

Course	Molecular Nutrition
Course No.	01ER434
Credits	2 credits
Grade	1 st year
Timetable	Spring AB
Instructor	Ning-Sing Shaw, Lo Yi-Chen
Course Overview	This lecture mainly focuses on Nutrition Biochemistry, Nutrition Genomics, Nutrition Metabolism, and Epi-genomics. We mainly study the effect of diet to genes and metabolism, especially, how nutrition molecules affect the health condition. This lecture will be co-coordinated with National Taiwan University, University of Mississippi, National Taiwan Normal University, and National Ping Tung University of Science & Technology. We use TV-meeting system to share the course among the universities. All lectures and discussion will be held in English.
Remarks	Conducted in English at National Taiwan University
Course Type	Lecture
Link between Course Objectives and Activities	Students will learn the expertise to link food and health through studying molecular nutrition.
Academic Goal	<ol style="list-style-type: none"> 1. To understand the discipline of molecular nutrition 2. To understand the mechanism to bridge nutrition and diet. 3. To understand how to maintain healthy condition by controlling nutrition uptake. 4. To understand how nutrients affect genetic diseases.
Course Schedule	<ol style="list-style-type: none"> 1. Introduction (knowing each other and course introduction), Translational control: selenium; 2. Micronutrient and aging, Translational control-Iron 3. Translational control-Iron, Nutrient excess and diabetes 4. Folate nutrition in cancer prevention and prognosis: from basic research to clinical application, 5. Group discussion-1 6. Role of AHR in dioxin toxicity 7. Group discussion-2, Natural compounds in PDT 8. Molecular anticancer mechanisms of nutraceutical compounds, Signaling transduction in cancer cell death by nutraceutical compounds 9. Molecular mechanisms for cancer chemoprevention by natural dietary bioactive compounds, Cancer epigenetics 10. Group presentation
Course Prerequisites and Advisories	Undergraduate 4 th students, and graduate students who has basic knowledge and concept about nutrition.
Grading Philosophy (Percentage/ Criteria/ Methodology)	Mid-term exam (45%), Class participation (15%), Final report (20%), Presentation (20%)
Self-Directed Learning Other Than Coursework	Read materials introduced in class
Textbooks, References and Supplementary Materials	To be introduced in the class
Office Hours	Lo Yi-Chen Appointment only

Other (i.e. Expectations on Classroom, Conduct and Decorum etc.)	
Related Courses	Food Safety & Health
Keywords	Nutrition, diet, metabolism, gene, genome