

Nature Trail Guide Manual
For
Kasey Hartz Natural Area
Muskegon Community College, MI



Items included in this Manual

- Job Description
- Application and Consent Form
- Overall Learning Checklist, Including On-line Reading Material
- General Guidelines
- Typical Scenario of a Nature Hike at Kasey Hartz Natural Area
- An Effective Trail Guide
- Teaching Techniques for Exploring Nature with Children
- Assessment Form
- Are You Ready to be a Nature Trail Guide?
- Trail Brochure
- Dichotomous Keys

Life Science Secretary, Heidi Feldpausch, 231-777-0273
Life Science Guide Coordinator, Theresa Van Veelen, 231-777-0672

Nature Trail Guide Job Description

You are an ambassador of Muskegon Community College as an informal educator, relaying ecological knowledge and land ethics, to our community through active learning and discovery along the Kasey Hartz Nature Trail.

Goal:

By guiding groups along the Kasey Hartz Nature Trail, I will learn and gain experience in nature interpretation and informal education by incorporating teaching techniques for active learning and discovery.

Personal Qualities:

- Desire to work with children and other members of our community.
- Excellent people skills and able to relate to all ages.
- Willing to learn about the nature trail area.
- Creative, adaptable, enthusiastic, energetic.
- Dependable, punctual, responsible, competent.
- Able to project voice and speak to groups.
- Have leadership and team member skills.

Criteria and Expectations:

- Embody all of the above qualities and dress appropriately.
- Preferably enrolled or completed courses in education and biology, particularly BIOL 104, BIOL 120, and/or BIOL 120F.
- Read all materials recommended in the nature trail guide manual.
- Have a basic understanding of ecology.
- Attend a training session with a Life Science faculty member.
- Shadow at least one hike with another guide before leading your own group.
- Be evaluated by teacher/leaders for most hikes.
- Be evaluated by Life Science Faculty Member about once/year.
- Provide guided nature hikes during the months of April-June and Sept.-Oct.
- Read my email frequently since this is how I will be contacted about potential tours that need to be guided.
- Notify Life Science Secretary if I can no longer be a guide.

Responsible to and Evaluated by:

- Instructional Affairs Office via the designated Life Science Department person.

Receive:

- Stipend.
- Valuable knowledge and experience.
- If credit is desired, speak to designated Life Science member about registering for Independent Study.
- Field work hours for education courses.
- Letter of recommendation if desired.

Nature Trail Guide Application and Consent Form

Complete and turn this form into the Life Science Secretary.

- I have read the nature trail job description and will uphold my actions, learning, and qualities as described.
- I have NOT been arrested nor have any outstanding warrants.
- I give Muskegon Community College permission to do a criminal background check on me because I will be working with children.

Name – signature

Date

Student # _____

Printed Name _____

Address _____

City/State _____

Zip code _____

Phone with area code _____

College Email _____

Biology Courses Completed: _____

Experience with Children: _____

Current Semester/Time available to conduct Nature Tours (Be Specific)

Mornings: _____

Afternoons: _____

Overall Learning Checklist for Nature Trail Guides

- ✓ Read job description.
- ✓ Sign and turn in application and consent form to Life Science Secretary, 231-777-0273.
- ✓ Read the below material which is located on MCC's website about Kasey Hartz Natural Area, www.muskegoncc.edu/pages/2416.asp
- ✓ After reading all material, take the quiz Are You Ready to be a Nature Trail Guide?
- ✓ Try to identify a plant using the dichotomous keys, either the spring or fall plant key. If you need help, see the Life Science Guide Coordinator.
- ✓ If successful with the quiz, contact the Life Science Guide Coordinator to schedule a training or refresher hike.
- ✓ Notify the Life Science Secretary in February or March about your availability to guide for the spring and fall tours.
- ✓ Read the brief guide assessment form.

- Read the following material which are located on MCC's website about Kasey Hartz Natural Area, www.muskegoncc.edu/pages/2416.asp
 - Trail brochure
 - Vision
 - Visit
 - Purpose
 - History
 - Overview
 - Along the Trail
 - Habitat and Species Fact Sheets (at least the following that are relevant to KHNA)
 - Barberry
 - Blueberry, low
 - Cherry, black
 - Cucumber root, Indian
 - Dogwood, flowering
 - Fern, bracken
 - Fern, cinnamon
 - Fern, royal
 - Fern, sensitive
 - Goldenrod
 - Grape
 - Greenbrier, common
 - Habitat, creek
 - Habitat, environmental data
 - Habitat, red maple

