

Applicant: The Kien Ngo (57821324)

Program: M.Sc. in Genome Science and Technology (VGMMSC-LE)

Entry period: September 2024

Application comments:

No comments available

Order of content:

Application form
Resume
Statement of Interest/Intent
Transcripts & Diplomas – Unofficial
eReference (eRef) Responses
Reference Letter

NGO, THE KIEN ()

57821324

Degree Selection

Submission Date: 17/Nov/2023

Campus	Program (VGMMSC-LE)	Academic Year	Term	Term Start
Vancouver	M.Sc. in Genome Science and Technology	2024-2025	W1	Sep 2024

Source of Interest

How did you find out about UBC?

Personal and Contact Details

Student Number		Family Name (Surname)		Preferred Name
57821324		NGO		
Title	Given Name	Middle Name	Former Family Name (Surname)	
MR	THE KIEN			

Date of Birth	Gender	Country of Birth	Country of Current Citizenship
12/Nov/2000	Male	Vietnam	Vietnam
Dual Citizenship	Primary Spoken Language	Other Spoken Language	Visa Type
	English		International Student

Address Line (1 & 2)			
28 N COLLEGE ST			
City	Province, State or Region	Postal or Zip Code	Country
CARLISLE	PA	17013	United States of America

Day Telephone Number	Evening Telephone Number	Email Address
7179629887		ntkien20@gmail.com

Do you identify yourself as an Aboriginal person of Canada?

Do you identify yourself as a Racialized person?

Yes

Academic History

- Applicant indicates that they have only attended post-secondary institution(s) other than UBC.

Dickinson College

Institution Country:	United States of America
Start Date:	01/Aug/2020
End Date (or Expected End):	01/May/2024
Program of Study:	Biochemistry & Molecular Biology
Credential Status	In Progress
Expected Conferred Date:	01/May/2024
Expected Credential:	Bachelor's
Awards & Honours received with this degree:	Dean's List 1783 Scholarship for Academic Excellence (25,000 USD/year) Dickinson Institution Student Grant (25,000 USD/year) Kenderdine Conference Travel Award (1,400 USD)
Required to withdraw:	No
Self Reported GPA:	
Used for Basis of Admission to UBC:	

GPA Calculations Summary

Calculation Name	Purpose	Date of Calculation	Minimum GPA Req'd	GPA Calculation	GPA Rank	Meets Progrm Requirements	Meets UBC Requirements	First Class Standing?
Biochemistry & Molecular Biology	Admissions	29/11/2023		3.62		Yes	Yes	No

- No **UBC** academic history found for this student number (57821324)

Funding

Standard Questions

Primary Funding

SOURCE of the support	
DOLLAR amount	
Includes TUITION fees?	
WHEN the support will commence	
WHEN the support will end	

Please indicate the SOURCE(S) of any awards, scholarships, sponsorships or fellowships for which you have applied or will apply.	International Tuition Award, Affiliated Fellowships Master's, Spring Graduate Awards Competition
Please indicate the Canadian Dollar amount PER YEAR of support applied for.	3,525 - 19,200 (Depends on the amount range)
Please indicate the NUMBER OF YEARS of study this support would cover.	2
If you do not receive this financial support, will you be able to attend.	Unlikely
How do you plan to fund your studies?	

Experience & Interests

Standard Questions

Areas of Interest

Faculty Members

Lockwood, William
Loucks, Catrina
Kobor, Michael Steffen

Please provide a brief statement of your academic and/or professional goals and how these align with this graduate program.

Please describe any research and/or work experience (including publications, etc.) you've undertaken that is relevant to your proposed field of study.

Program-Specific Questions

Briefly discuss your background in life sciences, including academic, work or other experiences that may assist the admissions committee. Please limit your response to one page.	As a biochemistry and molecular biology senior at Dickinson College, my academic journey has centered on advanced molecular biology and genetics coursework. Under Dr. Tiffany Frey's guidance at my home institution, I am researching Mevalonate Kinase Deficiency, a rare genetic disease affecting the cholesterol pathway, by performing experiments on a peritoneal macrophage cell line for in-depth mechanistic studies. In addition, I've served as a teaching assistant for genetics and molecular pathophysiology courses. These experiences have deepened my understanding of genomics and strengthened my communication and problem-solving skills. My background and proficiency in wet lab position me as a great candidate for UBC's GSAT program. I am eager to contribute my skills and passion to advance scientific discovery within the UBC academic community, bringing diverse experiences and a commitment to interdisciplinary approaches in genome science and technology.
Briefly discuss your background in quantitative sciences (math, statistics, computer science, engineering, physics) including academic, work or other experiences that may assist the admissions committee. Please limit your response to one page.	I've taken a challenging curriculum throughout my undergraduate years, emphasizing calculus and physics. Moreover, I've delved into data analytics, utilizing R and Python for in-depth research in cancer and genetics. My upcoming courses in bioinformatics and data systems will further prepare me for graduate studies in genome science. In 2022, I joined a bioinformatics research on the effects of natural histone deacetylase on the genetics of garden worms. In the summer of 2023, I took part in the financial analysis of repurposing HIV medication for neurodegenerative disease, gaining insights into clinical trial design. I am currently working with Dr. Hovhannes Gukasyan on a mathematical correlation between computational chemistry docking software and IC50 values of cancer drugs. These experiences have honed my ability to take information holistically and quantitatively into account and underscore my commitment to advancing research in genome science and system biology.

