

COURSE INTRODUCTION

- **BIO2032 is a laboratory course which provides hand - on training in current cell biological methods such as microscopy, animal cell culture, bacterial transformation, PCR, cell fractionation, SDS - PAGE and mouse anatomy.**
- 1. Microscopy
- 2. Cell Culture
- 3. Activation of the β -galactosidase gene in transformed E. coli
- 4. PCR
- 5. Cell fractionation
- 6. SDS-PAGE
- 7. Rat anatomy
- 8. Fluorescence microscopy



TEXTBOOK

- The lab protocol or assigned material of each exercise will be delivered to you one week earlier. Please read carefully and finish the pre-lab exercise before you come to the lab.
- You don't need to purchase any textbooks.



■ COURSE FORMAT:

LABORATORY (RA407, TUESDAY, 3:00 – 6:00 PM)

NO TUTORIALS

■ GRADING:

	PERCENTAGE
LABORATORY PERFORMANCE	20
LABORATORY REPORT	40
FINAL EXAM	40



Dates	L01 (Tuesday 3:00-5:50PM)
Sep 7	No class
Sep 14	Safety and pipetting
Sep 21	Mid-Autumn Festival
Sep 26	No Class make-up for 5 October 2021 (Tue) (in order to keep pace with L02)
Sep 28	Light microscopy
Oct 1-7	National Day Holiday
Oct 12 (Oct 14/16/18 follow-up sessions)	Cell culture
Oct 19	Protein assay
Oct 26	Activation of the b-galactosidase gene in transformed <i>E.coli</i>
Nov 2	Polymerase chain reaction (PCR) replication of b-galactosidase gene <i>LacZ</i> and gel electrophoresis verification
Nov 9	Cell fractionation by differential centrifugation
Nov 16	Identification of mitochondrial fraction
Nov 23	Analysis of proteins by electrophoresis
Nov 30	Application of fluorescence microscopy to measure apoptosis in HL-60 cells after treatment with H ₂ O ₂
Dec 7	Rat anatomy
Dec 15 (tentative)	Final exam

