

UBC Vancouver Summer Program

June 8 - July 8, 2019

Course Package Offerings

Enhance your students' learning experiences with study in an international setting in Vancouver, BC Canada! We welcome each university to organize a group of students to study course packages on the beautiful campus of the University of British Columbia.

Many course packages have a minimum and maximum class size, so we encourage you to register your students early. Course packages that do not meet the minimum number of students will not be offered, but students may transfer to other packages

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The most current information on course packages is on vancouversummerprogram.ubc.ca

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Applied Science - Electrical and Computer Engineering

Package A - Introduction to Electrical and Computer Engineering (ELEC A JUNE)

Introduction to Digital Technology and Smart Devices

New products (smart-home devices, portable electronics, cars, appliances) are getting more intelligent and more connected. Do you ever wonder what technology lies behind them? This course covers the fundamental ideas behind smart devices and modern electronics. We will study the building blocks of digital electronic systems, including small microcomputers, and how they interface with us. Our exploration will involve the design and implementation of machines that can read signals from the real world and make decisions digitally. This course will introduce the basics of microcontroller programming to perform smart tasks; additionally, it will cover the how different peripherals and sensors are used to communicate, and how the information they collect is stored. Regardless of your background, if you are interested in the world of modern electronics, this course is for you!

Introduction to Electric Circuits, Sensors, and Power

You need more than a digital system and basic programming to make your electronics work -- you need to understand electricity, sensors, and what it takes to bring everything to life. In this course, the basics of electricity and electrical circuits will be covered. You will learn about circuit fundamentals, amplifiers, and filters, which allow us to recover signals from devices such as microphones. Our look into sensors will allow us to detect physical magnitudes (like light, sound, pressure, color, temperature, and speed) and turn them into electrical signals that our microcontroller can understand. Finally, we will explore the circuits that give power to our electronics and bring them to life. Along with an introduction to digital electronics, this course will allow you to build simple systems to develop and interface with electronics systems.

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Package B - Renewable Energy and Power Conversion (ELEC B JUNE)

Introduction to Renewable Energy

Do you want to save the planet with green power? This course covers the fundamentals of renewable energy systems and includes topics on energy storage, power generation, distribution, transportation, and consumption. The course starts with an introduction to carbon emissions, climate change, and environmental pollution to emphasize the importance of sustainability. Students will learn about solar, wind and ocean power generation. Grid connection and microgrids will be explained, as well as battery storage and fuel cell systems. Modern loads such as LED lights and electric vehicles will be discussed around the concept of demand side management. Students in this course will gain skills on these emerging and key areas of green power and will have the opportunity to consider several case studies/examples. The course includes tutorials and demonstrations using simulation software and physical equipment. The planet will depend on engineers with a strong background in green power -- what could be more important?

Electricity and Conversion for Renewable Power

How do we generate renewable power? Renewable energy sources such as wind, solar, and ocean are intermittent and fluctuating. Changes in sun irradiance during the day, in wind speed variation, and changing ocean tidal velocity produce fluctuations in power generation. This course covers the fundamental of electricity and power conversion to transform variable/fluctuating energy into high quality power required to supply loads. The principles of power conversion for AC and DC system will

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be covered. Application examples will include power converters for battery chargers, solar inverters, wind/ocean power conversion, and traction for electric vehicles. The course will provide a strong theoretical background and enable students to understand renewable power conversion at the system level. A practical/applied component will be included, providing the student with real-world problem-solving scenarios, laboratory experiences and visits to UBC state of the art power facilities.

Pre-requisite: 1st year engineering or equivalent

Architecture and Landscape Architecture

Package A - Thinking by Design (ARCH A JUNE)

Design Thinking Through Making

The built environment is full of design problems. From products to cities, these problems don't have correct answers, but rather a range of possible solutions. To tackle these design problems, we need to explore different ways of thinking. In this hands-on course, you will learn to approach open-ended problems through the lens of a designer and explore the built environment through hands-on design projects. You will tackle each project in stages, from initial concept to final result, with interim reviews along the way. You will learn to communicate your ideas both verbally and to critically analyze the work of your classmates. Drawing from examples in architecture, landscape architecture, urban design, and product design, you will cultivate abstract thinking skills and increase your visual literacy.

