



What to expect:

Participants of WestMo Bug Camp will stay in the residence halls on the Westminster College campus and spend their days at nearby Prairie Garden Trust (PGT; <http://prairiegardentrust.org/>). Prairie Garden Trust represents hundreds of acres of beautiful nature garden property near New Bloomfield, Missouri. We'll explore a range of habitats, from creeks, restored natural prairie, and savannah, to Lotus-covered wetlands and upland hardwood forest. Each morning (weather permitting) we will travel the 9 miles to spend our day at PGT, exploring insects in the field in the morning, then enjoy a packed lunch outdoors, perhaps creek-side, surrounded by prairie, or in the shade of the PGT Center. Afternoons will be spent back in the field before returning to Westminster campus for dinner and showers.

We will spend as much time outdoors as possible, even during light rain showers. Being outdoors for long periods means having fun getting dirty, hiking, or wading in creeks, but it also means exposure to the basic elements and conditions found in mid-Missouri. Students should be prepared for exposure to rain, mud, heat, sun, poison ivy, and the occasional stinging and nuisance insect (mosquitoes, ticks, chiggers). However, should the weather become hazardous we will re-locate temporarily inside the PGT Center, or move to an indoor lab in the Coulter Science Center on campus.

Most of our time in the field we will engage in activities as an entire group or you will work in small groups of 3-4. No one will work or be alone in the field. However, *groups* may be left alone in the field for brief periods as instructors move between groups. During these brief periods groups will have the instructor's or teaching assistant's phone number. Reception is typically available throughout the entire PGT property. Below is a tentative schedule of what the week will look like.

TENTATIVE ITINERARY (Schedule may change)

DAY	TIME	LOCATION	ACTIVITY
Day 1	5:30-6:00 pm	TBA	Check-in and welcome
	6:00-6:30 pm	Mueller Dining Hall	Dinner
	6:30-7:00 pm	CSC 239	Introduction and welcome
Day 2	7:45-8:30 am	Mueller Dining Hall	Breakfast – Don't forget to grab your packed lunch!
	8:30 am	Parking lot	Load up and head to the field!
	9:00-noon	PGT-field	FIELD: Collect specimens and use microscopes to study basic insect anatomy
	12:00-12:30 pm	TBD-In the field	Lunch
	1:00-4:00 pm	PGT-field	FIELD: How to curate common specimens.
	5:00-6:00 pm	Mueller Dining Hall	Dinner
	Day 3	7:45-8:30 am	Mueller Dining Hall
8:30 am		Parking lot	Load up and head to the field!
9:00-noon		PGT-field	FIELD: Insect Scavenger Hunt!
12:00-12:30 pm		TBD-In the field	Lunch
1:00-4:00 pm		PGT-field	FIELD: Sampling methods, pt. I

	5:00-6:00 pm	Mueller Dining Hall	Dinner
Day 4	7:45-8:30 am	Mueller Dining Hall	Breakfast – Don't forget packed lunch!
	8:30 am	Parking lot!	Load up and head to the field!
	9:00-noon	PGT-field	FIELD: Where to find insects?
	12:00-12:30 pm	TBD-In the field	Lunch
	1:00-4:00 pm	PGT-field	Field: Aquatic insects! (psst ... you may get wet here)
	5:00-6:00 pm	Mueller Dining Hall	Dinner
Day 5	7:45-8:30 am	Mueller Dining Hall	Breakfast – Don't forget packed lunch!
	8:30 am	Parking lot!	
	9:00-noon	PGT-field	FIELD: Sampling methods, pt. II
	12:00-12:30 pm	TBD-In the field	Lunch
	1:00-4:00	PGT-field – Hiller's Creek	FIELD: Observations and natural history
	4:30		Check-out, Depart

What should I bring?

Each participant should bring supplies for two broad sets of activities: (1) evenings/sleeping and (2) in the field.

(1) For evening hours and sleeping needs students should bring casual clothes, pillow, and a sleeping bag or other cover (a basic mattress cover/linen will be provided).