Referee 1

Name	Tiffany Frey
Job Title / Occupation	Associate Professor
Institution / Company / Organization	DICKINSON COLLEGE
Type of Reference	Academic
Address	28 N COLLEGE ST CARLISLE PA United States of America 17013
Referee Email / Website	freyt@dickinson.edu
Telephone #	+1-717-254-8037
Notes to Referees	

Referee 2

Name	Hovhanes (Hovik) Gukasyan
Job Title / Occupation	Associate Professor
Institution / Company / Organization	UNIVERSITY OF SOUTHERN CALIFORNIA
Type of Reference	Academic
Address	1985 ZONAL AVE LOS ANGELES CA United States of America 90033
Referee Email / Website	gukasyan@usc.edu
Telephone #	+1-323-442-1362
Notes to Referees	

Referee 3

Name	Michael Roberts
Job Title / Occupation	Associate Professor
Institution / Company / Organization	DICKINSON COLLEGE
Type of Reference	Academic
Address	28 N COLLEGE ST CARLISLE PA United States of America 17013
Referee Email / Website	robertsm@dickinson.edu
Telephone #	+1-717-245-1201
Notes to Referees	

Kyle Ngo

717-962-9887 | ngok@dickinson.edu | Carlisle, PA, USA 17013

EDUCATION

Dickinson College, Carlisle, PA

Major: Biochemistry & Molecular Biology (B.S.)

GPA: 3.62 / 4.00 – Expected May 15, 2024

Honors: Dean's List, 1884 Scholarship for Academic Excellence, Kenderdine Travel Award

Related Courses: Introductory & Organic Chemistry, Introductory Biology, Genetics, Cell Biology, Biochemistry, Metabolism, Molecular Pathophysiology, Precision Medicine, Data Science, Computer Science, Genomics/Proteomics/Bioinformatics, Chemical Biology, Data System

RESEARCH

Autoinflammation Research, Dickinson College, Carlisle, PA

Research Assistant for Dr. Tiffany Frey – January 2023 – Present

Explored the relationship between mevalonate pathway products and the inflammatory signaling pathway in a cellular model of Mevalonate Kinase Deficiency, an autoinflammatory disease. Performed cell culture and viability assays to identify the optimal dosage for Lovastatin to inhibit the mevalonate pathway and Lipopolysaccharide to induce inflammation. Conducted gene expression assays to quantify inflammation levels.

Computational Pharmacology Research, University of Southern California, Los Angeles, CA

Research Assistant for Dr. Hovik Gukasyan – July 2023 – Present

Utilized three-dimensional computer software to redesign Sorafenib, enhancing its pharmacokinetic properties, and potentially improving its efficacy for kidney cancer treatment. Executed thorough examinations of pharmacokinetics data to assess the correlation between the drug's binding infinities and IC₅₀ values.

Epigenetics Research, Dickinson College, Carlisle, PA

Research Assistant for Dr. Thomas Arnold, Dr. Dana Somers, Dr. David Kushner – Summer 2022

Conducted experiments to investigate the epigenetic effects of sulforaphane on garden worms, contributing to the understanding of epigenetic regulation. Collaborated with the research team, utilized R-Programming Language to analyze experimental data and build upon previously collected data from prior experiments, enhancing the depth and breadth of research insights.

Drug Repurposing Bioentrepreneurship, Keck Graduate Institute, Los Angeles, CA

Intern with Dr. Steven Casper – Summer 2023

Assessed the potential of Maraviroc and Triclosan as treatment options for Alzheimer's disease and stage 2 prostate cancer, leveraging existing preclinical data. Designed a clinical trial based on the research findings. Conducted a comprehensive analysis to calculate the likelihood of success and probable long-term profitability. Presented the clinical trial proposal and business analysis to a panel of scientific and business experts, showcasing the feasibility of the repurposing drugs.

PRESENTATION

Biology Research Symposium, Dickinson College, Carlisle, PA

Fall 2021

Summer Research Symposium, Dickinson College, Carlisle, PA

Summer 2022

Annual Student Research Symposium, Dickinson College, Carlisle, PA

Spring 2023

Southern California Conference for Undergraduate Research, Los Angeles, CA

Fall 2023

WORK EXPERIENCE

Teaching Assistant for Genetics Class

Dickinson College, Carlisle, PA – August 2023 – Present

Prepared necessary equipment and reagents for laboratory experiments, ensuring a smooth learning experience for students. Collaborated closely with the professor to support lecture delivery, including preparing materials and providing additional explanations to students when needed. Offered dedicated office hours to assist students with course materials and homework assignments, fostering a positive learning environment.

