### Course Information

| Course Title  | Course Code Number | Credit Value |  |  |
|---|--------------------|--------------|--|--|
| Structure and Composition of Tropical Forest Ecosystems   | FODE 008-01        | 3 credits    |  |  |
| Prerequisites   |                    |              |  |  |
| You should have a basic knowledge of biology and ecology. |                    |              |  |  |
| Corequisites  |                    |              |  |  |
| None.   |                    |              |  |  |

#### Contacts

| Course Instructor(s)      | Contact Details   | Office Location | Office Hours |  |
|---------------------------|-------------------|-----------------|--------------|--|
| Dr. John Innes            | john.innes@ubc.ca | TBD             | TBD          |  |
|                           |                   |                 |              |  |
| Other Instructional Staff |                   |                 |              |  |
| TBD                       |                   |                 |              |  |

# Course Description

This course provides a description of the main ecological characteristics of tropical forests, including their structure and composition. It covers both tropical rainforests and tropical seasonal forests. You will learn about the evolution of tropical forests, important in understanding their remarkable diversity. You will be able to recognize some of the different components of the tropical forest ecosystem, and the major differences that exist between the many different types of forests in the Tropics. You will apply knowledge gained through online presentations, videos, reading assignments, and self study. Exercises will be used throughout the course to provide a deeper understanding of the complexities and challenges faced by tropical forest managers and stewards in maintaining the ecology of tropical forests.

The tropical forest environment is exceptionally complex, and two courses have been prepared that are designed to be completed over two terms. Thus course starts by looking at what defines tropical forests, and what has brought about these unique forests (Module 1). We then look at the physical environment of tropical forests, including their climate, hydrology soils and landforms, before examining an example of an extreme tropical forest environment, namely mangroves (Module 2).

Modules 3, 4 and 5 look at the incredible diversity of tropical forests, introducing you to some of the important taxonomic groups found in tropical forests. Module 3 deals with the forest

vegetation, the basis of the tropical forest ecosystem. Module 4 introduces you to the variety of vertebrates found in tropical forests, whereas Module 5 deals with tropical invertebrates.

#### Target Audience

This course is intended for students working towards a Master's degree in tropical forestry. However, it may be of interest to anyone wishing to learn more about tropical forests. It assumes a certain amount of knowledge, but will point you to areas where you can gain further information on particular subjects if you are unfamiliar with them.

Those with a more advanced knowledge of tropical forests may find sections of interest to them. Each presentation has been extensively referenced enabling follow-up through further reading.

#### Course Prerequisites

This course has no prerequisites, but a basic knowledge of biology is needed to take full advantage of the material that is provided. Some knowledge of science (physics, chemistry and biology) is also assumed. Online links to further information are provided throughout the course. If tropical forests are new to you, or you have no background in botany, zoology or ecology, you should allow time to follow these links.

### **Delivery Format**

This course is designed to be a fully online MOOC-type course. Course content such as the fundamental concepts will be offered as open educational resources for the Asia-Pacific region. It will follow a format similar to mainstream MOOCs on EdX or Coursera, which typically include presentations, mini-videos, self tests, reflective questions, graded assessments, and moderated discussions on a weekly basis while the course is running.

Students will learn through scheduled instructor-facilitated sessions and discussions and will actively engage with instructors, teaching assistants and their peers to complete all graded assignments to earn the certificate. Your critical thinking skills will be enhanced through the peer assessment of the six sentence argument exercises, when you will be required to grade the work of other students taking the course. Course completion certificates will be issued after students successfully pass the course. Students can access all course materials (except the textbook and readings), presentations, videos, assignments, and tutorials online through the UBC Canvas system.

This course introduces concepts and skills through presentations, videos, assignments and tutorials. You will be expected to read material to supplement the information provided in the presentations. Most of this is online, but some will require access to a library. We have provided many online links that will enable you to follow up particular topics online and, if you use these, then accessing the textbook material will be less essential. We have also provided a

large number of references – partly to support the arguments presented in the course and partly to enable you to follow up particular areas that may be of interest.

