



SCIENCE 101
CLASS OF 2015
YEARBOOK

SCIENCE 101

Is a 4-month summer program offered to individuals who have had difficulty accessing post- secondary education.

There are no fees associated with the course and no prerequisite knowledge is required. No university credit is given upon completion. The program is sponsored by the University of British Columbia Faculty of Science Dean's Office and private donations.

The objective of the program is to give students an introduction to topics in science, to help them better understand the world around them, to broaden their perspectives, and to have fun with science.

Students enrolled receive lectures from University of British Columbia professors and graduate students about fascinating topics in Science. Students are also given the opportunity to attend tutorial sessions as well as fieldtrips in the Vancouver area. One of which, an evening at the H. R. MacMillan Space Centre, is an event open to the public and students are encouraged to bring family and friends.

A graduation ceremony is held at the end of the program to celebrate the achievement of the students who have completed the program.

Volunteers are an important part of the program and are available to provide assistance to students inside and outside of class.



a place of mind
THE UNIVERSITY OF BRITISH COLUMBIA

Faculty of Science

Faculty of Science
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Dear graduates:

On behalf of the Faculty of Science, congratulations on your graduation from Science 101!

When looking back on what you have learnt through the Science 101 program, I hope you'll find you now have a better understanding of science and have gained new perspectives on the world around you. The knowledge and insight you have acquired provides you with a foundation to more fully understand and approach scientific topics you may encounter in the future, either in your everyday life or academically.

Science 101 has provided you with an excellent introduction to many scientific topics and has hopefully ignited your passion to continue learning about science.

Congratulations on your achievement!

Sincerely yours,

A handwritten signature in cursive script that reads 'Simon Peacock'.

Simon Peacock
Dean, Faculty of Science

A MESSAGE FROM MARTHA PROGRAM COORDINATOR

Congratulations Science 101 Graduates of 2015!

Your limitless enthusiasm and curiosity has made this a fantastic year. Your ability to stump the most seasoned of professors and generate discussion for almost every topic was an inspiration. Not only did you take everything the program offered, but you did so with an amazing attitude of positivity and good humor. There has been multiple times this year when I'm sure you've heard a (quite loud) squeak of enlightenment and shock from something I learned during lecture that amazed me. I hope you had some similar experiences because it's so much fun to learn something new!

I am extremely proud and honored to have been a part of your team this year! From all of us, I would like to extend a resounding "Thank you" to the people that made this possible: the superb lecturers that shared their knowledge, time and passions with such enthusiasm, the ever consistent and helpful volunteers who embraced our ideals, and finally, the powerhouse behind Science 101, Dr. Ian Cavers and Nancy Cook whose never-ending support makes Science 101 a success from year to year.

I shall leave you with an unforgettable quote coined by John, one of our ever enthusiastic mentors, which is "Keep on Sciencing." The world around us is an amazing place, and there are so many good questions waiting to be asked and fascinating answers waiting to be found.

Best of luck in your future quests and adventures!

Martha

A MESSAGE FROM SHRAAVAN PROGRAM COORDINATOR

First of all I would like to thank the amazing team that I was fortunate to be a part of. Martha and Sandra you have been terrific people to work with, I thank you for bearing with me and guiding me every step of the way. The volunteers Arya, Christina, Daniella and Jason and Jessica; you five have been some of the most caring, genuine and patient people I have gotten the opportunity to work with and cannot thank you enough for your contribution. Also I would not want to leave out the mentors Elsie and John for always having a positive attitude and making the Science 101 group feel more like a family.

Most importantly I want to thank the students. For taking the time to learn more about the universe we live in, getting the questions we've always had answered and showing that learning about science is something worth doing! My time with the program has been a very pleasant one, where I have been fortunate enough to get to know everyone one of you at least in some small way. It brings me great joy to see that you have been able to make it to the end and even create final projects in the process as well.

I am overjoyed that you have made the best out of this opportunity, by making the commitment to get to class and hear the instructors out as to why they think science is important. You all have been a great group I was lucky enough to work with and I hope that you all continue stay active in your pursuit of knowledge. Finally I would like to thank the Faculty of Science and the Dean's office for funding this amazing program, and making education accessible to the interested regardless of their background.

