## LAND ACKNOWLEDGEMENT

UBC's Point Grey Campus is located on the traditional, ancestral, and unceded territory of the xwməθkwəy̓əm (Musqueam) people. The land it is situated on has always been a place of learning for the Musqueam people, who for millennia have passed on their culture, history, and traditions from one generation to the next on this site.

## COURSE INFORMATION

| Course Title | Course Code Number | Credit Value |
|---|---|---|
| Technical Aspects of Occupational Hygiene Hazard Controls | SPPH 563 | 3.0 |

## PREREQUISITES

SPPH 535

## CONTACTS

| Course Instructor(s) | Contact Details | Office Location | Office Hours |
|---|---|---|---|
| Karen Bartlett | Email: Karen.bartlett@ubc.ca 604-315-3922 | SPPH 364 | By appointment |
| Geoff Clark | gclark@shaw.ca | | By appointment |

## COURSE INSTRUCTOR BIOGRAPHICAL STATEMENT

Students are invited to use office hours to discuss specific course content, competencies and assignments. In addition, you are invited to dialogue about career aspirations, and the role of this course or your degree more generally in advancing your career objectives.

## OTHER INSTRUCTIONAL STAFF

| | | |
|---|---|---|
| TA: | Maggie Guo | Maggiegxc@gmail.com |
| Laboratory Manager: | Matty Jeronimo | matty.jeronimo@ubc.ca |

## COURSE STRUCTURE

- This course meets once a week, Fridays, for lectures, class discussion, and demonstrations in SPPH 424 or SPPH 369. Lecture materials will be available on Canvas, as will recordings of the lectures. Demonstrations and laboratory sessions will be held in SPPH 369.
- Students are expected to attend class in person unless there are compelling reasons to attend on line which have been discussed with the instructor.

- Guest lectures may be on-line and will be recorded.
- Additional, out-of-classroom time will be required to complete pre-class reading, laboratory reports and term projects.
- Each lecture will normally be introduced with a reading assignment related to the instructional material. It is to your advantage to read the pre-reading materials.
- Students are expected to participate in all class discussions.

## ZOOM COORDINATES

Join Zoom Meeting

https://ubc.zoom.us/j/66294032298?pwd=RXByczhPRVE4dUVWUXozbm9EYjRiQT09

Meeting ID: 662 9403 2298

Passcode: 068654

## RATIONALE AND LEARNING OUTCOMES

The purpose of this course is to further explore control of chemical, biologic or physical hazards found in workplace or community settings.

- The student will deepen their appreciation of the necessity and the range of controls that can be deployed to reduce risks to workers and to the public from chemical, biologic, or physical hazards.
- The course will challenge students to think creatively about means to prevent hazardous exposures.
- Students will demonstrate their ability to critically evaluate peer reviewed scientific literature and other publications or policies relevant to hygiene practices.
- The student will incorporate vocabulary and content to be able to effectively interact with other professionals such as engineers to reduce hazardous occupational and environmental exposures as a multidisciplinary team.

## LEARNING MATERIALS

Required texts:

- 2023 *TLVs and BEIs Threshold Limit Values for Chemical Substances and Physical Agents*. ACGIH, Cincinnati, OH. American Conference of Governmental Industrial Hygienists, 2023. (approximately $55.00 USD)
- Access to the on-line version of the WorkSafeBC Occupational Health and Safety Regulation (BC Regulation 296/97 as amended). https://elimit.online.worksafebc.com/

Required equipment:

- Steel toed safety boots may be required for field demonstrations.

Optional texts (note: the preferred vendor for these texts is directly from ACGIH: https://www.acgih.org/publications/ )

- Perkins, JL. *Modern Industrial Hygiene, Volume 1. 2nd Edition*. ACGIH Press 2008. ISBN 978-1-882417-75-9
- Perkins, JL. *Modern Industrial Hygiene, Volume 2. Biological Aspects*. ACGIH Press 2003. ISBN 1-882417-48-8
- Perkins, JL. *Modern Industrial Hygiene, Volume 3. Control of Chemical Agents*. ACGIH Press 2011. ISBN 978-1-607260-47-9
- *Industrial Ventilation. A Manual of Recommended Practice for Design. 30th Edition* ACGIH 2019. ISBN 978-1-607261-08-7

Course materials, assignments, lecture videos and slides will be archived on Canvas (SPPH 563) https://students.canvas.ubc.ca/

## ASSESSMENTS OF LEARNING

Evaluation of student performance will be based on:

- Assignment #1 Using a public media report covering a worksite accident, injury, or fatality as the starting point. Students will develop a communications strategy about the event and present orally to the class as well as a submit written report for the midterm assignment (due October 20th). WORTH 40% of grade.
- Assignment #2 Develop an Exposure Control Plan for an industry and hazard of the student's choice. The ECP will be scrutinized using WorkSafeBC criteria. Oral presentation to the class and written report will be due December 8th, with oral reports given Dec 1st or 8th. WORTH 40% of grade.
- Laboratory reports (#1 glove materials lab; #2 fit testing respirators; #3 ventilation assessment). All reports together will be WORTH 20% of grade.