Design Thinking Through Drawing

Drawing is an essential part of design thinking and communication. From sketches, to plans, to detailed diagrams, visual representation is a fundamental skill. While digital methods are increasingly common, the culture of putting pencil to paper is still at the heart of these techniques. This hands-on course introduces you to the drawing techniques used in architecture, landscape architecture, and urban design. Through lectures, field trips and in studio sessions, you will learn methods of visually communicating concepts and intent. With a focus on analog, the skills developed in this course will offer a strong base for further studies in design and design media.

Arts

Package A - From Stage to Screen: How Vancouver 'plays' to a Global Audience (ARTS A JUNE)

From Drama to Theatre: How Does a Play Mean? (Theatre)

This course will explore the languages of theatre within Vancouver's rich and lively performance culture. How do individual artists--directors, actors, designers--transform a playwright's ideas into unique and original art? In what ways, for example, will a Shakespeare play produced in Vancouver become a Canadian play? These questions and more will be explored in relation to two plays a week in production in Vancouver during the term. We will examine and discuss the play scripts, attend the plays, and meet "backstage" with some of the artists themselves. Plays chosen will span a variety of genres, including Shakespeare (in production at Bard on the Beach Shakespeare Festival), musicals (in production at Theatre Under the Stars and the Arts Club Theatre Company), plus additional dramas and comedies in production.

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Documentary & the City (Film)

For the first time in human history a majority of the world live in cities. While there are multiple threats posed by the growth of cities, such as poverty, migration, and social divisions, there are also surprising and innovative practices that emerge. The city of Vancouver is brimming with stories that can tell us many things about the world we live in. Focusing on documentary films and filmmaking, this course introduces students to these often hidden stories of the city through key writings, films, and direct engagement with life in Vancouver. Students will use creative methods to connect critical analysis with their everyday experiences, while authoring basic documentary projects in neighbourhoods throughout the city.

Package B - Global Journalism, Culture and Communications: Practice and Principles (ARTS B JUNE)

Culture and Communications (Anthropology)

Anthropology is the study of human societies and cultures and their development. A very important area of interest is human language. This course will examine the relationship between language and culture by covering key debates in the field including animal vs. human communication, cross-cultural differences, language policies and language change. Students will explore how language is involved in cultural constructions of race, gender, class and ethnicity. They will also analyze how language is understood in relation to power, political economy and language ideologies. Students will gain experience in meeting writing standards for UBC Arts/Anthropology courses and will receive individual feedback on writing assignments.

Global Journalism (Journalism)

This course will examine the development of media technologies, their applications, and their cultural, political and social impacts. Students will also gain hands-on experience in learning how to think and operate like a professional journalist in a simulated multimedia environment. It is designed to introduce students to the grammar and syntax of media across platforms, based on a core journalistic skill set of interviewing, reporting, news writing, and research methods in tandem with the most current technical tools.

Package C - The English Language in a Globalized World (ARTS C JUNE)

The History and Future of the English Language (English)

In order to contextualize present-day changes in English, the course will begin with a brief history of the English language. It will then examine issues such as the national dialects of English (e.g. Canadian English, British English, Singapore English), regional and social dialects, the effects of gender on language forms and use, language in computer-mediated discourse (in texts, emails, social media), and ongoing changes in contemporary English. The course will provide students with a better understanding of how English is used in different contexts, and the directions in which the language is heading in the 21st century.

How Human Language Works (Linguistics)

An introduction to how human languages work, examining the structures that underlie all languages, with special focus on the deep structure of English. The course asks what universal properties are shared by all languages, and how languages as divergent as English and Chinese can be different (or

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similar!) in terms of their sound systems, word-building, grammar, meaning, written form, and acquisition by children and adult learners. By the end of the course, students from varied language backgrounds should understand how knowledge of the universal properties of languages can deepen their understanding of English, of their own language(s), and of the amazing capacity of the human mind.