Good luck in all that you do!

Shraavan



A MESSAGE FROM SANDRA PROGRAM COORDINATOR

I want to give my warmest congratulations to the Science 101 students of 2015. You have been an amazing group! With great satisfaction, I noticed that your curiosity about science at the beginning of the program turned into great interest and excitement to understand more about the world around you. Thank you for your commitment, effort, and dedication. I'm very proud to have been your Coordinator, and I'm very thankful for meeting such wonderful people as you.

I'm happy to have joined you in this journey to explore planet Earth, starting with learning about microbes, plants, the ocean, natural disasters... and ending with discovering fascinating things about our Solar System, the Milky Way, and the Universe.

I hope that the end of Science 101 is not the end of your passion to learn and discover new things. Always keep learning, as it will open your mind to new ideas, new opportunities, and new approaches to solve your life challenges.

Special thanks to Dr. Ian Cavers and Nancy Cook for their support and making this program possible. Martha and Shraavan, you have been awesome to work with! I would also like to acknowledge the alumni mentors, John and Elsie, for being so helpful, enthusiastic, fun and supportive of the students. Finally, I would also like to thank the volunteers for all their help and effort, and for sharing their love for science with the students.

Good luck in all that comes your way in the future!

Sandra

PROGRAM SCHEDULE

May	Monday	Tuesday	Wednesday	Thursday	Friday
		Dinner 5 to 5:50pm In the SUB Lecture 6 to 8:30pm IBLC Room 261	Tutorial 3 to 4:45pm Learning Exchange	Dinner 5 to 5:50pm In the SUB Lecture 6 to 8:30pm IBLC Room 261	
	4	5	6	7	8
	Orientation Day	Dr. David Ng Scientific literacy	No tutorial	Dr. Jane Maxwell The science of learning	
	11	12	13	14	15
		Dr. Fok-Shuen Leung Infinity and beyond	Lindsay Patley-Ragan How to read a scientific	Field trip to Beatty Biodiversity Museum (~12:30 to 3pm) Dr. Tara Ivanochko Climate science	
18	19	20	21	22	
	Dr. Julie Robillard Neuroscience	Natalie Tole and Kathryn McTavish Goal setting	Eugene Barsky Library Session Koerner Library Room 217	Field trip to the Museum of Anthropology (1:30pm – 4pm)	
25	26	27	28	29	
	Dr. James Charbonneau and Dr. Chris Addison The dual nature of light	Georgia Anstey How to ask questions	Shona Ellis Botany	Field trip to Camosun bog with Shona Ellis (10 am to ~3pm)	
June	Monday	Tuesday	Wednesday	Thursday	Friday
		Dinner 5 to 5:50pm In the SUB Lecture 6 to 8:30pm IBLC Room 261	Tutorial 3 to 4:45pm Learning Exchange	Dinner 5 to 5:50pm In the SUB Lecture 6 to 8:30pm IBLC Room 261	
	1	2	3	4	5
		Dr. Phil Hammer Earthquakes	Computer Skills Workshop	Dr. Brett Gilley Landslides	
	8	9	10	11	12
		Field trip to TRUMF (~2pm to 5pm) Dr. Carol-Ann Courmays The heart	Skill-building workshop Time management	Dr. Jane Maxwell Forensic chemistry	
15	16	17	18	19	
	Dr. Chris Wlatham Acoustics of string instruments	Computer Skills Workshop	Field trip to Anechoic chamber with Dr. Chris Waltham (4 to 5pm) Mona Kwong Pharmaceuticals Lab I In Biology Building		
22	23	24	25	26	
	Dr. Jaymie Matthews Astronomy Part I	Chris Oatman Pursuing post-secondary education	Dr. Jaymie Matthews Astronomy Part II	Field trip to Capilano Suspension Bridge (8:45am to ~12pm)	