Quantitative & Reasoning Tutor

Dickinson College, Carlisle, PA – August 2023 – Present

Provided individualized tutoring sessions to students in the subjects of Biology, Chemistry, and Environmental Science, helping them improve their understanding and performance. Maintained open lines of communication with professors by consistently preparing detailed reports after each tutoring session, documenting student progress, and suggesting strategies for improvement.

Library Service Consultant

Dickinson College, Carlisle, PA – 2023 – 2024 Academic Year

Provided clear, meaningful, and efficient assistance to diverse groups of people. Understood library classification structure, followed proper shelving techniques, & organized collections within various library areas. Utilized specialized library software to process library collection, guide visitors with using library hardware and software in building

College Fund Donation Caller

Dickinson College, Carlisle, PA - September 2021 – Present

Successfully contacted over 2,000 alumni and parents, effectively conveying the importance of supporting the college's mission through fiscal gifts. Played a pivotal role in raising over \$100,000 in donations, contributing to critical areas of need within the college, including financial aid, housing, and dining services.

SKILLS

Lab Skills:

PCR, DNA Extraction, Gel Electrophoresis, Immunofluorescence Microscopy, Protein Purification, Cell Culture

Computer:

R-Program, Python, SQL, Microsoft Excel, PowerPoint, Adobe Photoshop, Illustrator, Enzyme-Substrate Docking

Language:

English & Vietnamese (Native); Japanese (Advanced); Spanish & French (Upper-Intermediate)

Growing up as a gay man in Vietnam, born in the year when our citizens had not been allowed to own a passport to leave the country, my LGBTQ friends and I were constantly mocked for fear of being a disease carrier in an overly conservative society. Consequently, my interest began to grow in supporting the LGBTQ community through advancement in medical research, not only to dispel such fear but also to improve healthcare outcomes and contribute to a future where everyone receives equitable medical treatments.

Going to the US for college, after taking many courses in biology, my cause grew to understanding the genome to help people who suffer from rare genetic diseases. These conditions can marginalize people and worsen their health due to the lack of funding for research and treatment. This commitment led me to a college lab where I studied Mevalonate Kinase Deficiency, a rare genetic disease affecting the mevalonate pathway in cholesterol synthesis. My research involved working with peripheral blood mononuclear cells and testing various drug dosages to induce inflammation and measure inflammatory cytokines. What fascinated me most was the different genetic expressions despite uniform drug treatment, sparking my interest in pharmacogenomics.

This semester, I am enrolled in the Precision Medicine course, exploring the remarkable advancement in our understanding of genetics since the Human Genome Project two decades ago. System Biology, once overlooked in medical research, is now recognized as a crucial player in interpreting health, slowly replacing the one-size-fits-all approach. The course has provided me with significant insights, emphasizing that analyzing human's multi-omics is pivotal in predicting and averting the transition of wellness to a diseased state. This deepens my fascination with genome science, and I am convinced that unlocking the secrets within the human genome is the key to preventing disease and promoting a long and healthy life.

Drawing from my undergraduate experience, my goal in graduate study is to investigate the effects of lifestyles on the molecular genetics of diseases and responses to medications, utilizing system biology, multi-omics approach, and computer science to acquire a holistic look at the diseases, a research area closely aligned with the Genome Science & Technology Program at the University of British Columbia. Particularly, in line with my goal of eradicating stigma-causing diseases and my undergraduate training in inflammation, I would like to research HIV and neurodegenerative diseases, with a connection to the genetic expression of pro-and-anti-inflammatory cytokines in these two diseases. Recent studies have shown that Maraviroc, an HIV medication, a chemokine receptor-5 inhibitor mainly used in HIV treatment, might be a potential remedy for neurodegenerative disease, such as Parkinson's. One of my goals is to continue exploring this fascinating pharmacogenomics link as part of my graduate studies and how these medications may impact the mutual epigenetic alterations of these diseases.

I am really intrigued by UBC's GSAT program, which enables the students to undergo rotations at UBC. Many faculty at UBC are experts at genome science and work in areas of my interest and experience. For example, Professor William Lockwood actively explores lung cancer genes using computational chemistry. Simultaneously, Professor Catrina Loucks investigates pain inflammation genetics and drug responses. Furthermore, Professor Michael Kobor has worked on HIV and neurodegenerative research. I truly believe that, in the 21st century, the most cutting-edge approach to studying medicine involves delving into the lives of real cohorts of people, considering both their unique genetic traits and the environment in which they live.

Upon graduation from UBC, I would like to pursue a Ph.D. in genome science and contribute to advancing the field, especially in expanding the holistic system biology field for medical research. I am confident that deepening our comprehension of the genome is a crucial step toward eradicating diseases and dismantling discriminatory practices, bringing us closer to a future of improved healthcare and an extended humanity's wellness.