All the (Powerpoint) presentations in the course are intended to read: there is no verbal component. While a verbal account is normal in a face-to-face or synchronous presentation, it is much less relevant for an asynchronous presentation. The absence of the verbal element leaves you free to spend as much time on each slide as you wish: you can work through each presentation at your own pace.

## **Learning Outcomes**

This course introduces concepts and skills through on-line presentations, videos, and assignments. You will be introduced to key aspects of the structure and composition of tropical forest ecosystems and to essential practical skills such as a basic understanding of the different components of a tropical forest. Communication skills are a fundamental component of this course and you will develop your communication skills through the use of various tools including writing, visual aids and group work.

By the end of this course students should be able to:

- Name and describe the main forest types found in the tropics.
- Contrast the evolution over time of the main tropical forest regions.
- Give examples of the flora and fauna found in each forest type, and discuss their specific habitat requirements.
- Select which species are likely to be keystone species in particular tropical forests.
- Propose how these species might be affected by human interventions.
- Design ways in which any intervention might minimize the disruption of species in tropical forests.

# Learning Materials

During this course, we expect that you will access a variety of additional materials. At its simplest, you may want to look up a particular term, phenomenon or species, and wherever possible we have provided links for you to do so. Many of these rely on the online encyclopedia "Wikipedia". While sometimes incorrect, and continuously being updated, this medium provides a useful source of additional information, particularly in relation to specific organisms.

Associated with each module, you will find a variety of suggested sources of further information. Some of these will be references to textbooks and journal articles, some of which may require access to a library. Wherever possible, we have used freely available online materials for the required and strongly recommended reading. In addition, we have referenced many of the statements made throughout the course. These references are to journal articles, books and other materials, and you will need access to a good library (such as the University of British Columbia) to read this material.

We also provide links to a range of online video material. In tropical forests, is often very difficult to see and photograph particular organisms. Trees are large and their leaves may be many meters above the ground. The crowns themselves may be obscured by epiphytes and trees in the lower canopy. The birds and animals in the canopy can often be heard, but many times go unseen. In addition, many are nocturnal. Specialist videographers have made a profession of collecting video of some of the more difficult and rarer aspects of tropical forests, and we have sought out this material for this course.

#### **Textbooks and other major sources**

- Ashton, P. 2014. *On the forests of tropical Asia. Lest the memory fade*. London, UK: Kew Publishing. 670 pp.
- Bermingham, E., Dick, C.W. and Moritz, C. (eds.) 2005. *Tropical Rainforests. Past, present and future*. Chicago, Illinois, USA: University of Chicago Press. 745 pp.
- Bruijnzeel, L.A., Scatena, F.N. and Hamilton, L.S. (eds.) 2010. *Tropical montane cloud forests*. Cambridge, UK: Cambridge University Press. 740 pp.
- Bullock, S.H., Mooney, H.A. and Medina, E. (eds.) 1995. *Seasonally dry tropical forests*. Cambridge, UK: Cambridge University Press. 450pp.
- Carson, W.P. and Schnitzer, S.A. (eds.) 2008. *Tropical forest community ecology*. Chichester, UK: Wiley-Blackwell. 517 pp.
- Chazdon, R.L. and Whitmore, T.C. (eds.) 2002. *Foundations of tropical forest biology. Classic papers with commentaries*. Chicago, Illinois, USA: University of Chicago Press. 862 pp.
- Corlett, R.T. 2019. *The ecology of tropical East Asia*. 3<sup>rd</sup> edition. Oxford, UK: Oxford University Press. 320 pp.
- \*\*Corlett, R.T. and Primack, R.B. 2011. *Tropical Rain Forests. An ecological and biogeographical comparison*. 2<sup>nd</sup> edition. Chichester, UK: Wiley-Blackwell. 326 pp.
- \*\*Dirzo, R., Young, H.S., Mooney, H.A., and Ceballos, G. (eds.) 2011. *Seasonally dry tropical forests. Ecology and conservation*. Washington DC, USA: Island Press. 392 pp.
- Ghazoul, J. 2016. *Dipterocarp biology, ecology, and conservation*. Oxford, UK: Oxford University Press. 307 pp.
- \*Ghazoul, J. and Sheil, D. 2010. *Tropical rain forest ecology, diversity, and conservation*. Oxford, UK: Oxford University Press. 516 pp.
- \*\*Kricher, J. 2011. *Tropical ecology*. Princeton, New Jersey, USA: Princeton University Press.