PROGRAM SCHEDULE

July	Monday	Tuesday	Wednesday	Thursday	Friday
		Dinner 5 to 5:50pm In the SUB Lecture 6 to 8:30pm IBLC Room 261	Tutorial 3 to 4:45pm Learning Exchange		Dinner 5 to 5:50pm In the SUB Lecture 6 to 8:30pm IBLC Room 261
			1 Mid-term break	2 Mid-term break	3 Mid-term break
6	7 Field trip to UBC Farm (2 to 3pm) Dr. Julian Davies Microbiology Part I	8 Luke Lu How to write a bursary application		9 Dr. Chris Harley Marine ecology Final project proposal	10
13	14 Dr. Julian Davies Microbiology Part II In Westbrook Building	15 Work on final projects		16 Dr. Jim Little Robotics	17 Field trip to Grouse Mountain (8:45am to ~1pm)
20	21 Phoebe Lu Genetics	22 Open House at the HR MacMillan Space Centre		23 Phoebe Lu Epigenetics Final project outline due!	24
27	28 Patar Raven Fish	29 Work on final projects		30 Dr. Bud Homsey Newton's laws of motion and fluid mechanics	
August	Monday	Tuesday	Wednesday	Thursday	Friday
		Dinner 5 to 5:50pm In the SUB Lecture 6 to 8:30pm IBLC Room 261	Tutorial 3 to 4:45pm Learning Exchange	In Michael Smith Laboratories	
3	4 Mona Kwong Pharmaceuticals Lab II In Biology Building	5 Work on final projects		6 Graduation ceremony and final project display!	7

PROGRAM LECTURERS



Brett Gilley



Bud Homsy



Carol-Ann Courneya



Chris Addison



Chris Harley



Chris Waltham



Dave Ng



David Oliver



Eugene Barsky



Fok Shuen Leung



Phil Hammer



James Charbonneau



Jane Maxwell



Jaymie Matthews



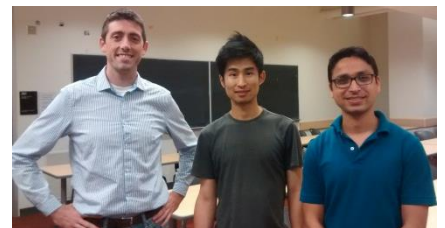
Julian Davies



Julie Robillard



Mona Kwong



Neil Traft, Victor Gan & Ankur Gupta



Phoebe Lu



Peter Raven



Tara Ivanochko



Shona Ellis

LECTURE DESCRIPTIONS

David Ng, “Scientific Literacy”

Introduction to scientific thinking and the scientific method. This lecture discussed the differences between hypotheses, theories, and facts, and how scientists use critical thinking to design experiments based on current knowledge.

Jane Maxwell, “The Science of Learning”

Learning is a complex process but can be aided by understanding the way people think, process, and store new information. The different methods of studying and remembering were discussed including study habits, pattern association, knowledge compartmentalization, and peer directed learning. Students worked individually, in small groups, and as a class to share opinions and answer questions.

Fok-Shuen Leung, “Infinity and Beyond”

The concept of infinity is one that has affected mathematics and our understanding of the world in interesting and unexpected ways. In this session, students discussed how the concept shows up in Science, as well as in snowflakes, flights of arrows, and magical hotels.

Tara Ivanochko, “Climate Science”

This class covered the basics of the Earth's radiation balance and the role of greenhouse gases in the atmosphere. Students also briefly looked at natural variability in climate and the contribution of human activity to global warming.

Julie Robillard, “Introduction to Neuroscience”

The lecture discussed the basics of brain anatomy, neurotransmission and brain chemistry, and various brain diseases. Students learned common myths about the brain, the basics of brain anatomy and function, and the different methods used by researchers to study the brain. Memory, factors that affect memory, and false memories were also discussed.

Eugene Barsky, “Library Session”

How to locate books on your topics in the catalogue, by keyword, author or topic. How to locate and read electronic books in the library catalogue. How to evaluate print resources and electronic resources you find on the Web. How to search electronic databases in UBC. All this and more are available at the Science 101 guide online.

