

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, 2024, T5T6T7

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

**Handouts:** can be downloaded at the eeclash platform (<http://eeclash.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>Course: NEMS584200 細胞生物、胞外體及生物科技基礎</b>				
<b>Fundamentals of Cell Biology, Extracellular Vesicles, and Biotechnology (approx. schedule)</b>				
	<b>wks</b>	<b>Theme</b>	<b>Presentation</b>	<b>Lab</b>
02/20/2024	1	Introduction		
02/27/2024	2	Cells		
03/05/2024	3	Cell chemistry (part 1)		
03/12/2024	4	Cell chemistry (part 2)		Cell culture, staining & imaging
03/19/2024	5	Biogenesis of EVs		
03/26/2024	6	Uptake of EVs		
<b>04/02/2024</b>	7	<b>Midterm exam</b> (wk1 – wk6)		
04/09/2024	8	Protein, RNA & Lipid content of EVs (part 1)	#1	
04/16/2024	9	Protein, RNA & Lipid content of EVs (part 2)	#2	RNA extraction & Electrophoresis
04/23/2024	10	Physiological Function of EVs		
04/30/2024	11	Pathophysiology of EVs in Cancer and other diseases	#3	
05/07/2024	12	Collection of EVs	#4	
05/14/2024	13	Isolation of EVs (part 1)	#5	
05/21/2024	14	Isolation of EVs (part 2)	#6	
05/28/2024	15	Characterization of EVs (part 1)	#7	
06/04/2024	16	Characterization of EVs (part 2)	#8	
06/11/2024	17	Characterization of EVs (part 3)		qNano
<b>06/18/2024</b>	<b>18</b>	<b>Final exam</b> (wk8 – wk17)		