- Osborne, P.L. 2000. *Tropical ecosystems and ecological concepts*. Cambridge, UK: Cambridge University Press. 464 pp.
- Morley, R.J. 2000. *Origin and evolution of tropical rain forests*. Chichester, UK: John Wiley and Sons. 362 pp.
- \*\*Richards, P.W. 1996. *The tropical rain forest*. 2<sup>nd</sup> edition. Cambridge, UK: Cambridge University press. 575 pp.
- Sánchez-Azofeifa, A., Powers, J.S., Fernandes, G.W. and Quesada, M. (eds.) 2014. Tropical dry forests in the Americas. Ecology, conservation, and management. Boca Raton, Florida, USA: CRC Press. 538 pp.
- \*\*Whitmore, T.C. 1998. *An introduction to tropical rain forests*. 2<sup>nd</sup> edition. Oxford, UK: Oxford University press. 282 pp.
  - \*Required reading.
  - \*\*Strongly recommended.

Please see module readings for a complete list of required and optional readings for each learning module.

### Learning Approach & Activities

You will be using problem-based learning approaches to develop a comprehensive understanding of the structure and composition of tropical rainforests and tropical seasonal forests. This understanding will be applied to real-world examples in tropical forests, helping you to develop analytical and practical experience for success in your future career. We will expect you to conduct collaborative work with your peers, and learn to integrate theories and concepts from a range of disciplines, including Forestry, Pedology, Hydrology, Climatology, Botany, Zoology, Ecology, Plant Science, and Ecosystem Science. Drawing this material together is a skill in itself, and it is one of the characteristics of Forestry as a discipline. As an ecosystem manager, you will need to not only know what to do in a particular situation but also understand the implications of any specific action on the many different components and processes within the tropical forest ecosystem.

There remains much unknown about tropical forests. Only a small proportion of the organisms within tropical forests have been identified and formally described, with many organisms still un-named, especially amongst the invertebrates. Almost every study undertaken in tropical forests yields new information, and even basic observations such as of the nesting habits of many bird species can yield useful information. We have tried to point out many of the gaps in information: these provide innumerable potential research opportunities.

## **Course Topics**

This is a three-credit course built around five modules. The course is designed to be taken over a single term.

#### Module I: What and where are the tropics and tropical forests?

- Topic 1.1: Characteristics of tropical forests
- Topic 1.2: The driving forces behind tropical forest ecosystems

#### Module II: The tropical forest environment

- Topic 2.1: The landforms, climate, hydrology and soils of tropical forests
- Topic 2.2: The biogeography of tropical forests
- Topic 2.3: An extreme tropical environment

#### **Module III: Tropical forest vegetation**

- Topic 3.1: Tropical forest plants
- Topic 3.2: Floral characteristics
- Topic 3.3: Fungi and microorganisms

#### Module IV: Vertebrates in tropical forests

- Topic 4.1 Introduction to vertebrates in tropical forests
- Topic 4.2: Mammals
- Topic 4.3: Birds
- Topic 4.4: Amphibians
- Topic 4.5: Reptiles
- Topic 4.6: Fish

#### Module V: Invertebrates in tropical forests

- Topic 5.1: Overview of tropical invertebrates
- Topic 5.2: Spiralia, gnathifera and nematoida
- Topic 5.3: The arthropods
- Topic 5.4: The insects

## Course Schedule

Note that all deadlines, dates and times are given in Pacific Standard Time (PST). Contact your instructors to discussion any adjustment needed to accommodate your time zone.

