 3 | Theeraporn |
| 12 | ○ Cell Signaling | Fri 9 April | 9.00-12.00 | 3 | Theeraporn |
| 13 | ○ DNA mutation and DNA repair | Fri 16 April | 9.00-12.00 | - | Theeraporn |
| 14 | ○ Cell cycle, cell division ○ Germ cells and fertilization | Fri 23 April | 9.00-12.00 | - | Theeraporn |

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| | ○ Haploid and Diploid | | | | |
| 15 | ○ Cell differentiation and specialization ○ Apoptosis | Fri 30 April | 9.00-12.00 | 3 | Theeraporn |
| 16 | ○ Cancer | Fri 7 May | 9.00-12.00 | 3 | Theeraporn |
| 17 | Final Exam (week 10-16) | 10-21 May | | | |
| | Total | | | 42 | Theeraporn |

Note: Friday, 12 Feb is a new holiday. There will be only VDO lecture (no live session on that day).

3. References

Alberts B, Johnson A, Lewis J, Raff M, Roberts K, and Walter P. Molecular Biology of Cell, 4th Ed. Garland Science, NY, USA. 2002.

Cooper GM. The Cell: A Molecular Approach. 4th ed. AMS Press, Sinauer Associates, Inc, 2006.

4. Evaluation

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| Exam | 42% (each week about 3%) |
| Summative test | 42% (each week about 3%) |
| Attention + activities | 16% |

5. Instructor

Associate Professor Dr.Theeraporn Puntheeranurak

6. Course coordinator

Associate Professor Dr.Theeraporn Puntheeranurak

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