Package D - International Finance, Trade and Politics (ARTS D JUNE)

International Trade and Financial Markets (Economics)

The modern global economy is intricately tied together through networks of trade and financial interconnections. This course will give students an understanding of the structure and function of international trade and international financial markets. The course will give a basic introduction to the forces driving international trade in goods and financial assets among nations of the world. The major theories of international trade and financial markets will be reviewed. Topics covered will include the determinants of a country's trading pattern, recent trends in international trade such as offshoring and global supply chains, the role of financial markets in international development, the future of the Renminbi as an international currency, the understanding of international financial crises, and sovereign debt crises.

Dynamics of Democracy and Global Uprisings (Political Science)

We deal with some of the key concepts of political science, matching them with developments around the globe. We consider some of the concepts and controversies in defining democratic and non-democratic systems. How do we tell democratic systems from non-democratic ones? Are all democracies the same, or at least similar? Is citizen satisfaction a distinctive quality of those regimes? We then link these discussions to the rising waves of global discontent around the globe. The seemingly-universal quality of these uprisings give a strong indication that the struggles we are witnessing are no longer over democracy versus other systems; instead, what seems to be at issue are the meanings and practices largely associated with democratic regimes, the expectations of people, and what regimes provide. Finally, we focus on specific uprisings, chosen by the students, in an attempt to contextualize our discussions and make sense of recent global developments in an informed, thoughtful manner.

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Business

Package A - International Business Management and International Marketing (BUS A JUNE)

International Business Management

This course is taught from the perspective of a senior manager at multinational enterprise. It analyzes the decisions made by firms in an international context. To do so it combines material from strategy, international finance, marketing, human resource management, positive trade theory, institutional trade policy, and other areas. It will emphasize the use of analytical tools and the development of oral and written communication skills. By design, the course is integrative, implying that there is some overlap with material taught in international marketing and finance courses.

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International Marketing

This course examines the process of entering international markets and in conducting marketing operations on an international scale. Through lectures and practical assignments students will explore a broad range of global marketing issues and concepts. Specific objectives include understanding the role of marketing in business, analyzing the external issues affecting international marketing activities including the economic, social/cultural, and political/legal environment, identifying and assessing global marketing opportunities in the international marketplace, gaining experience in developing international marketing strategies, and planning to implement and adapt these activities in specific markets.

Package B - Strategic Management and New Enterprise Development (BUS B JUNE)

Strategic Management

Concepts and processes for the strategic management of private sector, single and multi-business unit enterprises are analyzed using the case method. Methodologies which draw on economic and organizational theory are integrated to form the foundations for strategic analyses. This course builds students' ability to analyze and develop business strategies by introducing frameworks and tools to understand the nature of competition in general and to analyze the specific competitive position and strategic options of a given firm. You will learn frameworks for analyzing industry structure, internal capabilities, and competitive interaction, as well as how to use those frameworks to critique a specific firm's competitive position and develop and evaluate strategic alternatives.

New Enterprise Development

This is an introductory course to the field of entrepreneurship. It is also useful to anyone who expects to be interacting with entrepreneurs in their business careers, be it as private investors, venture capitalists, consultants or customers. The course provides an experience-based exposure to the process of starting entrepreneurial ventures as well as examining the challenges facing any would-be entrepreneur in the real world. This includes developing business models and strategies for innovative products or services and strategies for acquiring resources, particularly financing.

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Community and Regional Planning

Package A - Big Data and New Technologies in Cities (PLAN A JUNE)

Urban Big Data Analysis

With the advent of open data movement, knowledge and skills for collecting and analyzing big data become increasingly important for urban planners. This course will teach you how to harness the power of big data by mastering the way they are collected, organized, and analyzed to support better decision making in urban planning context. You will learn the basic tools needed to manipulate large datasets derived from various open-data platforms, from data collection to storage and approaches to analysis. You will capture and build data structures, perform SQL and basic queries in order to extract key metrics and insights. In addition, you will learn how to use open-source programming tools, such as R and Python, to analyze and visualize the data. These statistical tools and methods will be complemented by machine learning and pattern detection techniques, in addition to new technologies for big data.