| Start<br>Week | Topic  | Core Concepts   | Learning Activities  | Assignments Due   |
|---------------|--|---|--|---|
| 1             | Course<br>Orientation                                | <ul> <li>Course syllabus</li> <li>Course schedule</li> <li>Course requirements</li> <li>Assignment details</li> </ul>               | <ul> <li>Review course introduction and overview materials.</li> <li>Familiarize yourself with course platform and tools.</li> <li>Post self intro on class discussion board.</li> <li>Obtain required textbook.</li> <li>Ask any questions of general requirements for the course on class discussion board.</li> </ul> | Self     Introduction     due at 23:59     (PST) on Day 3     of this week. |
|               | ı  |   | sts, and how did they orig   | inate?  |
| 1             | Topic 1.1:<br>Introduction<br>to tropical<br>forests | <ul> <li>What are the Tropics and tropical forests?</li> <li>Characteristics of tropical forests</li> <li>Forest origins</li> </ul> | <ul> <li>Complete required readings for Topic 1.1</li> <li>Potentially participate in online discussion Topic 1.1</li> <li>Go through the presentations</li> <li>Complete self-check quiz, checking back with the presentations if you make any mistakes</li> <li>Complete the self review</li> </ul>                    |   |
| 2             | Topic 1.2: Driving forces in the                     | <ul><li>Plate tectonics</li><li>Evolution and extinction</li></ul>  | Complete required readings for Topic 1.2   | • Six-sentence answer assignment 1  |

| evolution of tropical forests  2: The tropical forests | Climate change Sea-level change Large-scale disturbances  rest environment                             | <ul> <li>Potentially participate in online discussion Topic 1.2</li> <li>Go through the presentations</li> <li>Complete self-check quiz, checking back with the presentations if you make any mistakes</li> <li>Complete the self review</li> <li>Complete the six-sentence answer assignment #1</li> </ul>                                 | due at 23:59 (PST) on Day 5 of this week.  • Your grades for 2 6SAs from assignment 1 due at 23:59 (PST) on Day 7 of this week.  • Ensure that you have participated in at least one online discussions for Module 1 by 23:59 (PST) on Day 7 of this week.   |
|--|--|---|--|
| -  |  | Complete required   | • Six contonco   |
| The tropical forest environment                        | <ul> <li>Fandforms</li> <li>Forest climates</li> <li>Forest hydrology</li> <li>Forest soils</li> </ul> | <ul> <li>Complete required readings for Topic 2.1</li> <li>Potentially participate in online discussion Topic 2.1</li> <li>Go through the presentations</li> <li>Complete self-check quiz, checking back with the presentations if you make any mistakes</li> <li>Complete the self review</li> <li>Complete the 6SA exercise #2</li> </ul> | <ul> <li>Six-sentence answer assignment 2 due at 23:59 (PST) on Day 5 of this week.</li> <li>Your grades for 2 6SAs from assignment 2 due at 23:59 (PST) on Day 7 of this week.</li> </ul>   |
| Topic 2.2 The biogeography of tropical forests         | Biogeography     of tropical     forests   | <ul> <li>Complete required<br/>readings for Topic 2.2</li> <li>Potentially participate<br/>in online discussion</li> <li>Topic 2.2</li> </ul>   |  |
|  | 2: The tropical for Topic 2.1: The tropical forest environment  Topic 2.2 The biogeography             | tropical forests  • Sea-level change • Large-scale disturbances  2: The tropical forest environment  Topic 2.1: The tropical forest environment  • Forest climates • Forest hydrology • Forest soils  Topic 2.2 The biogeography of tropical forests  | *Sea-level change   • Large-scale disturbances   • Large-scale disturbances   • Complete self-check quiz, checking back with the presentations if you make any mistakes   • Complete the self review   • Complete the six-sentence answer assignment #1  **Topic 2.1:** The tropical forest environment   • Forest climates   • Forest hydrology   • Forest soils   • Forest soils   • Forest limates discussion Topic 2.1   • Complete required readings for Topic 2.1   • Go through the presentations if you make any mistakes   • Complete the self review   • Complete self-check quiz, checking back with the presentations if you make any mistakes   • Complete the self review   • Complete required readings for Topic 2.2   • Potentially participate in online discussion   • Complete required readings for Topic 2.2   • Potentially participate in online discussion   • Complete required readings for Topic 2.2   • Potentially participate in online discussion   • Complete required readings for Topic 2.2   • Potentially participate in online discussion   • Complete required readings for Topic 2.2   • Potentially participate in online discussion   • Complete required readings for Topic 2.2   • Potentially participate in online discussion   • Complete required readings for Topic 2.2   • Potentially participate in online discussion   • Complete required readings for Topic 2.2   • Potentially participate in online discussion   • Complete required readings for Topic 2.2   • Potentially participate in online discussion   • Complete required readings for Topic 2. |

