

Illuminate

Sam Newton

Although this class may not relate closely to my major, I found it a very interesting topic to learn about. Illuminate was a classed focused on the topic, issues, and solutions of light pollution. Light pollution is the introduction of artificial light into the natural environment. In more simple terms, light pollution is wasted light that performs no function. While it may seem good that we can see more at night, there are numerous negative side effects of light pollution. Too much light can actually affect human health and safety by setting off our circadian system and actually impairing vision at night because of the glare. It affects animal health such as bird migration and sea turtles. Our environment is affected due to the increased greenhouse emissions. Finally, one of the most obvious negative side effects is the washing out of natural star and moonlight thus hindering astrological research. If you live in a big city, when you look at the sky at night, chances are you can only see a few stars if any. In reality there are millions of stars that you would normally be able to see if it weren't for all the light pollution coming from the city. There is a lot more to light pollution than some people would think. Light pollution has many parts to it. Different components of light pollution include: glare – excessive brightness that causes visual discomfort, skyglow – brightening of the night sky over inhabited areas, light trespass – light falling where it is not intended or needed, and clutter – bright, confusing and excessive groupings of light sources. Another component of light pollution that I found interesting when learning more about light pollution is the color of certain lights allows the light to travel further. For example, blue and white lights will reach a farther distance than lights of a yellow or orange. There is an organization that is trying to help combat this issue. They are called the IDSC or the International Dark Sky Community. Their goal is to educate people about what light pollution and to do what they can to help limit it as much as possible. They have designated communities that have a set of guidelines to follow in order to be considered a dark sky community. These communities are legally organized cities and towns that adopt quality outdoor lighting ordinances and undertake efforts to educate residents about the importance of dark skies. They also have other programs such as International Dark Sky Parks, Reserves, Sanctuaries, and Places. These places all have the common theme of trying to limit unnecessary light. Our objective for this class was to take what we learned about light pollution from the professor and the IDSC and try to do what we could to apply it to our community here at Truman. In my group we made a set of goals on what we hoped to accomplish for the semester. They were:

Researching the effects of light pollution on organisms, particularly insects and humans, and its impact on the environment.

Using this research, information will be given to other teams to be able to be shared with the community to create awareness about light pollution which will hopefully help us reach our overall goal of making Kirksville a Dark Sky Community.

Work to invite a member of Truman faculty to one of our weekly Zoom meetings to ask questions that pertain to how light pollution affects their field of research.

Fortunately, we were able to accomplish these goals to the best of our abilities throughout the semester. An artifact from this is a copy of the transcript of the email sent to Dr. Fielden in order to accomplish our third goal.

Dr Fielden,

Our group has been researching the effects of light pollution on our society and were hoping you could answer a couple questions more specifically on the effect of light pollution on insects. Here are a couple questions we have

How does light pollution affect the sleep cycle of insects

Do different types of light have different effects on the insect

Are there certain insects that are more susceptible to behavioral changes due to light pollution.

We would value your input as a specialist on insects very much.

Thanks,

Sam Newton

We were able to end up meeting with Dr. Fielden in one of our meetings. As a group, we were able to ask her questions about how light pollution affects insects, her research field. As an almost 100-person class, I don't think we accomplished as much as we could have. However, it is hard to judge what we could have done vs what we actually accomplished in a semester that was affected by COVID. I hope students in the future will be able to put some more action into this class rather than just research. This class was designed to look at the problem of light pollution and how it affects our society. I think that when we look at problems in our community, we should also do what we can to solve them to make our communities the best place we can to live in. With that being said, I think the class did a good job of informing the students about what light pollution is. I came in with almost zero knowledge about the topic and now I feel as if someone was interested in the topic, I could feel confident answering their questions. Looking to the future, it can be kind of hard as one individual to have an impact but being in this class has helped me get educated on the topic to where I can help further educate my friends and family on why this is a problem and how we can solve it together. Some advice I would give to student that take this class in the future would be to just get the weekly assignments done as they are assigned. Do not wait till the end of the semester to do it. It will help you be more engaged in class and get the most out of the class as possible.