Chris Addison & Dr. James Charbonneau, “The Dual Nature of Light”

Light is commonly described as being both a particle and a wave, but in reality it's neither a particle or a wave. These two descriptions are constantly duelling each other, the winner being decided by what type of experiment we perform.

Shona Ellis, “The sex lives of plants”

Students explored a variety of plants and learned how they reproduce. From mosses to lilies the mystery of plant sex were revealed. Many species of mosses (bryophytes) live in our forests, but are often overlooked. They are a fascinating and beautiful group of plants. In this unit we studied bryophytes in their habitat, examined them microscopically, and learned how to identify some of the most common species.

Phil Hammer, “Earthquakes”

What is an earthquake? Why do they happen? Will we really have a big earthquake here in Vancouver? Could there be a lot of damage here? In this lecture, we discussed the plate tectonic setting of British Columbia and looked at the evidence for major earthquakes in this area. We also covered the different kinds of earthquakes with in-class activities, and why some buildings may respond poorly to earthquakes.

Bret Gilley, “Landslides - Dude where's your house!”

Students learned that there are many different forms of landslides, which are categorized by the type of material, type of motion, and rate of movement. Historical examples, pictures, and videos were used to demonstrate the power of landslides and importance of urban planning.

Carol-Ann Courneya “The heart”

This lecture described how the heart works, some of the most common heart problems, and how to record the heart's electrical activity using an electrocardiogram. Each student got an electrocardiogram of their own heart.

Jane Maxwell, “Forensic chemistry”

Jane covered topics in analytical chemistry and their practical uses in everyday life. She explained how techniques such as UV Vis spectrometry work, as well as the basic properties of everyday chemicals we encounter. She also did a demo involving chromatography and the separation of the different constituents in marker pen ink.

Chris Waltham, “Acoustics of String Instruments”

The physics of string instruments was discussed including examples of Western and Eastern instruments. Each of our vocal cords also produce sound in distinct frequencies, and students were given the opportunity to measure their vocal frequency.

Mona Kwong, “Introduction to Pharmaceutics Part I”

This lecture discussed the role of a pharmacist and some challenges in drug design and delivery. Students learned about emulsions, identified some problems encountered in making emulsions, and made an emulsion in the form of ice cream!

Mona Kwong, “Introduction to Pharmaceutics Part II”

Students gained an appreciation of areas where pharmaceutics can be applied. In the lab section, the students made handcream as a continuation of their exploration into making emulsions.

Jaymie Matthews, “Astronomy: Part I”

The first astronomy lecture discussed the recipe of the universe, and described the different kinds of stellar phenomena that we can observe. Students learned about Kepler's three laws of planetary motion and how these laws are still used today to find new planets. We have found thousands of new planets using many different methods, and the size, composition, and distance of orbit of these planets were compared to that of Earth.

Jaymie Matthews, “Astronomy: Part II”

The different kinds of satellites used to find new planets were described including MOST, CoRoT, Kepler and BRITe. The methods and sensitivity of these satellites in searching for new planets were illustrated. The new planets can be very different in comparison to Earth, and many examples including planets orbiting extremely close to their parent star, water worlds, and planets with erratic orbits were discussed.

Julian Davies and Dr. David Oliver, “Microbiology Part I”

The discovery of antibiotics in the 1950s led to the prediction that bacterial infections would soon be under control, if not eliminated. However, this has not happened and more and more antibiotics are becoming ineffective due to the development of antibiotic resistant strains. There is a great need for newer and more potent antibiotics but what has happened to research? What alternatives do we have to antibiotics?

Julian Davies and Dr. David Oliver, “Microbiology Part II”

Microbes are everywhere. This lecture covered the different kinds of microbes and how they can be beneficial or pathogenic, and discussed Koch's postulates for how to establish that a specific microbe or gene causes a specific disease. Students also plated bacteria from multiple sources and viewed the bacteria under the microscope.

Chris Harley, “The Ecology of Rocky Shores”

The rocky shores are a living laboratory for studying climate change. This class covered the types of intertidal shores and the importance of tides, water salinity, species interactions, water temperature, and ocean acidification on the ecology of these shores. Specific experiments were shown to demonstrate the effect of predator-prey relationships, and how the rocky shores have changed with the warming climate.