|        |   |   | <ul> <li>Go through the presentations</li> <li>Complete self-check quiz, checking back with the presentations if you make any mistakes</li> <li>Complete the self review</li> </ul>   |  |
|--------|---|---|---|--|
| 4      | Topic 2.3 An extreme forest environment | • An extreme environment: mangroves   | <ul> <li>Complete required readings for Topic 2.3</li> <li>Potentially participate in online discussion Topic 2.3</li> <li>Go through the presentations</li> <li>Complete self-check quiz, checking back with the presentations if you make any mistakes</li> <li>Complete the self review</li> </ul> | • Ensure that you have participated in at least one online discussions for Module 2 by 23:59 (PST) on Day 7 of this week.  |
| Module | 3: Tropical forest                      | t vegetation  |   |  |
| 5      | Topic 3.1:<br>Tropical<br>forest plants | <ul> <li>Structure of<br/>tropical forests</li> <li>Tropical forest<br/>plants</li> <li>Plant form</li> </ul> | <ul> <li>Complete required readings for Topic 3.1</li> <li>Potentially participate in online discussion Topic 3.1</li> <li>Go through the presentations</li> <li>Complete self-check quiz, checking back with the presentations if you make any mistakes</li> <li>Complete the self review</li> </ul> | <ul> <li>Six-sentence answer assignment 3 due at 23:59 (PST) on Day 5 of this week.</li> <li>Your grades for 2 6SAs from assignment 3 due at 23:59 (PST) on Day 7 of this week.</li> </ul> |

|        |   |  | Complete the 6SA exercise #3  |  |
|--------|---|--|---|--|
| 6      | Topic 3.2: Floral characteristics of tropical forests | <ul> <li>Major plant<br/>families of<br/>tropical<br/>rainforests</li> <li>Floral<br/>characteristics<br/>of the main<br/>regions</li> </ul> | <ul> <li>Complete required readings for Topic 3.2</li> <li>Potentially participate in online discussion Topic 3.2</li> <li>Go through the presentations</li> <li>Complete self-check quiz, checking back with the presentations if you make any mistakes</li> <li>Complete the self review</li> <li>Complete the 6SA exercise #4</li> </ul> | • Six-sentence answer assignment 4 due at 23:59 (PST) on Day 5 of this week • Your grades for 2 6SAs from assignment 4 due at 23:59 (PST) on Day 7 of this week. |
| 7      | Topic 3.3: The little seen part of tropical forests   | • Fungi and micro-organisms  | <ul> <li>Complete required readings for Topic 3.3</li> <li>Potentially participate in online discussion Topic 3.3</li> <li>Go through the presentations</li> <li>Complete self-check quiz, checking back with the presentations if you make any mistakes</li> <li>Complete the self review</li> </ul>                                       | • Ensure that you have participated in at least one online discussions for Module 3 by 23:59 (PST) on Day 7 of this week.  |
| Module | 4: Vertebrates in                                     | tropical forests   |   |  |
| 8      | Topic 4.1:<br>Vertebrates                             | • Overview   | <ul> <li>Complete required<br/>readings for Topic 4.1</li> <li>Potentially participate<br/>in online discussion<br/>Topic 4.1</li> </ul>  | • Six-sentence answer assignment 5 due at 23:59 PST on Day 5 of this week.   |

