

NEMS584200 細胞生物、胞外體及生物科技基礎  
Fundamentals of Cell Biology, Extracellular Vesicles and Biotechnology

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**When:** 2<sup>nd</sup> semester, 2023, T5T6T7

**Teaching Goals:** The goal of this course is to provide students with a wide and general understanding of extracellular vesicles and their potential roles in physiology and pathophysiology, as well as their applications in diagnosis and treatment. The development of pertinent technologies will also be discussed.

**Handouts:** can be downloaded at the eeclax platform (<http://eeclax.nthu.edu.tw/>).

**Assignments and Grading** (subject to revision):

- ◆ 4 team presentations before the topic is introduced (the lowest score of all presentations will be discarded): 30%
- ◆ Class participation: 10%
- ◆ Midterm exam: 30%
- ◆ Final exam: 30%

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	<b>wks</b>	<b>Theme</b>	<b>Presentation</b>	<b>Lab</b>
02/14 /2023	1	Introduction		
02/21/2023	2	Cells		
02/28/2023	3	Holiday		
03/07/2023	4	Cell chemistry		Cell culture, staining & imaging
03/14/2023	5	Biogenesis of EVs	#1	
03/21/2023	6	Uptake of EVs	#2	
03/28/2023	7	Midterm exam (wk1 – wk6)		
04/04/2023	8	Holiday		
04/11/2023	9	Protein, RNA & Lipid content of EVs	#3	
04/18/2023	10	Protein, RNA & Lipid content of EVs		RNA extraction & Electrophoresis
04/25/2023	11	Physiological Function of EVs	#4	
05/02/2023	12	Pathophysiology of EVs in Cancer and other diseases	#5	
05/09/2023	13	Collection of EVs		
05/16/2023	14	Isolation of EVs (part 1)	#6	
05/23/2023	15	Isolation of EVs (part 2)	#7	
05/30/2023	16	Characterization of EVs (part 1)	#8	
06/06/2023	17	Characterization of EVs (part 2)		qNano
06/13/2023	18	Final exam (wk9 – wk17)		