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Jim Little, Ankur Gupta, Neil Traft, and Victor Gan, “Robotics”

The science of Robotics is very much on the rise, as testified by the increasing presence of smart machines and devices across many application domains. This lecture introduced basics of how robotic systems sense the world, make intelligent decisions and act based on those decisions. Different types of robots were introduced and the challenge of how to establish direct communication with a robot was explained.

Phoebe Lu, “Genetics”

The classic experiments that started the field of genetics (e.g Mendel and his experiments with pea plants) were discussed to demonstrate how genes that control different traits are passed down from parents to their offspring.

Phoebe Lu, “Epigenetics”

Evolution and natural selection depends on genetic variation, where individuals of a group are slightly different from each other, and selective pressure, where one trait is preferential to another trait. We discussed how the genes in DNA can be turned on and off without changing the genetic code. Students were also able to isolate and purify their own DNA.

Peter Raven, “Fish”

Water covers 70.8% of the Earth’s surface including trenches nearly 10 km deep and submerged mountain chains. Fish have adapted to every aspect of these environments in fantastic and elaborate ways. From fish that can live on land to others that can create electricity and everything in between, this talk highlighted the fascinating variety of fish.

George Homsy, “Newton's Laws of Motion and Fluid Mechanics”

Newton's laws were introduced individually, and were then used as the foundation for describing the patterns of movement of solids, liquids, and gasses. This help refine the principles of fluid mechanics, as the theories of drag and lift were explained for various methods of transportation. An interactive assignment allowed the students to study the relationship between surface tension and gravity on the height of water in capillary tubes of different sizes.

ACADEMICS

At the end of the Science 101 program, students are required to complete a final project. The purpose of the final project is to give students the opportunity to further explore a scientific topic of their choice and to share with others what they have learned. The topic may be something previously covered in class or only briefly touched upon. The only requirement is that the topic is scientific and relevant to the course.

Students are given the opportunity to display their projects at the graduation ceremony.

The projects involve a wide range of topics and are often presented in a variety of formats, including posters.



FINAL PROJECTS

“The Voyager program” by James Gillis

James explained the history of the Voyager program, the science behind the Voyager probes, where they have travelled, and the knowledge gained so far from the probes.

“Space (time) is the place” by Robert Young

Robert was interested in the concept that time and space are not separate entities; rather they are an inseparable whole.

“Science” by Tony Walker

Tony is interested in describing what Science is, and the applications of Science in the real world.

“Honey bee communication” By Fred Shantz

Fred was interested in honey bee communication, specifically in the way honey bees are able to convey to their sisters the location of food sources.

“Phantom pain” by Jason Laxdal

For his project, Jason answer interesting questions about phantom pain, like “Why do I feel it when it’s gone?” and “How does the human body handle the loss of a limb. He covered about the brain, the sense of touch, and the nervous system.

“Chemical reactions in daily life” by Rebecca Wei

For her final project, Rebecca described chemical reactions and their positive or negative impact in our daily lives.

“Hepatitis C, the silent killer” by Brian Gibeault

Brian explained the history of the Hepatitis C virus, and describes facts about the disease’s transmission, symptoms and treatment.

FINAL PROJECTS

“Mrs Doubtfire’s botanical encyclopedia of local plants” by Tavis Dodds

Dodds put together a botanical resource of plants species of British Columbia.

“Astronomy, Ancient and Present” by Donna Hill

Donna’s project focused on Astronomy, and included information on the solar system, the planets, the stars, galaxies, and important astronomers.

“Light” by Faraidoon Nikroo-Reza

For his project, Faraidoon investigated what light is, and concepts like the spectrum of light, and photons.

“Antibiotic resistance” by Heather Blais

Heather explored the problem of antibiotic resistance, its causes, and what can we do about it?

“A picture is worth a thousand words or those that think, comprehend” by Stergios Vlioras

Stergios created an all-encompassing poster, of pictures on topics related to the material presented during Science 101 lectures. The purpose of his project is to use pictures to expand comprehension, peak curiosity, and solicit future inquiry by viewers into topics related to different fields of science.