|   |                       |   | <ul> <li>Go through the presentations</li> <li>Complete self-check quiz, checking back with the presentations if you make any mistakes</li> <li>Complete the self review</li> <li>Complete the 6SA exercise #5</li> </ul>   | • Your grades for 2 6SAs from assignment 5 due at 23:59 (PST) on Day 7 of this week.   |
|---|-----------------------|---|---|--|
| 8 | Topic 4.2:<br>Mammals | <ul> <li>Carnivores</li> <li>Hoofed mammals</li> <li>Primates</li> <li>Marsupials</li> <li>Rodents and lagomorphs</li> <li>Insectivores, sloths and colugos</li> <li>Bats</li> </ul>                    | <ul> <li>Complete required readings for Topic 4.2</li> <li>Potentially participate in online discussion Topic 4.2</li> <li>Go through the presentations</li> <li>Complete self-check quiz, checking back with the presentations if you make any mistakes</li> <li>Complete the self review</li> </ul>                                       |  |
| 9 | Topic 4.3<br>Birds    | <ul> <li>Distribution of major bird groups</li> <li>Omnivores</li> <li>Insectivores</li> <li>Flower visitors</li> <li>Foliovores</li> <li>Frugivores</li> <li>Granivores</li> <li>Carnivores</li> </ul> | <ul> <li>Complete required readings for Topic 4.3</li> <li>Potentially participate in online discussion Topic 4.3</li> <li>Go through the presentations</li> <li>Complete self-check quiz, checking back with the presentations if you make any mistakes</li> <li>Complete the self review</li> <li>Complete the 6SA exercise #6</li> </ul> | <ul> <li>Six-sentence answer assignment 6 due at 23:59 (PST) on Day 5 of this week.</li> <li>Your grades for 2 6SAs from assignment 6 due at 23:59 (PST) on Day 7 of this week.</li> </ul> |

| 10 | Topic 4.4:<br>Amphibians | • Amphibians  | <ul> <li>Complete required readings for Topic 4.4</li> <li>Potentially participate in online discussion Topic 4.4</li> <li>Go through the presentations</li> <li>Complete self-check quiz, checking back with the presentations if you make any mistakes</li> <li>Complete the self review</li> <li>Complete the midterm Quiz</li> </ul>    | • Complete the mid-term quiz by 23:59 (PST) on Day 7 of this week.  |
|----|--------------------------|---|---|---|
| 11 | Topic 4.5:<br>Reptiles   | <ul> <li>Crocodylians and turtles</li> <li>Lizards</li> <li>Snakes</li> </ul> | <ul> <li>Complete required readings for Topic 4.5</li> <li>Potentially participate in online discussion Topic 4.5</li> <li>Go through the presentations</li> <li>Complete self-check quiz, checking back with the presentations if you make any mistakes</li> <li>Complete the self review</li> <li>Complete the 6SA exercise #7</li> </ul> | • Six-sentence answer assignment 7 due at 23:59 (PST) on Day 5 of this week. • Your grades for 2 6SAs from assignment 7 due at 23:59 (PST) on Day 7 of this week. |
| 11 | Topic 4.6:<br>Fish       | Tropical forest fish  | <ul> <li>Complete required readings for Topic 4.6</li> <li>Potentially participate in online discussion Topic 4.6</li> <li>Go through the presentations</li> <li>Complete self-check quiz, checking back</li> </ul>   | • Ensure that you have participated in at least one online discussions for Module 4 by 23:59 (PST) on   |

|        |   |  | with the presentations if you make any mistakes • Complete the self review  | Day 7 of this<br>week.  |
|--------|---|--|---|---|
| Module | 5: Invertebrates  | in tropical forests  |   |   |
| 12     | Topic 5.1:<br>Invertebrates                               | • Overview   | <ul> <li>Complete required readings for Topic 5.1</li> <li>Potentially participate in online discussion Topic 5.1</li> <li>Go through the presentations</li> <li>Complete self-check quiz, checking back with the presentations if you make any mistakes</li> <li>Complete the self review</li> <li>Complete the 6SA exercise #8</li> </ul> | • Six-sentence answer assignment 8 due at 23:59 (PST) on Day 5 of this week. • Your grades for 2 6SAs from assignment 8 due at 23:59 (PST) on Day 7 of this week. |
| 12     | Topic 5.2:<br>Spiralia,<br>Gnathifera<br>and<br>Nematoida | <ul> <li>Flatworms</li> <li>Gastrotrichs and Orthonectids</li> <li>Molluscs</li> <li>Segmented worms</li> <li>Rotifers</li> <li>Roundworms and threadworms</li> <li>Horsehair worms</li> </ul> | <ul> <li>Complete required readings for Topic 5.2</li> <li>Potentially participate in online discussion Topic 5.2</li> <li>Go through the presentations</li> <li>Complete self-check quiz, checking back with the presentations if you make any mistakes</li> <li>Complete the self review</li> </ul>                                       |   |
| 13     | Topic 5.3:<br>Arthropods                                  | <ul><li>Tardigrades</li><li>Onychophorans</li><li>Crustaceans</li><li>Myriapods</li><li>Chelicerata</li></ul>  | <ul> <li>Complete required<br/>readings for Topic 5.3</li> <li>Potentially participate<br/>in online discussion<br/>Topic 5.3</li> </ul>  | • Six-sentence<br>answer<br>assignment 9<br>due at 23:59<br>(PST) on Day 5  |