Briefly discuss your background in life sciences, including academic, work or other experiences that may assist the admissions committee. Please limit your response to one page.

I am a current senior at Dickinson College majoring in biochemistry and molecular biology, and over the past four years, I have undertaken a comprehensive academic journey. My studies included advanced coursework in biology and chemistry, with a particular focus on molecular biology and genetics. I acquired an in-depth comprehension of genetic principles and techniques, as well as an intricate understanding of biochemical structures, reactions, and pathways. Furthermore, my coursework has significantly strengthened my practical wet laboratory skills.

Throughout my academic journey, I have dedicated myself to getting as many first-hand lab experiences in as many research areas as possible, whether in class or an extracurricular setting. I believe an interdisciplinary approach is important to acquire an innovative mindset, especially in such a pioneering field as genome science and technology. Furthermore, the liberal arts education I received at Dickinson has provided me with a profound understanding of sociopolitical dynamics that encompass genome science. This knowledge is crucial for upholding the ethical standards of my research in graduate school. It enables me to approach issues inclusively, dedicated to acknowledging the diverse genomic components of mankind and grasping the influences of society and lifestyles on the genome.

Currently, I am engaged in research under the supervision of Dr. Tiffany Frey at Dickinson, where we are investigating Mevalonate Kinase Deficiency—a rare genetic disorder that disrupts the mevalonate pathway of cholesterol synthesis, leading to inflammatory episodes. In the previous semester, our experimentation involved primary human cells, notably peripheral blood mononuclear cells, and yielded observations of heightened levels of inflammatory cytokines, such as IL6 and TNF- α , when we employed lovastatin to inhibit the cholesterol pathway and introduced lipopolysaccharide to induce inflammatory cytokines. This semester, our focus has shifted to the peritoneal macrophage cell line from a mouse model due to its greater suitability for in-depth mechanistic studies, with an aim to establish optimal conditions in terms of drug dosage and cell quantity. In the upcoming semester, our research will delve into mechanistic studies and genetic expression in our newly established models. These experiences in Dr. Frey's laboratory have not only enhanced my laboratory techniques but have also refined my abilities in taking initiative, developing precision, and designing experiments.

In addition to my research, I have had the opportunity of working as a teaching assistant for courses in genetics and molecular pathophysiology, handling tasks like preparing lectures and labs, organizing homework, and leading exam review sessions. This role has solidified my understanding of genomics and strengthened my communication and problem-solving skills.

My background and proficiency in wet lab position me as a great candidate for UBC's GSAT program. I am eager to contribute my skills and passion to advance scientific discovery within the UBC academic community, bringing diverse experiences and a commitment to interdisciplinary approaches in genome science and technology.

Briefly discuss your background in quantitative sciences (math, statistics, computer science, engineering, physics) including academic, work or other experiences that may assist the admissions committee. Please limit your response to one page.

As a biochemistry major, my academic journey has encompassed a rigorous curriculum, which includes an emphasis on mathematics, specifically calculus, as well as a full year of physics coursework.

In the past two years of my undergraduate studies, I have dedicated my efforts to delving into the realms of data analytics and computer science, with a particular focus on utilizing programming languages such as R and Python. Each of these courses culminated in a final research project of my choosing, which revolved around the intriguing domains of cancer and genetics. Furthermore, I have registered for my upcoming courses in genomics/ proteomics/ bioinformatics and chemical biology during the Spring semester of 2024, which will further prepare me for the GSAT program at UBC.

Aside from my quantitative skills within the natural sciences, I've gained practical knowledge in applying quantitative reasoning to economic and sociopolitical contexts. During the summer of 2023, I had the privilege of working on a project aiming to repurpose Maraviroc, a chemokine receptor-5 inhibitor mainly used in HIV treatment, as a potential remedy for neurodegenerative disease, such as Parkinson's. This project required a deep understanding of clinical trial design, financial analysis, and profitability assessment.

In parallel to my coursework, I have been actively engaged in dry lab settings. In the summer of 2022, I joined a lab at my college for bioinformatics research, where we study the effects of natural histone deacetylase in vegetables on the genetics of garden worms, utilizing R-programming. Additionally, I have been actively engaged in dry computational chemistry research under the guidance of Dr. Hovhannes Gukasyan. Our current research endeavor entails the molecular docking of Sorafenib and its analogs into a three-dimensional model of the target enzyme. Subsequently, we are dedicated to establishing a robust mathematical correlation between the binding scores and the published IC₅₀ values of Sorafenib. This research reflects my commitment to bridging the gap between computational analysis and experimental validation in the pursuit of scientific advancement.

Furthermore, during the academic year 2023-2024, I've been working as a Quantitative Reasoning Tutor at my college. In this role, I assist students in courses that involve substantial quantitative elements, including Mathematics, Chemistry, and Biology. This experience has significantly enhanced my quantitative, analytical, and logical skills, as I engage in daily teaching and support for students.

