

**DALHOUSIE University—SEASIDE Program**

**BIOLOGY 2601.03  
Flora of Nova Scotia**

**SYLLABUS**

**Course Description:** The goal of the course is to provide you with the knowledge and skills—*via* hands-on experience—that you need to be able to identify plants as well as to understand the fundamental composition and basic ecology of plant communities and ecosystems in Nova Scotia.

**Instructors:** Dr. Katherine Clough, Phone: 405 5804 999 4156 (cell), E-mail: [katherine.clough@dal.ca](mailto:katherine.clough@dal.ca) Pierre Taschereau, honorary instructor  
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**Prerequisite:** One completed year of University studies.

**Date/Time:** Class begins 9:05 am, Monday and ends 4:55 pm (16:55), Friday. Class meets every day (except Saturdays and Sundays) for a total of 15 days. The field trip schedule is NOT weather dependent so be prepared for less-than-ideal conditions. ***Do not make other commitments for the duration of the class as you will be fully occupied.***

Typical schedule for *non-field trip days*:

|                    |   |
|--------------------|---|
| 9:05 am — 11:55 pm | Lecture, Discussion/Question Periods                        |
| 11:55 pm — 1:05 pm | Lunch   |
| 1:05 pm — 4:55 pm  | Laboratory working with plant material and your collections |

**Place:** *Lectures* LSC C220 *Labs* LSC4009 or other

**Field Trips:** *All field trips are full days*. Students are expected to arrive on time with the appropriate equipment AND be prepared for the anticipated weather and all conditions on the field trips. Transportation provided except for Point Pleasant Park and to Bishops Landing for ferry to McNabs

*Field Trips:* leave from, and return to, parking lot outside Biology, between LSC and Kings (read “Your Responsibilities: 3) Preparation for Field Trips”).

**Required Resource Books:** **1)** The Flora of Nova Scotia (A.E. Roland & E.C. Smith, 1969, Nova Scotia Museum/Nova Scotian Institute of Science; available for \$35 from Reference and Research Services Rm 3621, Killam Library cash or cheque only. This resource has been put online by Dalhousie Library. Go to [dalspace.library.dal.ca/](http://dalspace.library.dal.ca/) and search on Flora of Nova Scotia Part I and Part II But you will need a hard copy for this course. **2).** How to Identify Plants (H. D. Harrington, 1957, Swallow Press; new and used copies available from various booksellers through Amazon, and at the Dal bookstore.

**Required Equipment:** **1)** Watch-maker’s Forceps (straight end; available at Bookstore); **2)** 10× Hand Lens/Magnifier (available at Bookstore) Put your hand lens on a string or bootlace. **3)** Plant Press (checked out from DAL Biology from instructors during class). *Note that items checked out must be returned, cleaned out and ready for their next use (i.e. in the same condition you got it), on the last day of class unless prior arrangements have been made.* **4)** Ring Binder

for plant collection. **5)** white glue for mounting plants. Sheets for mounting plants and labels are provided.

**Equipment Needed for Field Trips:** **1)** small day/backpack, **2)** lunch/snacks/water (enough to last a full day in the field, potentially under a hot sun), **3)** LONG pants and LONG-sleeved shirt, **4)** sun hat and/or sunscreen, **5)** insect repellent and or bug hat, **6)** hiking boots or sturdy walking shoes, **7)** a field notebook (provided) plus pencils/pens, **8)** a clipboard or fold-flat binder will be useful, **9)** rain gear, **10)** plant collecting equipment including bags for collecting plants, trowel, and pruner, and **11)** camera/binoculars/GPS/other equipment you deem necessary for a day in the field.

**Your Responsibilities:** **1) Attendance is mandatory.** You are expected to attend all lectures, labs, and field trips. Attendance will be taken and unnecessary, unplanned absences will be a consideration in your final grade. IF there will be a problem that prevents you from attending any class meeting, notify one of the instructors ASAP, *before* the absence. **2) Participation.** You are expected to participate and cooperate in all class activities. Bonus marks may be awarded to students who regularly contribute meaningful remarks/questions/dialog in class. **3) Preparation for Field Trips.** Please be fully prepared and ready for all field trips. You are responsible for your own lunches/water, appropriate clothing, and needed and required equipment as per the lists above. Transportation is provided for all field trips *NOTE: there are no washroom facilities at McNabs, Windsor Basin, Duncan's Cove, or Conrad Beach and we will be there all day—a word to the wise...*

**Evaluation/Grading:** There will be 1 major assignment, and 2 exams:

The assignment is a plant collection submitted along with your field note book and is worth half the final mark.