|    |                       |   | <ul> <li>Go through the presentations</li> <li>Complete self-check quiz, checking back with the presentations if you make any mistakes</li> <li>Complete the self review</li> <li>Complete the 6SA exercise #9</li> </ul>  | of this week (PST).  • Your grades for 2 6SAs from assignment 4 due at 23:59 (PST) on Day 7 of this week.  |
|----|-----------------------|---|--|--|
| 14 | Topic 5.4:<br>Insects | <ul> <li>Butterflies and moths</li> <li>Beetles</li> <li>The social insects</li> <li>Other insects</li> </ul> | <ul> <li>Complete required readings for Topic 5.4</li> <li>Potentially participate in online discussion Topic 5.4</li> <li>Go through the presentations</li> <li>Complete self-check quiz, checking back with the presentations if you make any mistakes</li> <li>Complete the self review</li> <li>Complete the 6SA exercise #10</li> </ul> | <ul> <li>Six-sentence answer assignment 10 due at 23:59 (PST) on Day 5 of this week.</li> <li>Your grades for 2 6SAs from assignment 10 due at 23:59 (PST) on Day 7 of this week.</li> <li>Ensure that you have participated in at least one online discussion for Module 5 by 23:59 (PST) on Day 7 of this week.</li> </ul> |
| 15 | Course Wrap-<br>up    | <ul><li>Key course<br/>contents</li><li>Course<br/>requirements<br/>and outcomes</li></ul>                    | <ul> <li>Complete the final exam</li> <li>Conclude the course</li> </ul>   | • Final exam. (open for 5 days). This must be completed by 17:00 (PST) on Day 5 of this week.  |

#### Course Certification

This is a course with an option to obtain certification for a 3-credit Master's course. Assessments to student certification include the following components. Each component must be passed to successfully complete the course to get the course certificate. The passing grade is 60%.

| Components                           | Points/Marks | Weight |
|--------------------------------------|--------------|--------|
| Pre-readings and Discussions (5)     | 10 each      | 20%    |
| Six Sentence Answers (10)            | 12 each      | 30%    |
| Six Sentence answer grading (10 x 2) | 6 each       | 20%    |
| Midterm Quiz (online)                | 20           | 10%    |
| Final Exam (online)                  | 20           | 20%    |

Final letter grades will be given based on the following grading schema:

| Letter Grade | Range      |
|--------------|------------|
| A+           | 90% - 100% |
| А            | 85% - 89%  |
| A-           | 80% - 84%  |
| B+           | 76% - 79%  |
| В            | 72% - 75%  |
| B-           | 68% - 71%  |
| C+           | 64% - 67%  |
| С            | 60% - 63%  |
| F (Fail)     | 0% - 59%   |

# Late Assignment Policy

We recognize that learners will have various schedule constraints. That is why for assignments, we will provide a 5-day *grace period* for late submissions where you will not get any point deduction. However, we also do not want to discourage learners who punctually submit their deliverables. That is why those who are able to beat the deadline will have 2 bonus points in that activity (up to the maximum allocated to that activity). Otherwise, a deduction of 1 point per day will be applied for deliverables submitted after the *grace period*.

# **Participation Expectations**

Problem-based learning requires that you participate in all course activities and engage in peer-learning. You will be evaluated based on your progress in the course (e.g. whether you can complete the lectures and other associated activities on time) and participation in class and on

the discussion board (e.g. post questions on the discussion board, participate in the discussion with other classmates).

