



# GABRIELLA WANG

INTEGRATED SCIENCE  
AMBASSADOR

5TH YEAR, MAJOR

## THEME OF MY INTEGRATION:

### Understanding Diseases and Infections of the Brain

Diseases such as meningitis and encephalitis—brain infections—are prevalent in our community; many people suffer from these highly contagious diseases. I would like to gain a better understanding of how pathogens invade the human brain and what the human body does to rid of them.

## WHAT I AM INTEGRATING:

### DISCIPLINE #1

#### Physiology:

Within Physiology, a range of topics including Anatomy, Histology, Biochemistry, and many others helps bridge overarching ideas together to form one central understanding of how we function in steady-state conditions.

### DISCIPLINE #2

#### Immunology:

By Immunology is the study of how organisms (hosts) function when they are under invasion or attack. Since there are many related subjects that cannot be understood fully by pursuing the study of one or the other separately, integrating both immunology and physiology will aid my understanding of the implications of infections and disease prevention.

### DISCIPLINE #3

#### Special Education and Public Health:

This will allow me to learn the appropriate adaptations for people with certain disabilities and participate in discussions regarding current issues surrounding Public Health. This discipline will be valuable to my integration as it introduces a new perspective on the current field of healthcare, and make me a better advocate.

## SAMPLE CURRICULUM RATIONALE

### PCTH 325—Rational Basis of Drug Therapy

This course teaches the principles and applications in using therapeutic agents in the human body. The material taught explores how the body is affected by drugs and how drugs are affected by the body. This course aids in the understanding of how the body's systems deal with invasion and/or changes at a more macroscopic level. The topics relate directly to clinical relevance and humans' well-being. This is a great introductory course for human diseases and what we can do to treat them.

### MICB 325—Analysis of Microbial Genes and Genomes

This course teaches genetic, molecular biological, and bioinformatic approaches for the analysis of microbial genomes, gene structure-function, and gene expression with an emphasis on bacteria. Genetics of bacteria will be analyzed and related to the diseases they cause. Analysis of the data would provide experience for future laboratory work. The material taught is highly relevant regarding human and microbe interactions. This course may also aid in the understanding of how pathogens invade the brain opportunistically.

## CONTACT

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