*More details to follow on grading.*

**Plant Collection:** Each of you will assemble, describe and mount a collection of botanical specimens (40% of your grade) containing a *minimum* of 25 “herbarium-quality” specimens of different species from as many different plant families as possible. The more families that are represented in a collection, together with the best descriptions (determination/location labels) and care and attention to specimen preparation and mounting, the higher the potential grade. Considering that there are more than 1600 sp. to choose from, a collection of 25+ species should be a “walk in the park.”

Your collection should contain at least 2 Pteridophytes (ferns and their allies), 2 Gymnosperms (conifers and their relatives, with no more than 10 tree species total), and the rest of your collection should be approximately representative of the province’s angiosperm flora (*i.e.* 25% monocots and 75% dicots, including grasses, shrubs, etc.). Inclusion of known rare, threatened or endangered species will result in severe grade reduction—if in doubt about a species’ status, ASK! Further instructions and information will be presented on the first class day, and refined throughout the duration of the course.

**Schedule:** The Lecture/Lab schedule below could be subject to further change. You will know ASAP if there are any changes. Note the **dates of the field trips—field trips will occur, rain or shine, on the days indicated**

| <b>Class</b> | <b>Morning</b>   | <b>Afternoon</b>   |
|--------------|--|--|
| 1            | Introduction<br>What is Botany, the language of botany, literature, floras manuals, field guides. The Plant Kingdom Botanical Nomenclature Assign Plant Presses, how to make a collection and press plants | Point Pleasant Park, Flora of Nova Scotia in an urban setting  |
| 2            | Plant Morphology , roots, shoots leaves, flowers inflorescences, fruiting structures and growth habits<br><br>Orientation to Field Trip 1 Mc Nabs Island, keeping field records                            | The tools of plant identification, using a dissecting microscope, hand lens, identification keys and glossaries<br>Plant groups , identification demo, keying exercises recognizing native trees |
| 3            | Field Trip 1 McNabs Island Forest habitat non forested terrestrial habitat, wetlands, abandoned gardens and farms  |  |
| 4            | Plant Classification, angiosperms, gymnosperms, pteridophytes, comparative morphology and growth forms, reproductive cycles<br>Orientation to Field Trips 2) Duncans Cove and 3)Conrad Beach               | Plant and floral morphology, flower and inflorescence types, working with living plants, dissecting and recognising plant parts, using keys, keying exercises<br>Managing your plant press       |
| 5            | Field Trip 2 Duncan's Cove, bog and coastal barrens  |  |
| 6            | Field Trip 3 Conrad Beach, Shores, salt marsh and sand Dunes   |  |

| <b>Class</b> | <b>Morning</b>  | <b>Afternoon</b>  |
|--------------|---|---|
| 7            | Plant Families, more on classification and recognition<br>Dicot families (Eudicots)<br>economic importance of selected dicots<br>Spring Flora of Nova Scotia<br>Orientation to Field Trip 4 | Recognizing plant families and identifying specimens, dicots                              |
| 8            | Field Trip 4 Gypsophilous vegetation and deciduous Forests, Windsor Basin and Smiley's Provincial Park  |   |
| 9            | Plant Families more on Recognizing plant families<br>Monocot Families, economic importance of selected monocots<br>Atlantic Coastal Plain Flora<br>guest instructor                         | Recognizing Plant families and identifying specimens, Monocots, grasses sedges and rushes |
| 10           | Field Trip 5 Kentville Ravine, EC Smith Herbarium, Harriet Irving Botanical Garden  |   |
| 11           | Botanical history, exploration and classification, the late 20th century revolution in classification From Linnaeus to the APG  | Collection Preparation time and identification exercises                                  |
| 12           | Plant Communities and ecology   | Collection preparation time   |
| 13           | Review of course content, questions, discussion   | Review exercises<br>Collection preparation time   |

|    |   |   |
|----|---|---|
| 14 | Review exercises<br>Collection preparation time | Lab exam  |
| 15 | Lecture exam                                    | Collection preparation time,<br>collections due by 4-30pm |