## **Netiquette Expectations**

Netiquette, or internet etiquette, is a set of guidelines for acting appropriately online. We are providing you with the following guidelines to empower you to successfully communicate in our online learning environment.

We encourage you to....

- Be clear when expressing thoughts and information, remember that other users cannot not see your facial expressions or hear tone of voice. Thus it is important to be weary of using humor and sarcasm.
- Remember that humans are on the other end of correspondence. Do not say anything
  that you would not say in person. Before you send something, ask yourself... how would
  I interpret this if I received it? Should I send it? Is the content better discussed over the
  phone, video chat or in person?
- Respect other people's time. Make the subject line of a post specific to your message. Avoid tangents and stick to one subject per posting.
- Don't expect instant responses from peers or professors.
- Be forgiving and supportive of other learners.
- Understand that grammatical and spelling errors will happen and do not judge.
- Be sure to respond to your classmates' comments on your posts, just like you would in a face-to-face conversation.
- Remember everyone is from different cultures and may bring different perspectives. Embrace diversity.
- Provide sincere and constructive comments of praise and feedback
- Respect the fact that everyone has different levels of technical competency and different learning styles
- Before entering a discussion, be sure to observe and review before leaping in to respond; avoid repetition. Also, take some time to consider your response to ensure it is well thought-out.
- Refer to your classmates' posts and comments when you contribute to the discussion to show that you acknowledge their thoughts.
- Do not use capital letters (this means someone is shouting). To emphasize a word, use asterisks in the following manner: \*word\*.
- Include your name at the end of each posting/comment.
- Cite all sources incorporated in posting using APA format and use a direct link when possible.
- Proofread all postings before submitting. Avoid using abbreviations and foul language;
   and be sure to use proper capitalization.

 Fundamentally, just as with your assignments or participation in other classes, remember that your posts and contributions in our online environment represent YOU. Be the best version of yourself in all ways possible. Go the extra mile to be a great contributor to the online environment.

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# Academic Integrity

UBC is an academic community in which commitment to the principles of truth and academic honesty is essential. The Code of Academic Integrity prohibits students from committing the following acts of academic dishonesty:

- 1. Cheating: intentionally using or attempting to use unauthorized materials, information, or study aids in any academic exercise.
- 2. Fabrication: intentional and unauthorized falsification or invention of any information or citation in any academic exercise.
- 3. Facilitating academic dishonesty: intentionally or knowingly helping or attempting to help another violate any provision of the Academic Code.
- 4. Plagiarism: intentionally or knowingly representing the words or ideas of another as one's own in any academic exercise.

**ANY PLAGIARISM will result in a mark of zero for the assignment/exam.** As a student, you are expected to submit original work and give credit to other people's ideas and writing. Plagiarism includes copying other people's ideas or writing without citing the source. If a quotation is used, it must be identified as a quotation and correctly cited. **Plagiarism is considered a very serious issue and can affect your career**.

Please make sure you know UBC's policies on plagiarism and read tips for avoiding it (see http://help.library.ubc.ca/planning-your-research/academic-integrity-plagiarism/).

For additional guidance on what plagiarism is and how to avoid it, please see:

UBC Calendar: <a href="http://www.calendar.ubc.ca/Vancouver/index.cfm?tree=3,54,111,959">http://www.calendar.ubc.ca/Vancouver/index.cfm?tree=3,54,111,959</a>

UBC Learning Commons, Avoiding Plagiarism: <a href="http://learningcommons.ubc.ca/resource-guides/avoiding-plagiarism/">http://learningcommons.ubc.ca/resource-guides/avoiding-plagiarism/</a>

Other Course Policies

**Learning Analytics** 

Learning analytics includes the collection and analysis of data about learners to improve teaching and learning. This course will be using the following learning technologies: Canvas, etc. Many of these tools capture data about your activity and provide information that can be used to improve the quality of teaching and learning. In this course, I plan to use analytics data to:

- View overall class progress
- Track your progress in order to provide you with personalized feedback
- Review statistics on course content being accessed to support improvements in the course
- Track participation in discussion forums
- Assess your participation in the course

### Copyright

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