OPEN HOUSE AT THE SPACE CENTRE



Open House Event @H.R. MacMillan Space Centre



Wednesday July 22, 2015
5:30 to 8:15pm

The H. R. MacMillan Space Centre and Science 101
invites Downtown Eastside residents to a fascinating Open House!

Event is Free of Charge

- Free planetarium show: "Realm of Light"
- Explore the Space Centre and Cosmic Courtyard
- Learn about space

Free food and drinks provided!

Free transportation to/from the Space Center

Pick-up @ 5:00pm at 2 locations:

- Cordova and Gore street
- Commercial and Grant
(Grant street at East loading bay)

H.R. Macmillan Space Centre 1100 Chestnut Street, Vancouver

www.spacecentre.ca

Event sponsored by:



STUDENTS

Heather Blais

Heather's most memorable experience with the program was the field trip to Grouse Mountain. "With the breath taking views of Vancouver and seeing grizzly bears for the first time", made that particular field trip stand out. She found a wide array of topics engaging, from getting to view living cells under the microscope, seeing the cyclotron at Triumf as well as quelling the fears of an impending natural disaster.

Her thoughts on the program: "These classes helped me to realize that science can be explained to me in an easy to understand way, composed of really fun classes. I will be willing to take a science credit course now."

Her final project involved the problems with antibiotics in their fight against superbugs.

She believes that the Science 101 program will be great for, "People who struggled with past schooling in science and considered it too difficult. This course will surprise and delight them with really exciting science"



Heather enjoying the pristine views atop Grouse Mountain

Tavis Dodds

Dodds enjoyed a wide range of topics that were covered in the program. He found the field trip to the Capilano Suspension Bridge and tour on local ecology to be most memorable moment of the program. He hopes to continue learning about science and build on the background knowledge he has gained through Science 101.



Dodds posing in front of the bear enclosure atop of Grouse Mountain

Faraidoon Nikroo-Rezaie

Faraidoon enjoyed all of the lectures, especially those with thought provoking questions. He found the lectures that engaged discussions to be the most memorable, and he would recommend the program to anyone with a passion for science.



Faraidoon examining DNA that he isolated

Brian Gibeault

Brian found his final project on “Hepatitis C the silent killer” to be the most engaging part of the course. As for his future he hopes to enroll in a First Aid level 3 course and recommends the program since “There is nothing like learning something new”.

“To tell the truth pretty much all of the classes were awesome. The field trips were fun and enjoyable.” – Brian



Brian posing in front of the bear enclosure atop of Grouse Mountain

James Gillis

James' most memorable parts of the course were the lectures on "Astronomy". So much so that he decided to do his final project about the Voyager missions and their journey across the galaxy.

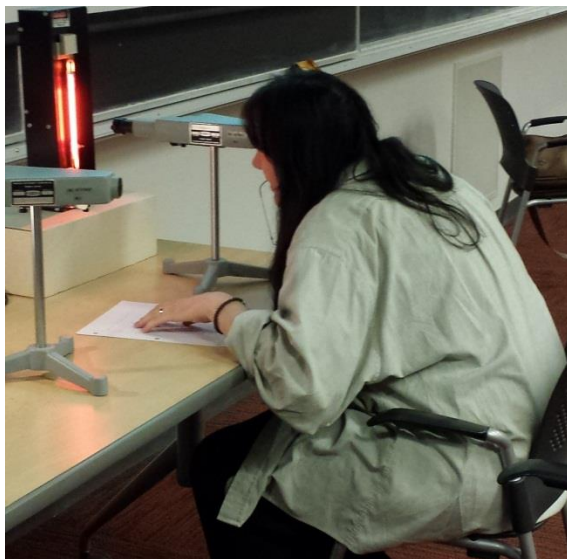


James waiting to view his samples in the microbiology lab

Donna Hill

Donna found Science 101 to be an easy going program, with a wide variety of topics. Her favorite lectures were “Infinity and Beyond” and “Astronomy”. She found Jaymie Matthews’ lectures on astronomy especially interesting.