My undergraduate journey in biochemistry has provided a solid foundation in quantitative sciences, including mathematics, physics, data analytics and computer science. My coursework and work experience have honed my ability to take information holistically and quantitatively into account. Collectively, these experiences underscore my readiness and commitment to advancing research in system biology.

Student No:900947408

Date of Birth: 12-NOV

Date Issued:03-NOV-2023 OFFICIAL

Record of : Kien The Ngo

Issued To : KIEN THE NGO

Course Level : Undergraduate

Subj	No.	Title	Cred	Grade	Pts	R
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TRANSFER CREDIT ACCEPTED BY THE INSTITUTION:

Fall 2020 UNIV ECON HO CHI MINH CITY

GNCR 000 Visualizing Southeast Asia 1.00 TA

Earned Hrs	GPA-Hrs	QPts	GPA
1.00	0.00	0.00	0.00

Subj	No.	Title	Cred	Grade	Pts	R
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INSTITUTION CREDIT:**Fall 2020**

CHEM 131	General Chemistry I with Lab	1.00	A	4.00
ENST 161	Environmental Connections	1.00	A-	3.67
MATH 170	Single Variable Calculus	1.00	A	4.00

Earned Hrs	GPA-Hrs	QPts	GPA
3.00	3.00	11.67	3.89

Spring 2021

BIOL 132	Introduction to Molecules, Genes, and Cells: Topics in Germs, Genes, and Genomes	1.00	PA	0.00
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CHEM 132	General Chemistry II with Lab	1.00	B+	3.33
ECON 111	Intro to Microeconomics	1.00	A	4.00
ENST 162	Integrative Environmental Sci	1.00	B+	3.33

Earned Hrs	GPA-Hrs	QPts	GPA
4.00	3.00	10.66	3.55

Fall 2021

BIOL 314	Ecology w/Lab	1.00	B	3.00
CHEM 241	Organic Chemistry I with Lab	1.00	B+	3.33
ECON 222	Environmental Economics	1.00	A	4.00
ENST 345	Agroecology	1.00	B+	3.33
FYSM 100	First-Year Seminar	1.00	B	3.00

Earned Hrs	GPA-Hrs	QPts	GPA
5.00	5.00	16.66	3.33

Spring 2022

AMST 200	Indigenous Futurism in Contemporary Culture	1.00	A-	3.67
BIOL 216	Genetics w/Lab	1.00	A-	3.67
CHEM 242	Organic Chemistry II with Lab	1.00	A-	3.67
CHEM 243	Modern Chemical Analysis	0.00	W	0.00
PHIL 104	Practical Ethics	1.00	A	4.00

Earned Hrs	GPA-Hrs	QPts	GPA
4.00	4.00	15.01	3.75

Dean's List

Summer 2022

Subj	No.	Title	Cred	Grade	Pts	R
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INSTITUTION CREDIT:

REXP 774	Role of Histone Deacetylase Inhibitor in Nature	0.00	PA	0.00
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Earned Hrs	GPA-Hrs	QPts	GPA
0.00	0.00	0.00	0.00

Fall 2022

BIOL 313	Cell Biology w/Lab	1.00	A-	3.67
BIOL 343	Metabolism	1.00	A-	3.67
FREN 102	Elementary French	1.00	A-	3.67
PHYS 141	Physics for the Life Sciences	1.00	B	3.00

Earned Hrs	GPA-Hrs	QPts	GPA
4.00	4.00	14.01	3.50

Spring 2023

BIOL 433	Molecular Pathophys w/Lab	1.00	A	4.00
CHEM 342	Struct & Funct of Biomolecules	1.00	B+	3.33
FREN 201	Intermediate French	1.00	A	4.00
MATH 180	Introduction to Data Science	1.00	A	4.00

Earned Hrs	GPA-Hrs	QPts	GPA
4.00	4.00	15.33	3.83

Dean's List

Summer 2023

INTR 774	Intern - Keck Graduate Institute	0.00	PA	0.00
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Earned Hrs	GPA-Hrs	QPts	GPA
0.00	0.00	0.00	0.00

Fall 2023

BIOL 401	Precision Medicine	1.00	In Prog	Course
COMP 130	Introduction to Computing	1.00	In Prog	Course
FREN 202	Living in Francophone World	1.00	In Prog	Course
SPAN 229	Stories and Storytellers	1.00	In Prog	Course

Spring 2024

BIOL 316	Genomics/Proteomics/Bioinform	1.00	In Prog	Course
CHEM 490	Chemical Biology	1.00	In Prog	Course
COMP 200	Data Syst for Data Analytics	1.00	In Prog	Course
PHYS 142	Physics for the Life Sciences	1.00	In Prog	Course

Transcript Totals	Earned Hrs	GPA Hrs	Points	GPA
TOTAL INSTITUTION	24.00	23.00	83.34	3.62
TOTAL TRANSFER	1.00	0.00	0.00	0.00
OVERALL	25.00	23.00	83.34	3.62