- Habitat, sampling procedures
- Habitat, upland
- Hepatica, round-lobed
- Hepatica, sharp-lobed
- Horsetail
- Jack-in-the-pulpit
- Jewelweed
- Liverwort
- Maple, red
- Marsh marigold
- Mayapple
- Mayflower
- Oak, black
- Oak, red
- Oak, white
- Partridgeberry
- Pine, white
- Poison ivy
- Sassafras
- Shelf fungi
- Skunk cabbage
- Solomon seal
- Spicebush
- Starflower
- Wintergreen
- Witch-hazel

General Guidelines for Nature Trail Guides

Logistics:

- In the fall and spring, the secretary will be contacting you **by email** with the hike requests to see when you would like to guide.
- Nature trail schedule will be posted in the hallway outside of Life Science Office.
- Immediately call biology secretary if you cannot guide at your designated time.
- Groups of more than twenty students should be split into two groups, hence two guides will be needed.
- Arrive about 15 minutes prior to the tour time.
- When arriving to guide a group, first check in with the Life Science Secretary to let her know that you are present (this action also ensures that you will be paid your stipend).
- List of items in the Life Science Drawer for your use with the tours (you may put items in the canvas bag for carrying). Please return all items when tour is over.
 - Magnifying lens
 - Soil probe
 - Clipboard
 - Pencils/pens
 - Crayons for rubbings
 - Paper
 - Ink Stamping pads
- Be creative!! Create your own tour presentation if desired. Ask coordinator for feedback.
- Make your tour presentation interactive so that the students are sharing what they are discovering with you. It will bring a smile to your face!
- Alter your presentation for the age/knowledge level of students.
- Always be sensitive to diversity (gender, ethnic, socio-economic, etc.) issues.
- Do not let them put anything in their mouths, but smelling things is quite appropriate.
- Consult with one of the biology faculty members for clarification or identification of plants or ecological issues.
- Recommended texts if you desire additional learning:
 - Cornell, J. 1979. *Sharing Nature with Children*. Dawn Publications. Nevada City, CA.
 - Newcomb, L. 1977. *Wildflower Guide*. Little, Brown and Company.
 - Voss, Edward and Anton A. Reznicek. 2012. *Field Manual for Michigan Flora*. University of Michigan Press.

Bad weather plan:

- In most circumstances, the Life Science secretary will make the bad weather changes in the morning and will contact the schools and trail guides.
- Since the boardwalks are very slick when wet, we prefer that tours are not given outside but we will have a botanical time in a lab room. But if it is misting and the group has arrived, the tour guides and secretary can make the decision whether or not to give an outside tour.
- Please see later in this training manual for a rain plan.

Emergencies:

- If a life-threatening first aid or safety issue, call 911 first. Then contact college safety administrators at 231-777-0545 or 231-557-5648.
- The nearest outside telephone line would be located in an office complex such as the Life Science office or the Math/Science office area located above the Life Science office.
- The nearest first aid kit is in the Life Science office area. If an injury occurs on our campus, an injury report form must be filled out and given to Life Science secretary who will forward it to the appropriate persons. The forms are available in the top drawer of cabinet under the Life Science mailboxes in the Life Science office.
- The nearest AED (Automated External Defibrillator) to trailhead is located in the Industrial Technology Building, which is the building wing nearest the beginning of the trail. Walk along the sidewalk with the building on the left and the outdoor learning center and live roof on your right. The AED will be in the hallway just inside the door near the office room of 500.

For the Tour and When on the Trail:

- Be certain that you have dressed appropriately for the weather and also as a representative of the college. No jeans with holes, etc.
- Arrive 15 minutes early and check in with Life Science secretary.
- Meet and enthusiastically welcome the students at the agreed upon place (check with biology secretary), usually the front college entrance, planetarium, cafeteria, or the beginning of the trail.
- Establish a method to obtain group's attention whether it is a hand up or some other gesture.
- At the beginning of the hike, give each teacher or leader an assessment form (and pencil) to fill out at the end of the hike.
 - Collect assessments at the end of the hike, read them, and turn them into the Biology Secretary.
- At the beginning of the trail, go over common sense trail rules.
 - Only touch and smelling of plants. (No picking of plants, only the guide can do that. And definitely no eating of plants).
 - Walk and stay on trail unless guide directs you.
 - Stay together as a group so that you can hear the guide.
- Relax and get caught up with all of the little discoveries along the trail!
- Don't forget to thank them for visiting the college and Kasey Hartz Natural Area.

Some Ideas to Integrate into Your Trail Presentation:

- Ask the participants open-ended questions. For example, compare these two trees or describe the bark of this tree.
- With a soil probe, have students smell, feel, and describe the soil in the upland vs. the wetland area.
- Have young children stand like “a tree” for a minute.
- Ask them to close eyes, listen for a minute, and describe what they hear.
- Talk about food chains/webs.
- Scratch the twig bark of spicebush or sassafras and have students smell it.
- Smell a skunk cabbage leaf and smell a crushed wintergreen leaves.
- Talk about the invasive barberry or honeysuckle.
- Ask participants to distinguish bark textures or shapes of leaves.
- Do some bark rubbings.
- With magnifying lens, look at lichens, moss, or anything little.