She looked forward to each and every class and highly recommends the program. She would like to thank her classmates, volunteers, mentors (John and Elsie), as well as Martha, Sandra and Shraavan.



Donna at work observing the excitation wavelengths from a spectral lamp, during the “Dual nature of light” lecture

Jason Laxdal

Jason's most memorable experience with the program was the field trip to Triumf's Particle accelerator. His favorite topics in the program included "Neuroscience" and "Microbiology". In the future he hopes to find other opportunities that will allow him to continue his education. He recommends that anyone encouraged to find out more about the mysteries of science to participate. His final project is on 'Amputations and Phantom Pain'. He also hopes for the rest of the class to keep reading and stay proactive in their search for answers. "I learned to appreciate the natural occurrence of change in our world" – Jason



Jason preparing his slides to observe a specimen under the microscope

Norm Merritt

Norm enjoyed all lectures and spending time with his classmates.



Norm posing in front of the bear enclosure atop of Grouse Mountain

Fred Shantz

Fred enjoyed all of the lectures and field trips. His most memorable moment was the Field trip to the UBC Farm where he got to learn more about the Bee farming projects that were in action right on the UBC campus.



Fred preparing his reaction mixture during the Pharmaceuticals lab

Stan Vlioras

Stan found the lecture on the “The Heart” to be the most captivating and the field trips to be the most memorable. He believes that the Science 101 bursary program will be able to help him in his future pursuits which serve, “As a major benefit and overcomes financial stumbling blocks”. For his final project Stan decided to construct an amalgamation of photos and articles on all the latest news from the topics covered throughout the course. His comments on the course included, “The flexibility of the ‘Out of the box’ approach in this course is tailored for mature adults, who have disconnects in their knowledge”



Stan preparing a petri dish during the microbiology lab session

Tony Walker

What Tony loved most about his experience with Science 101 was being able to engage with the instructors as well as his other classmates. He recommends the program as it would, “Offer a chance to learn about sciences for a better future”.

He found every topic covered within the lectures fascinating, as it contributed to give him a better understanding of the world.

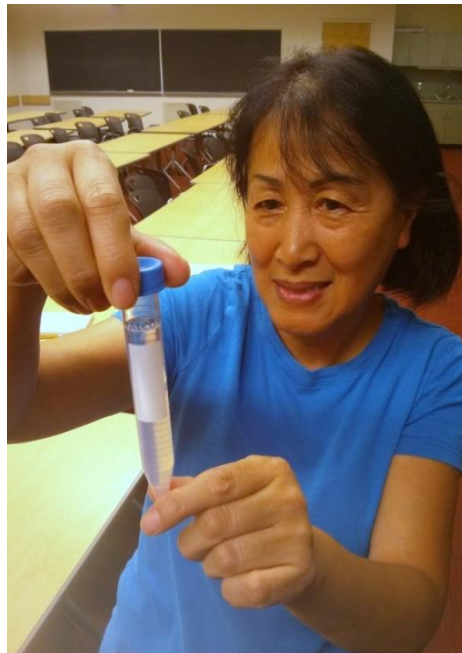


Tony posing in front of the bear enclosure atop of Grouse Mountain

Rebecca Wei

“Science 101 was such an amazing program! We touched the scientific domains of around twenty subjects, including their areas of beauty and mystery in only three months. Although I couldn’t completely remember and understand all of them, they doubtlessly provide a pair of shoes for a person with bare feet, who is curious in the search of knowledge.” – Rebecca

She has a great admiration for all the lecturers. She finds that they were prepared and patiently answered class questions. She would like to thank the volunteers who providing their information and help. She also found that science 101 was very rewarding in her life



Rebecca examining DNA that she isolated

Robert Young

Robert's most memorable experience with the program was the Open House at the H.R. Macmillan Space center.

He would like to thank the coordinators Martha, Sandra and Shraavan as well as mentors Elsie and John for their help and assistance. Not to forget the volunteers Arya, Christina, Daniella Jessica and Jason for giving their time towards the program. He would like to also thank his classmates for their insightful questions and sense of humour.