The grade will reflect the student's understanding of the course materials, ability to synthesize and critically evaluate materials from a variety of courses, and ability to develop innovative and effective solutions to control exposures.

NOTE: In addition to the standard grading rubric attached here, students will be evaluated on professionalism and technical suitability of the written and oral submission.

NOTE: Arrangements must be made in advance with the instructor for any planned absences or late submissions.

NOTE: Student work is expected to adhere to the highest standards of academic integrity, and to be the work of the individual or team of individuals. Using artificial intelligence platforms (including but not limited to ChatGPT) is not acceptable, and all work must include citations and references (or a reference list, as appropriate and discussed in class).

- **Criterion standards**:
- **"A" level work (80 – 100%):** *Is reserved for exceptional work that greatly exceeds course expectations on every criterion. In addition, the work must show a level of creativity and initiative that goes well beyond what is provided or discussed in class. For example, "A" level work will show accuracy and depth of understanding, as well as initiative, insight, and probing analysis. In addition, the work must show there was careful attention to detail in every regard.* ***(A+ = 90 – 100%; A = 85 – 89%; A- = 80 – 84%)***

- ***"B" level work (68 – 79%):*** *This category is typified by adequate understanding, analysis, and representation of the concepts, principles, and theoretical perspectives explored during the term. It is distinguished from "A" level work by any one of four things: (1) one or more significant errors in understanding; (2) superficial understanding or representation of course content; (3) lack of initiative; or (4) multiple problems with presentation, e.g. writing that lacks clarity or contains multiple spelling, grammatical, or punctuation errors. For example, the top level (76 – 79%) will be awarded if the work shows adequate and accurate understanding and analysis, and goes beyond what was provided, but is not professional in its presentation. (B+ = 76 – 79%; B = 72 – 75%; B- = 68 – 71%)*

- *The lowest grade acceptable to maintain graduate student academic standing is 68%.* https://www.grad.ubc.ca/faculty-staff/policies-procedures/academic-progress

## UNIVERSITY POLICIES

UBC provides resources to support student learning and to maintain healthy lifestyles but recognizes that sometimes crises arise and so there are additional resources to access including those for survivors of sexual violence. UBC values respect for the person and ideas of all members of the academic community. Harassment and discrimination are not tolerated nor is suppression of academic freedom. UBC provides appropriate accommodation for students with disabilities and for religious observances. UBC values academic honesty and students are expected to acknowledge the ideas generated by others and to uphold the highest academic standards in all of their actions.

Details of the policies and how to access support are available on **the UBC Senate website.**

## OTHER COURSE POLICIES

SPPH is committed to providing a positive education experience free from discrimination. If you have had an experience in this course where you feel unsafe, have been mistreated or have witnessed mistreatment, please let us know. If you want to raise this beyond the course instructor the School recommends the following. You may contact your academic supervisor, the education manager for your program or the Associate Director-Education. You may also report your concerns to the Faculty of Medicine Office of Respectful Environments, Equity, Diversity & Inclusion (REDI) at https://mistreatmenthelp.med.ubc.ca/. Both SPPH and the REDI Office have procedures in place for recording and acting on reports of mistreatment in the educational environment.

## COPYRIGHT

CALENDAR

| Date | | Topic | Presenter |
|---|---|---|---|
| Week 1 | Sep 8 | Introductions, overview of course, hygiene ethics | Karen & Geoff |
| Week 2 | Sep 15 | Risk assessment/risk communications | Karen & Geoff |
| Week 3 | Sep 22 | Regulations and case study wood dust | Geoff |
| Week 4 | Sep 29 | Dermatotoxicology and control | Karen<br>Lab: Karen and Maggie |
| Week 5 | Oct 6 | Asbestos and Exposure Control Plans | Geoff |
| Week 6 | Oct 13 | Respiratory protection in industry | Geoff<br>Lab: Matty, Karen and Maggie |
| Week 7 | Oct 20 | Oral presentations of Assignment 1 | Class members |
| Week 8 | Oct 27 | Institutional response to COVID & communications | Denise, Francois, Jason<br>Field demo |
| Week 9 | Nov 3 | Local Exhaust Ventilation | Ed Chessor<br>Lab: Ed, Karen, Maggie |
| Week 10 | Nov 10 | Radiation part 1 (ionizing) | Geoff |
| Week 11 | Nov 17 | Radiation part 2 (non-ionizing) | Geoff<br>Field trip: TRIUMF |
| Week 12 | Nov 24 | Biologic issues and controls | Karen & Geoff |
| Week 13 | Dec 1 | Oral presentations of Assignment 2 | Class members |
| Exam schedule | Dec 8 | Oral presentations of Assignment 2 | Class members |