(2) For the outdoors we ask that you bring the minimum comforts to keep you safe and comfortable while outdoors for the duration of a typical work day. A packed lunch will be provided, but students should consider bringing durable clothes and boots/shoes that can get dirty, a small day-pack for carrying basic supplies into the field (trail snacks, water bottle, notebook, field guide, personal medication, sunscreen, bug repellent). Long pants are recommended to minimize abrasions from weeds, thickets, and brush; to deter ticks; and to minimize exposure to poison ivy and nettles. We will have on hand first aid kits, water, light snacks, and modest amounts of sunscreen and insect repellent.

Safety concerns:

Being outside in mid-Missouri in the summer months means dealing with the typical field conditions for this area and time of year. You will experience sun, heat, damp mornings, and be in the presence of poison ivy. There will be plenty of hiking, with some areas having moderately rough, steep trails. You can also expect to share company with nuisance insects (ticks, mosquitoes, chiggers), and stinging insects (bees, wasps). However, having spent many years in the close presence of stinging insects, I can vouch for the fact that stings are relatively rare occurrences. Nevertheless, please let us know if you have any known allergies, whether to stinging insects or otherwise, and please bring any necessary medicine, such as an epi-pen or inhaler. With permission and if necessary we can assist with administering medicine, but we will not have such devices on hand.

The field of entomology (study of insects) also uses a variety of basic chemicals, such as ethyl alcohol for preserving specimens, propylene glycol (an environmentally-safe, non-toxic form of antifreeze) for trapping and preserving specimens, and ethyl acetate as an asphyxiant/killing agent. These are safe to work with, but care must be taken in handling any chemicals. We might also use basic light tools to set traps and catch insects, such as trowels, hammers, and a variety of nets/cages.

A tip for dealing with ticks: If you have grown up in Missouri and spent any time outdoors, you know that ticks are a nuisance, but a reality when enjoying nature. Tick-borne illnesses are also something to take seriously. There are effectively two ways to minimize exposure to tick bites. First, creating a physical barrier. Long pants tucked into boots and socks works well. The second is a chemical barrier. While I have found DEET to be reasonably effective, I recommend a more laborious, but more effective method. This is a method that was shared with me by Henry Domke, a retired medical doctor and owner of PGT. Treating your clothes with permethrin, in our experience, is much more effective than DEET. You can purchase permethrin sprays in many department stores, but we recommend a permethrin concentrate soak. Concentrated permethrin can be found online (e.g., Amazon) and also at farm supply stores. For example, one brand is called “Control Solutions Permethrin SFR 36.8% permethrin Quart”. One quart lasts years. To create a soak, mix approximately ¼ cup permethrin in a large (~10 gallon) tub, soak a couple sets of “field clothes,” including pants, socks, and shirts, in the tub until saturated. Then hang the dripping wet clothing outside to dry, draped over lawn furniture or a clothes line. Wash your clothes infrequently, and they will be treated for the entire season! Yes, the entire season. Henry Domke enjoys his property daily, has been using this method for years, and has not had a tick bite in over a decade! As a final precaution, we also encourage you to do a tick-check at the end of each day, before getting a shower. In the rare case that a tick still becomes attached, and in the even much rarer case that that tick harbors a pathogen, removing the tick within several hours will prevent transmission of the pathogen.

Why enroll?

WestMo Bug Camp is an opportunity to spend a week outside, have fun, meet new people, and learn new and fascinating things about the natural world around us. Insects are endlessly fascinating. However, we understand that may not be your only motivation. As a college professor (and one who has served on Admissions Committees), I also know this sort of experience just looks good on a college application, regardless of your future interests, whether you want to study insects, be a doctor, or maybe you want nothing to do with biology as a career. Enrolling in a camp such as this shows you have broad interests, a spirit of adventure, and a desire to learn something new. Furthermore, if you’re planning to enroll at Westminster College, you will have the opportunity to develop ideas for future independent research projects.

We hope you’ll join us this upcoming summer! Please don’t hesitate to contact me if you have any questions.