-----END OF TRANSCRIPT-----

Student No:900947408

Date of Birth: 12-NOV

Date Issued:03-NOV-2023 OFFICIAL

Record of : Kien The Ngo

Issued To : KIEN THE NGO

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Fall 2020 UNIV ECON HO CHI MINH CITY

GNCR 000 Visualizing Southeast Asia 1.00 TA

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Subj	No.	Title	Cred	Grade	Pts	R
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CHEM 131	General Chemistry I with Lab	1.00	A	4.00
ENST 161	Environmental Connections	1.00	A-	3.67
MATH 170	Single Variable Calculus	1.00	A	4.00

Earned Hrs	GPA-Hrs	QPts	GPA
3.00	3.00	11.67	3.89

Spring 2021

BIOL 132	Introduction to Molecules, Genes, and Cells: Topics in Germs, Genes, and Genomes	1.00	PA	0.00
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CHEM 132	General Chemistry II with Lab	1.00	B+	3.33
ECON 111	Intro to Microeconomics	1.00	A	4.00
ENST 162	Integrative Environmental Sci	1.00	B+	3.33

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Fall 2021

BIOL 314	Ecology w/Lab	1.00	B	3.00
CHEM 241	Organic Chemistry I with Lab	1.00	B+	3.33
ECON 222	Environmental Economics	1.00	A	4.00
ENST 345	Agroecology	1.00	B+	3.33
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Earned Hrs	GPA-Hrs	QPts	GPA
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Spring 2022

AMST 200	Indigenous Futurism in Contemporary Culture	1.00	A-	3.67
BIOL 216	Genetics w/Lab	1.00	A-	3.67
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Dean's List

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Subj	No.	Title	Cred	Grade	Pts	R
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INSTITUTION CREDIT:

REXP 774	Role of Histone Deacetylase Inhibitor in Nature	0.00	PA	0.00
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Earned Hrs	GPA-Hrs	QPts	GPA
0.00	0.00	0.00	0.00

Fall 2022

BIOL 313	Cell Biology w/Lab	1.00	A-	3.67
BIOL 343	Metabolism	1.00	A-	3.67
FREN 102	Elementary French	1.00	A-	3.67
PHYS 141	Physics for the Life Sciences	1.00	B	3.00

Earned Hrs	GPA-Hrs	QPts	GPA
4.00	4.00	14.01	3.50

Spring 2023

BIOL 433	Molecular Pathophys w/Lab	1.00	A	4.00
CHEM 342	Struct & Funct of Biomolecules	1.00	B+	3.33
FREN 201	Intermediate French	1.00	A	4.00
MATH 180	Introduction to Data Science	1.00	A	4.00

Earned Hrs	GPA-Hrs	QPts	GPA
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Dean's List

Summer 2023

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----------	----------------------------------	------	----	------

Earned Hrs	GPA-Hrs	QPts	GPA
0.00	0.00	0.00	0.00

Fall 2023

BIOL 401	Precision Medicine	1.00	In Prog	Course
COMP 130	Introduction to Computing	1.00	In Prog	Course
FREN 202	Living in Francophone World	1.00	In Prog	Course
SPAN 229	Stories and Storytellers	1.00	In Prog	Course

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CHEM 490	Chemical Biology	1.00	In Prog	Course
COMP 200	Data Syst for Data Analytics	1.00	In Prog	Course
PHYS 142	Physics for the Life Sciences	1.00	In Prog	Course

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TOTAL TRANSFER	1.00	0.00	0.00	0.00
OVERALL	25.00	23.00	83.34	3.62

-----END OF TRANSCRIPT-----



CET Academic Programs
1155 Connecticut Ave NW, Suite 300
Washington, DC 20036
(800) 225-4262
www.cetacademicprograms.com

**University of Economics - HCMC
School of Economics**
59C Nguyen Dinh Chieu, District 3,
Ho Chi Minh City, Vietnam 70000
<http://www.ueh.edu.vn>



Name: Kien The Ngo

Date of Birth: 11/12/2000

Program: CET Vietnam: International Student Program

Term: Fall 2020

Course Number and Name:	Instructor(s):	Total Hours:	Letter Grade:	Recommended Credits:
HC/MDST 390 Visualizing Southeast Asia	Dung Nguyen	45	A	3

All official transcripts are printed on CET Academic Programs watermarked paper and bear the seal of the University of Economics - HCMC School of Economics.