**HAVE FUN!
THANK YOU FOR YOUR TIME AND ENTHUSIASM!**

Typical Scenario of a Nature Hike at Kasey Hartz Natural Area

- Arrive 15 minutes early and check in with the Life Science Secretary to let her know you are there (also ensures that you will be paid your stipend).
- Pick up assessment forms, pencils, soil probe, and anything else from the drawer that you would like to borrow.
- Meet and enthusiastically welcome participants at designated area (typically the main entrance of college or outside the planetarium).
- Lead the participants to the beginning of the trail.
- Give each adult in the group an assessment form and pencil if needed.
- Go over the trail rules.
- Spend about 40 minutes (or whatever was agreed upon for the tour) along the trail with the participants.
- Collect assessment forms from adults.
- Thank everyone for visiting the college and the Kasey Hartz Natural Area.
- Return students to “switching” area (typically outside the planetarium) and pick up another group of participants. Repeat.
- Give completed assessment forms to Life Science Secretary.
- Return borrowed items (soil probe, etc.) to drawer.

Rain Activities

T. Van Veelen, May 2017

Instead of cancelling the nature trail event due to rain (because the wooden steps get very slick), beginning this spring we are going to engage the students with botanical items in a laboratory room.

- Nature trail guide(s), Life Science Secretary (Heidi), OR Theresa Van Veelen will make the decision to go outside or not.
- Heidi will always reserve one (or more if needed) of our labs for each nature trail event.
- Prior to beginning inside, guides should collect a few fresh samples to share with students:
 - Sassafras
 - Skunk cabbage
 - White pine
 - Spicebush
 - wintergreen

Suggestions for Indoor Rain Activities

- Rain box of items will be kept in labeled cabinet in the Herbarium room.
 - Kasey Hartz Coloring Books
 - Crayons, colored pencils
 - Stamps, stamping ink pad
 - Herbarium sheets
1. Welcome students and introduce yourself.
 2. Show the Kasey Hartz Video that is on our website. <http://www.muskegoncc.edu/life-sciences/kasey-hartz-natural-area/>
 3. Show your fresh samples of plants
 - a. Distinguish the habitats that they are found in
 - b. Distinguish characteristics of plants
 - c. Have them smell them
 - d. Construct a simple dichotomous key with the students using the fresh samples (this is part of an activity in the Kasey Hartz Coloring Book).
 4. Have them color in the coloring book using correct colors.
 5. Quiz them with questions about the plants that they are coloring, the herbarium sheets, or the fresh plant samples.
 6. If time, talk about trail etiquette or Leave No Trace rules to live by when they do walk in the woods.
 7. Ask them to share some fun stories about walks in the woods.
 8. Encourage them to come to college here at MCC.

An Effective Trail Guide

(From Calvin College program leader manual)

An effective trail guide wears three hats:

- Teacher
- Actor
- Host

And:

- Tells a story
- Communicates ideas and information
- Relates to the students
- Creates understanding
- Uses own individual style of teaching
- Sparks curiosity
- Provokes interest
- Does not overload the students

An effective trail guide uses the following techniques and interpretation skills:

- Smiles and makes the visitors feel welcome
- Establishes eye contact
- Shows enthusiasm for the subject matter
- Talks with the visitors and not at them
- Can be heard easily and seen easily
- Uses the full range of his/her voice
- Looks for response/feedback
- Allows sink- in- time
- Knows when to stop
- Is a listener
- Asks questions (direct and open-ended)
- Enunciates clearly and avoids slang and buzz words
- Reviews the theme of the program with the group at the end
- Says goodbye and welcomes the group to come back and visit the Natural area again.

Teaching Techniques for Exploring Nature with Children

(From Calvin College program leader manual)

- Enthusiasm is contagious. Keep the spirit of the occasion happy and enthusiastic. Smile! Students are excited to be out of the classroom.
- Focus the child's attention without delay. Involve everyone right away by asking questions and pointing out interesting sights and sounds.
- Tell children what you want them to do, not what you do not want them to do. Positive reinforcement is better than negative reinforcement.
- Talk less, but share more. Do and discover rather than just show and tell. Ask open-ended questions to encourage their discovery. Share your observations and feelings about nature.
- Use props, such as oak leaves or acorns! And use them effectively! They grab people's attention and focus them. They can also demonstrate what you are trying to explain much more effectively.
- Be receptive. Listen and be aware. Respond to children's mood and feelings. Expand the child's curiosity by sharing what makes you curious. Respect the thoughts of the child. Also, be alert to what nature is doing around you. Use Teachable Moments to your advantage.
- Look and experience first; talk later. Allow the children to experience wonder while watching quiet ordinary things.
- Don't feel badly about not knowing all the names of plants and animals.
- If you do not know the answer to a question, say so. If you have time before the school leaves use the field guides to look up the answer making this a learning experience and/or encourage them to do some research on their own.
- Actions speak louder than words. Be willing to do anything that you ask the children to do and model respective behavior towards the environment.
- Be flexible, but consistent. Teachers and students have their own set of goals and objectives for their field trip.



