

## Phage Hunters Information

Phage Hunters is an exciting research program offered to students who are majoring in Microbiology, Molecular Biology, or Medical Laboratory Science. Phage Hunters is designed to give undergraduate students a unique mentored research learning opportunity.

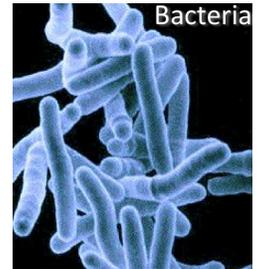
**As a member of the BYU Phage Hunters program:**

**1. You will be a valued member of a research team**

- You will collaborate with students and professors within and outside of BYU.
- You will work on a research project with objectives to identify phage with potential commercial use in farming.

**2. You will conduct valuable research**

- You will collect soil or refuse samples from around Utah and Salt Lake valleys.
- You will isolate a potentially novel bacteriophage (that's a virus that can infect bacteria!) from your regional sample.
- You will take electron microscopy images of your bacteriophage.
- You will extract DNA from your bacteriophage and submit the DNA for sequencing.
- You will identify promoter and protein sequences on the DNA of the selected bacteriophage.
- Your research will add to a growing database of bacteriophage information.



**3. You will learn many valuable research skills**

- Bacteriophage culture, isolation, and DNA extraction.
- Process of research and laboratory tools.
- Bioinformatics – computer assessment of DNA sequences.
- Taking a project from start to finish.

**4. You will take cool pictures and pick a name for your newly isolated strain of virus**

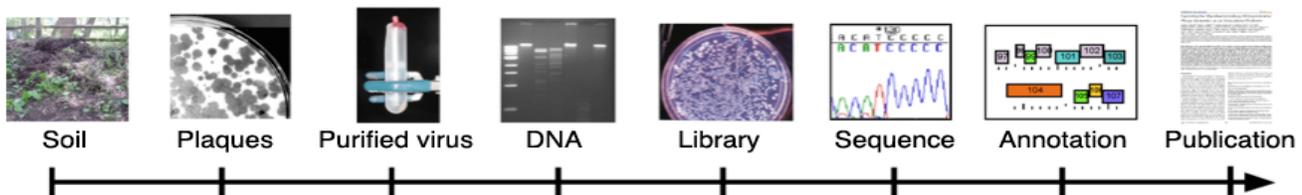
- You will get to select the name of your isolated bacteriophage and take electron microscopy images as part of the bacteriophage characterization.

**5. You will generate publishable data**

- As you characterize the bacteriophage and identify specific genes in its genome, you can contribute to a project that can be published in leading scientific journals.
- Undergraduates with a published paper have very high acceptance rates into professional schools and graduate programs.



**We want to generate tomorrow's greatest scientists. Participation will give you an edge for future employment, graduate school or professional school!**



The program is open to all students. Students must commit to take the Phage Hunters course for two consecutive semesters. The Phage Hunters courses are MMBIO194A in Fall semester, and MMBIO194B in Winter

semester. MMBIO194A and B are each two credit laboratory classes which meet twice a week for 2–3 hours per class.

**Some previous BYU Phage Hunters share their thoughts about the program:**

*“The Phage Hunters Class has been an excellent way for me to apply things what I have learned in my biology courses in an actual research setting. It has been a rewarding experience and definitely worth the time and effort. I would recommend this class to all lower classmen in any life science major.” -Kyle Smith*

*“Phage Hunters has been very helpful in understanding how science really works. It's really fun to work in a lab and become friends with other people in your same major early in your college career. I loved phage hunters because it showed me how science really works, both by using the tools scientists use, and thinking about problems and coming up with your own solutions to them.” -Zach Leichty*

*“ I heard about Phage Hunters through an e-mail advertisement, at which I jumped at the chance to see if Microbiology is something I really wanted to pursue. It looked like it would be awesome, but to be honest, it greatly exceeded my expectations. I have learned so many things, and we get to do things that are normally reserved for Juniors and Seniors. I would recommend this to anybody and everybody that has the slightest interest in this fantastic program! Phage Hunters rock!!” -Kyler Haskell*

*“This class has really given me the hands on experience for me to make an informed decision about whether or not I still want to pursue a career in Microbiological research. I really appreciated the fact that we were mostly independent on our own projects.” -Emily Greenhalgh*

*“What other freshmen class lets you find and name your own pet virus? Seriously, when I first saw Zippy with the electron microscope, it was like a parent seeing their unborn child on an ultrasound. It is worth the work to have a bacteriophage that you can call your own.” -Jessica Engle*

**Eligibility Requirements for the Phage Hunters Program:**

1. The student must be accepted to attend BYU for Fall semester as an undergraduate student.
2. The student must commit to completing the two-semester program, which includes 2 credits in Fall semester and 2 credits in Winter semester.

If you have questions, please contact us:

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