University of Economics – HCMC School of Economics

p.p President, Dr. Nguyen Hoang Bao, Dean



Alfred E. Mann School of Pharmacy
and Pharmaceutical Sciences

To: Admissions/Evaluation Committee

Re: Admission to M.Sc. in Genome Science and Technology at UBC

I am delighted to write to you this letter of full support on behalf of my talented student Kyle Ngo regarding his exceptional candidacy for the Research Gateway Scholar's program. Kyle is one of my star Summer Undergraduate Research Experience students at the KGI Riggs School of Applied Life Sciences where I am an adjunct professor and remains in contact with me as a mentor while completing his educational degrees and practical training at the Dickinson College. Kyle's capabilities as a healthcare profession student and independent leader in an academic or industrial pharmaceuticals setting are outstanding. He excelled in my summer 2023 KGI-SURE drug discovery track, while in parallel through self-motivation remained in the forefront of emerging knowledge for creating novel, personalized medications.

While scholastically excelling through a demanding curriculum, he is highly self-motivated to engage in pharmacology and biopharmaceuticals research, understand and learn emerging demands on patient-centric care, and get involved in aspects of science-peer development. Kyle is scholastically immersed in studies of several emerging and unmet need areas for pharmaceuticals. These are supported by parallel achievements in areas of chemistry, biology, and universal engineering concepts of medicinal products, just to mention a few, current, successful pursuits I personally know about. Kyle has performed a great deal of independent learning through project work, notably exploring disease/therapeutic area backgrounds, medical literature, and contributing towards eloquent delivery of pivotal, technical presentations through outstanding participation. These include topics on therapeutics, pharmaceuticals, biopharmaceutical sciences, and drug efficacy/safety pharmacology, that culminated in a terrific presentation at Southern California Conference for Undergraduate Research (SCCUR) 2023 - Titan Research Gateway | CSUF which occurred recently in November.

Kyle demonstrates fantastic interpersonal skills, mature character needed to become a researcher in any healthcare field, while being a natural leader all-around in team-oriented collaborative undertakings. His achievements, current interests, and personal qualities make an ideal combination for success in a pharmaceutical or biotech academic training or industrial drug/device-product development setting. It would be a fantastic opportunity for Kyle to get additional experience, while being recognized for current and past accomplishments, and phenomenal future potential; an excellent addition to your list of trainees and candidates exemplifying continued education, development, and advancement of future pioneers.

Kyle has demonstrated superb capability as my student by his excellent scholarship, work ethic, and genuine desire to contribute towards innovations in healthcare industry. His background offers a unique view from basic science to strategies, objectives, and landscape of challenges faced by global healthcare. Lastly, I think Kyle would only elevate caliber and aptitude for any program because of his self-



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motivation and positive attitude towards team-based learning. I am happy to serve as a reference for Kyle and would welcome one-on-one conversation with anyone to support decision-making process. Please do not hesitate to contact me using any of the below options. Thank you for your time and consideration.

Short Bio: Over my >20 year career in the biopharmaceutical industry, i.e. Pfizer & AbbVie, I have applied structure based drug discovery, chem/bio informatics, to enable decision making on compound selection and progression through drug development stage-gates. I have worked on early development of currently commercial drugs like Lorbreña®, Vysulta®, and Diquas®. I have developed M&S methods to progress compounds from discovery to early clinical development, before transitioning to academia to continue to develop this area, currently as an Associate Professor of Pharmacology and Pharmaceutical Sciences at USC. I run a private LLC medicinal product development CMC/biopharmaceutic-consulting firm outside of teaching, which is serving multiple bio-pharmaceutical, and medical device companies.

Sincerely,



Hovhannes J Gukasyan, PhD

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December 8, 2023

Dear Search Committee:

I'm writing this letter to provide my highest recommendation for Kien (Kyle) Ngo to be admitted to the M.Sc. in Genome Science and Technology program at the University of British Columbia.

I've known Kyle since the beginning of the Spring 2023 semester when he was a student in my Molecular Pathophysiology course (Biology 433, 16 students). Kyle has also been volunteering in my research lab since January 2023 and will do research with me for credit during the Spring 2024 semester (Biology 560: Student-Faculty Collaborative Research). In addition, Kyle is my undergraduate Teaching Assistant (TA) and Quantitative Reasoning Associate (QRA) for the Genetics course I am teaching this semester (Biology 216). I have come to know Kyle very well through these experiences. He has done an excellent job in these roles and is highly motivated to pursue a research career.