He found the lectures "Infinity and Beyond" and "Scientific Literacy" lectures the most engaging due to their philosophical as well as scientific nature.

Without much prior scientific background, Robert's observation was that "Science 101 opened a window to experience new ideas and scientific concepts". Robert hopes to pursue further studies, so that his learning can continue. His final project was on the concept of Space-time continuum, namely how time and space are not separate entities but an inseparable whole instead.



Robert listening to the brief before entering the Triumf facility

ALUMNI MENTORS

VOLUNTEERS

A message from Jessica Jun

A much-deserved congratulations to all of you for a fantastic semester of science. It has been an invaluable experience to witness your passion for learning about science, and to participate alongside all of you in the lectures and excursions. I have not been among such a curious, engaged, and enthusiastic group of peers in a long time, and I have learned a tremendous amount from all of you. I hope you continue to explore your interest in science, or other fields of higher learning, and return to UBC (or elsewhere) for future studies! Whatever your future holds, I wish you all only the best of luck. Thank you for engaging in the scientific community through your dedication to this program.

A message from Daniela Castillo

It was a privilege to get to meet you all. I'm glad I got to hear some of your background stories and how you got to where you are now. From all the field trips to the tutorials and lectures, I learned many things I did not yet know and enjoyed the time spent interacting with you. The hunger for knowledge in your eyes was admirable and inspiring. You guys have also provided me with more than what I could give in return, and for that I thank you. I wish nothing but the best for you guys ... keep dreaming!

A message from Arya Reisifard

It was my pleasure to work with and help educate such a diverse group of people. I especially enjoyed the field trips and the lectures where we were put into groups to interact, learn, and facilitate understanding. What lecture was my favourite? There were so many good ones where the profs made it fun to learn and explained things so clearly; questions were very clearly encouraged and you guys asked excellent questions that were out of the ordinary! Overall the students amazed me with their keen interest. Thank you profs, coordinators, and students for making this such a wonderful experience.

I wish every body luck in pursuing higher education!

SIGNATURES

GRADUATION INVITATIONS

Science 101 Class of 2015

You are cordially invited to the
graduation ceremony and festivities
to celebrate the success of the graduates!

Thursday August 6, 2015

Michael Smith Building,
Room 101, 2185 East Mall,
University of British Columbia

Refreshments: 4:30pm
Ceremony: 5:30pm
Project display:
4:30 to 5:30 & 6:30 to 7:30pm

Please **RSVP** by August 2, 2015
to science101@science.ubc.ca

GRADUATION PROGRAM

ACKNOWLEDGEMENTS

We are thankful to those that helped make the Science 101 Program possible.

Dean's Office, Faculty of Science, University of British Columbia

Dr. Simon Peacock, Dean of Science

Dr. Ian Cavers, Associate Dean, Academic

Nancy Cook, Academic Project Manager

Program coordinators

Martha Liu, Shraavan Raveendran, Sandra Pena

Lecturers

David Ng, Jane Maxwell, Fok-Shuen Leung, Tara Ivanochko, Julie Robillard, Shona Ellis, Eugene Barsky, Phil Hammer, Brett Gilley, Carol-Ann Courneya, Chris Waltham, Mona Kwong, Jaymie Matthews, Julian Davies, Chris Harley, Jim Little, Ankur Gupta, Neil Traft, Victor Gan, Phoebe Lu, Peter Raven, Bud Homsey

Tutorial presenters

Lindsay Petley-Ragan, Natalie Tole, Kathryn McTavish, Georgia Anstey, Chris Oatman, Luke Lu, Kion Davies

Volunteers

Jessica Jun, Christina Wiesmann, Jason Jassal, Daniela Castillo, Arya Reisifard

Science 101 Alumni Mentors

Elsie Dupois & John Barbour

Field trips

The H.R. MacMillan Space Centre, the Vancouver Trolley Company, the Beaty Biodiversity Museum, TRIUMF, Capilano Suspension Bridge, Grouse Mountain, the Museum of Anthropology, UBC Farm

Tutorials & workshops

The UBC Learning Exchange

Humanities & Writing programs

Margot Leigh Butler & Paul Woodhouse



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