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Spatial Analysis Using Geographic Information Systems

GIS technology sits at the intersection of the world around us and our incredible computing capabilities that allows us to investigate and visualize that world in new and exciting ways. This course will introduce you to key concepts, methods, and tools used to collect, analyze, map, and visualize geospatial data. You will explore what makes spatial data special, some of the ways it is collected, and how it can be used to answer questions about the world around us. You will use geospatial data to help with decision making and to inform policy-making. You will use computer-based geographical methods of data input and analysis to model the world around them, to explore real-world scenarios, and present their findings to others. Practical applications will be investigated in both the natural and human realms through lectures, discussions, group exercises, and a hands-on computer lab component.

Education

Package A - Teaching and Learning English (EDU A JUNE)

Applied Linguistics for Teachers

Successful language teachers need to understand more than just the structure and nature of the language(s) they teach: they also need to develop an understanding of the social, cultural, and ideological implications of language and language education. Language classrooms are diverse, multilingual, multicultural and multimodal places, presenting students and teachers with unique challenges. This course serves as a general introduction to theory and research concerning these issues as they relate to learning and teaching, from the perspective of applied linguistics. Topics to be discussed include: theories of first- and second-language learning; the relationship of theoretical issues in applied linguistics to educational practice; language variation; language attitudes and ideologies; world Englishes; language and globalization; language policy; language and gender; language and race, and more.

Introduction to Teaching and Learning English

This course provides a general theoretical overview of and some practical preparation for English language teaching (ELT). Its scope is diverse as it considers approaches to language teaching, a range of teaching techniques and strategies, learner needs, instructional contexts, assessment, and sociocultural concerns, as they pertain to teaching English in a variety of contexts. The course examines ways to teach listening, speaking, reading, writing, grammar, and vocabulary but always with a view to integrating these skills. Students will have the opportunity to contribute to and learn from active engagement in discussions on contemporary ELT issues and topics.

Package B - Early Childhood Education and Development (EDU B JUNE)

Designing High Quality Programs in Early Childhood Settings

This course addresses the notion that children are natural learners. Students will learn about, discuss, and clarify important concepts and theories relative to early childhood education, including child development theory and the holistic nature of learning in the early years. The course highlights the idea that young children's innate capacity to learn and teachers' responses to children's inquiries provide the foundation for the development of high-quality early learning experiences for young children and impacts the type of programming that is created. Students will learn about designing

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appropriate daily routines and implementing teaching strategies for integrating different areas of learning, such as literacy, math, science, and art through inquiry and project-based learning. The course will also include observations in local Early Childhood settings.

Creating Environments to Support Learning in Early Childhood Settings

This course introduces students to the significant role that designing stimulating and nurturing early childhood classroom environments plays in children's learning and in supporting all aspects of their development and growth. Students will learn about creating dynamic indoor and outdoor learning spaces for young children and the importance of providing children with original and natural educational materials and resources. The course will include visits to local state-of-the-art Early Childhood environments for young children.

Forestry

Package A - Urban Forestry (FOR A JUNE)

An Introduction to Urban Forestry

This course will provide a general introduction to the concept of Urban Forestry and why this is an important topic in today's rapidly urbanizing society. There is a growing need to adapt to multiple impacts of climate change; and increasing demand from the public for the recreational, psychological and health benefits that green-space networks provide. With increased urban populations, global warming, urban heat islands, flooding and pollution, cities may become unlivable or demand massive energy-use for cooling, unless we can establish large scale, healthy urban forest systems. This interactive course will be supplemented by a number of field trips around the Greater Vancouver area, visiting a number of local parks and hearing from experienced practitioners in the field.

Urban Forestry and Well-being

Urban forestry is about planning and managing urban green-spaces and ecosystems for human welfare, ecological health, and protection of our cities' support systems. Urban forest networks, parks, wetlands, and other green infrastructures are vital in moderating heat waves and cooling demands, maintaining biodiversity and carbon sinks, controlling forest fires, storm-water flood mitigation, bio-energy production, etc. Urban Forests improve and protect our health, property values, local jobs and businesses, outdoor recreation opportunities, and community character. This course will give the students an introduction to the importance of understanding urban forestry in the face of today's rapid urbanization as forests and green systems compete for space among buildings, roads/transit, storage facilities, and energy infrastructure. Students will be able to experience the concepts learned in class through fieldtrips and class activities. Past participants have been taken on fieldtrips to various locations around the Greater Vancouver area including Surrey, North Vancouver and Stanley Park.