The Molecular Pathophysiology course is research and writing intensive (designated Writing in the Discipline or WiD at Dickinson College). In the lab, students worked collaboratively on small research projects related to my research on the rare autoinflammatory disease mevalonate kinase deficiency (MKD) and complete writing projects based on this work. MKD is caused by autosomal recessive mutations in the mevalonate kinase enzyme, which acts early in the mevalonate pathway. Loss of function of mevalonate kinase results in depletion of the non-sterol isoprenoid molecule geranylgeranyl pyrophosphate (GGPP), which is responsible for prenylation of the Ras superfamily of proteins. This results in alterations to inflammatory signal transduction and inflammasome activation resulting in increased levels of pro-inflammatory cytokines. Kyle worked with his group in lab to isolate peripheral blood mononuclear cells (PBMCs) from the blood of healthy donors and model MKD by using lovastatin to deplete isoprenoid compounds followed by lipopolysaccharide (LPS) stimulation to induce inflammatory signal transduction pathways. Cytokine levels were then measured by real time quantitative polymerase chain reaction (RT-qPCR) and enzyme linked immunosorbent assay (ELISA). Related to this lab work, Kyle wrote and revised a literature review about the role of interleukin (IL)-1 β in MKD disease pathogenesis and designed and presented a poster at the Dickinson College Science Symposium in April 2023. In the lecture portion of this course, we explored the pathophysiology of various diseases by reading, analyzing, and presenting primary literature. Kyle's group was assigned to the nervous system and analyzed & presented data from a paper about the use of α -synuclein nanobody therapy for Lewy body dementia and Parkinson's disease. Kyle did an excellent job in this course both individually and collaboratively with group members. He is particularly strong in his public speaking skills. He makes extra effort to engage his audience by using analogies to help explain complex topics. The students in the class praised Kyle after his presentation on the nervous system paper for being thoughtful and engaging.

As a student in my Molecular Pathophysiology course, Kyle always asked insightful questions about the research and often came to my lab to observe additional experiments and help with various tasks. Because I was impressed by Kyle's work and motivation, I invited Kyle for further training in my lab this semester so he could work on an independent project during the Spring 2024 semester. He learned how to do cell culture and maintained his own culture of the RAW 264.7 mouse macrophage cell line. Also, Kyle performed cell viability assays based on the release of lactate dehydrogenase (LDH) from these cells after treatment with various concentrations of lovastatin and LPS. He confirmed that the doses and timeline of these treatments are not resulting in cell death. Now that Kyle has developed independence in the lab, he will continue working on this project next semester in my lab for credit to measure cytokine gene expression and the activation state of signal transduction pathways by western blot.

As a TA and QRA for my Genetics course, Kyle goes above and beyond the contracted expectations to help me and the students. His TA duties include meeting with me to review and understand protocols, setting up the lab and preparing materials for the groups, helping the students during lab time, and cleaning up afterwards. Recently, I moved the lab session to the lecture time for the course. Kyle had class during this time, so I didn't expect him to help at all. However, he surprised me by coming to the lab as soon as his class was over to clean up. I was so grateful – I don't think I've ever had a TA show up to help in the past without being asked. Kyle's QRA duties are to hold weekly office hours to help students with assignments and exam preparation. He was contracted at the beginning of the semester hold 2-3 hours each week, but he has routinely added extra hours for students – especially during weeks of an exam or with homework/writing assignments due. I had several students tell me how helpful Kyle was during these sessions. In addition, he always emailed me feedback after a session so I could address any widespread confusion in class.

In all circumstances, Kyle is a fast learner, proactive, and independent. He demonstrates strong interpersonal skills and works well with me and his peers. I really enjoy working with Kyle and value the work he is doing with me. He has the right balance of dependability, independence, and attention to details for a graduate program and career in research.

If you have any questions, please feel free to contact me at 410-591-4848.

Sincerely,



Tiffany A. Frey, Ph.D.
Associate Professor of Biology

December 1, 2023

Dear Selection Committee:

I am writing in support of the application of **Mr. Kyle Ngo** for the M.Sc in Genome Science program at the University of British Columbia. I am comparing Mr. Ngo to the students I have worked with in my upper-level Biochemistry & Molecular Biology courses over my thirty years at Dickinson College. While I have only instructed Mr. Ngo in one course, BIOL401: Precision Medicine (fall '23), I have had many conversations with him and feel qualified to comment on his intellectual ability and passion for learning. I have not worked with Kyle in the research laboratory, although he has discussed his current research with me. Mr. Ngo is a dedicated student, capable of outstanding academic achievement, and informed about this area of study and your program.

Kyle is currently enrolled in my senior seminar course in Precision Medicine. He has been a regular contributor to class discussions offering insightful comments, asking probing questions and providing complete answers to questions posed. It was clear from the start that Mr. Ngo is very interested in this topic area and has excellent foundational knowledge. His desire to pursue graduate study in Genome Science is well informed and his research identifying your program as a top choice was extensive. I believe Kyle is capable of being an outstanding student in your program. In Precision Medicine, Kyle has demonstrated the ability to explore the primary literature and synthesize content from numerous sources. He has produced well-written article summaries and developed case studies. I look forward to reading his final research report and anticipate that in addition to the factual information it will contain some of his own informed reflections and opinions.

In the short time I have worked with Mr. Ngo, his passion for learning, willingness to invest time and effort, and eagerness to share what he has learned has been impressive. Kyle has also demonstrated the ability to be a good listener and has helped other students formulate their ideas. He has made the course a better experience for me and his classmates.

I am confident that Kyle will bring the same determination and enthusiasm to his graduate work that he has shown in my class. I give Mr. Ngo my unqualified recommendation and believe that, given the opportunity, he will be a credit to your program. Thank you for considering my remarks.

Respectfully Submitted,



Michael Roberts, Ph.D.
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