Nature Hike Assessment

Kasey Hartz Nature Trail, Muskegon Community College

To be completed by the Teachers/Adult Leaders

1. Date _____ Name of Nature Guide _____
2. What portions/activities of the hike were the children most responsive and actively learning? _____

3. What would you suggest to improve student learning during the hike?

4. What would you suggest to improve your contact and visit to our campus?

5. If we charged a small fee for the tour, would you still bring groups for the tour?
○ YES ○ NO
a. If you answered yes, please indicate a fee amount that you feel would be appropriate.
○ \$10 ○ \$20 ○ \$30 ○ Other \$_____(fill in)

*Thank you for visiting and evaluating our program!!
Before you leave, please return the evaluation to your guide or to the Life Science Department.*

Are you Ready to be a Nature Trail Guide?

All questions pertain to plants that can be found in the Kasey Hartz Natural Area (KHNA) and answers can be found in the recommended reading. **Check your answers on the last page.**

Short Answers

1. Who is Kasey Hartz?
2. What is the name of Michigan's state tree?
3. Describe the difference of bark between white oak and black oak.
4. During the summer, which habitat area would be cooler, the upland oak area or the wetland area?
5. What are two animals that may be seen in the KHNA?

Matching

- | | |
|--|-------------------|
| 6. ____ This tree has three different shaped leaves. | a. Skunk cabbage |
| 7. ____ A spring flowering plant that has a white flower. | b. black oak |
| 8. ____ This tree has five needle leaves in a bundle. | c. bracken fern |
| 9. ____ This tree has pointed lobed leaves and produces acorns. | d. huckleberry |
| 10. ____ This tree has toothed lobed leaves and produces "helicopter" seeds. | e. low blueberry |
| 11. ____ This plant blossoms very early with a spathe and spadix which comes directly out of the ground and is purplish-green. | f. Lycopodium |
| 12. ____ A small bush that has dull green leaves with orange resin spots on the underside of leaves. | g. marsh marigold |
| 13. ____ This fern can be found in the drier upland habitat area. | h. mayapple |
| 14. ____ A non-flowering wetland plant that only grows to be about 15-20 cm tall. | i. red maple |
| 15. ____ A Fall-flowering tree that has yellow flowers. | j. sassafras |
| | k. sensitive fern |
| | l. star flower |
| | m. white oak |
| | n. white pine |
| | o. witch-hazel |

Continue on the next page

Continued: Are you Ready to be a Nature Trail Guide?

Match these pictures with the correct names

16.



21.



- p. Black oak
- q. Blueberry
- r. Bracken fern
- s. Cinnamon fern
- t. Gold thread
- u. Huckleberry
- v. Marsh marigold
- w. Partridge berry
- x. Poison ivy
- y. Red maple
- z. Sensitive fern
- aa. Starflower
- bb. Trailing arbutus
- cc. White oak
- dd. Wintergreen
- ee. Violets

17.



22.



18.



23.



19.



24.



20.



25.



Quiz Answers for Are you Ready to be a Nature Trail Guide?

Short Answers

1. (Information is included on the trail guide and the history outline). Kasey Hartz was an instructor for the college from 1958 – 1973 and led the drive to set some land “away” for the study of nature and hikes as soon as the main campus was being built in 1963. She and her students developed the first trails in the natural area.
2. White pine.
3. White oak is much lighter in appearance than black oak and the white oak is broken into smaller chunks or plates of bark.
4. The wetland habitat is typically cooler due to canopy and the stream.
5. Some animals: squirrels, chipmunks, turkeys, hawks, deer, raccoons, opossums, muskrats, many other types of birds, frogs, toads, garter snakes, spiders, insects.

Matching

6. J
7. E, h, or l
8. N
9. B
10. I
11. A
12. D
13. C
14. F
15. O

Picture Matching

16. W
17. S
18. Bb
19. Q
20. X
21. R
22. Y
23. Cc
24. V
25. T

How did you do?

There are 25 questions and allow 1 pt for each question.

90-100% (miss 2.5 Qs or less)

You are a KHNA (Kasey Hartz Natural Area) expert!

80-90% (miss 5 – 2.5)

The “Kids” will love your plant knowledge!

70-80% (miss 7.5 – 5)

You probably still know more than most adults but review your plants!

Below 70%

You need to do some more plant studying!