Land and Food Systems

Package A - Nutrition and Healthy Eating (LFS A JUNE)

Essentials of Nutrition

In this introduction to nutrition, students will learn about nutrients: what they are, why they are important to health, recommended intakes, and common Canadian food sources. Controversial topics



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in nutrition will be explored. Upon completion of the course, students will be able to sort out fact from fiction by applying their knowledge of nutrition to everyday scenarios and to their personal diets.

Healthy Cooking and Eating in Canada's Multicultural Context

This course will focus on applying the nutrition concepts learned from Essentials of Nutrition. You will be enriched with hands-on cooking experience, tasting and discussions about food choices. You will learn fundamental cooking skills and how to modify recipes for better health. Students will work in small groups to prepare a wide variety of foods from the many cultures making up Canada's cultural mosaic. The instructor, a Registered Dietitian and Chef, will guide students in their cooking, help them explore the nuances of tasty foods they have prepared and lead discussions on how to ensure food is both delicious and healthy. Upon completion of the course, students should be able to demonstrate an understanding of fundamental knowledge and skills of food safety, the practical outcomes of recipe modification, an understanding of the role and interactions of ingredients in food preparation, and a variety of preparation techniques and their nutritional attributes.

Medicine

Package A - Clinical Research and Clinical Medicine (MED A JUNE)

Introduction to Clinical Research in the Sciences (Pediatrics)

This course provides a window into how clinical research is conducted in the medical sciences. Research methodologies, research process, ethical considerations and practical tips for conducting high-yield, evidence-driven research with patients will all be presented and discussed. The course includes lectures, workshops and a hands-on mentored individual research project by students that will be presented at the end of the course. A wide variety of health care providers and medical educators will participate in the course and provide examples of research conducted at UBC and other academic institutions. Engaging speakers, visits to clinical research facilities and effective mentorship techniques will provide students with a once-in-a-lifetime opportunity to take part in the most advanced learning in basic clinical research.

Introduction to Clinical Medicine at the Bedside (Pediatrics)

This course will bring medical and science students close to the real life of medicine in the 21st century. Students will be able to meet up close with practicing clinicians who manage complex patients every day as part of their work in the hospital and clinic setting. Using advanced teaching tools such as medical simulation, and together with experienced physicians from multiple disciplines of medicine, students will learn how to approach patients with medical history taking, physical examination, development of a medical differential diagnosis, and will gain knowledge in determining the need for investigations in order to reach a diagnosis and develop a treatment plan. A combination of lectures, simulation labs, case-based workshops and visits to laboratory and clinical areas, will enhance the hands-on experience and understanding of the medical and other sciences.

All participants must be at least 19 years of age.



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Package B - Health Care and Living with Long-Term Conditions in the Community (MED B JUNE)

Health Care and Living with Long-Term Conditions (Occupational Science & Occupational Therapy)

The World Health Organization has identified a critical need for comprehensive health and social programs to address the “global burden” of chronic illness & disability. This course explores long-term conditions and their effect on participation in everyday life. This case-based curriculum includes topics related to infants in intensive care, children with a variety of diagnosis, teens & adults coping with mental illness, and populations with mobility impairments. Experiential sessions include field trips, elements of universal design, working with a variety of devices and adaptations, and trialing ambulation aides.

Strategies for Cognitive, Psychosocial and Rehabilitation Management of Long-Term Conditions (Occupational Science & Occupational Therapy)

This course provides an introduction to rehabilitation assessments and interventions for managing long-term chronic conditions in everyday life and includes using evidence in practice, assessing & managing pain, training in use of manual and power wheelchair, virtual reality in rehabilitation, living with invisible disability, and hi-tech and lo-tech strategies for visual impairment, & support healthy living. Sessions use case examples, social media, workshop format and field trips to tap creativity and apply the principles.

All participants must be at least 19 years of age.

