

# JANICE PANG

INTEGRATED SCIENCE  
AMBASSADOR

5TH YEAR, HONOURS

## THEME OF MY INTEGRATION: TYPE 2 DIABETES

By integrating molecular biology and immunology knowledge to my diabetes research, I hope to gain a better understanding of potential cellular and molecular mechanisms underlying the development of type 2 Diabetes. This will help me gain an appreciation for an interdisciplinary approach to research and prepare me for a research career in academia or industry.

## SAMPLE CURRICULUM RATIONALE

### BIOC 303 - Molecular Biochemistry

This course introduces topics related to structure, function, metabolism, and insights into the biochemistry and molecular biology of replication, transcription/translation, and gene regulation. A good understanding of the macromolecules and metabolic pathways will be crucial for my honors thesis related to immunometabolism and the development of type 2 diabetes.

### MICB 402 - Advanced Immunology

MICB 402 focuses on major concepts and current research regarding the significance of the immune system in health and disease. This course will allow me to gain a more in-depth understanding of the immunological topics studied in foundational courses such as MICB 202 and 302. The focus on interpreting results from recently published research and discussing advances in immunology in this course will be an opportunity to develop the communication and analytical skills required in my research career.

## WHAT I AM INTEGRATING:

### DISCIPLINE #1

#### Molecular Biology:

Investigating the molecular basis of biological activities within and between cells is crucial to understanding the molecular pathways underlying cellular function. Studying the contribution of these molecular pathways will help uncover potential molecular mechanisms by which diseases can develop and aid in the development of better therapeutics.

### DISCIPLINE #2

#### Immunology:

Increasing evidence suggests a role for inflammation-induced by immune responses to high blood glucose levels and inflammatory mediators in the development of dysfunctional insulin-secreting beta cells in type 2 diabetes. The study of immunology will show how immune cells work together to protect the host or lead to the pathogenesis of diseases.

## CONTACT

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