

10310LSMM514600 生物能量學及氧化磷酸化作用系統

(Bioenergetics and Oxidative Phosphorylation System)

1. Time: Tuesday, 10:10 ~ 12:00, Classroom: LS-II-207
2. Instructor: Mou-Chieh Kao (高茂傑) mckao@life.nthu.edu.tw LS-I 307 ext. 42472
3. Office hours: By appointment only
4. Course description:

This is a course of intermediate level, which is intended to give students a deeper overview of bioenergetics and oxidative phosphorylation system.

5. Grading:

- 90% two in-class written examinations
- 10% participation (attendance, discussion and question asking)

6. Syllabus:

Week	Topics	Speaker
9/16	Introduction : oxidative phosphorylation system	Kao
9/23	Introduction to biochemical energetics	Kao
9/30	Electron-transfer reactions in mitochondria	Kao
10/7	Structure and function of complex I: NADH dehydrogenase (1)	Kao
10/14	Structure and function of complex I: NADH dehydrogenase (2)	Kao
10/21	Structure and function of complex I: NADH dehydrogenase (3)	Kao
10/28	Structure and function of complex I: NADH dehydrogenase (4)	Kao
11/4	Structure and function of complex II: succinate dehydrogenase (1)	Kao
11/11	Structure and function of complex II: succinate dehydrogenase (2)	Kao
11/18	Mid-term Examination	Kao
11/25	Structure and function of complex III: cytochrome c reductase (1)	Kao
12/2	Structure and function of complex III: cytochrome c reductase (2)	Kao
12/9	Structure and function of complex IV: cytochrome c reductase (1)	Kao
12/16	Structure and function of complex IV: cytochrome c reductase (2)	Kao
12/23	ATP synthesis by complex V: ATP synthase	Kao
12/30	ATP synthesis by complex V: ATP synthase	Kao
1/6	Final Examination	Kao