GUEST SPOTLIGHT

INTRODUCING:

DARK SKY STUDIES AT THE UNIVERSITY OF UTAH

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The University of Utah is home to a unique transdisciplinary academic program - the newly developed Dark Sky Studies (DSS) Minor, recently approved by the Utah Board of Regents.

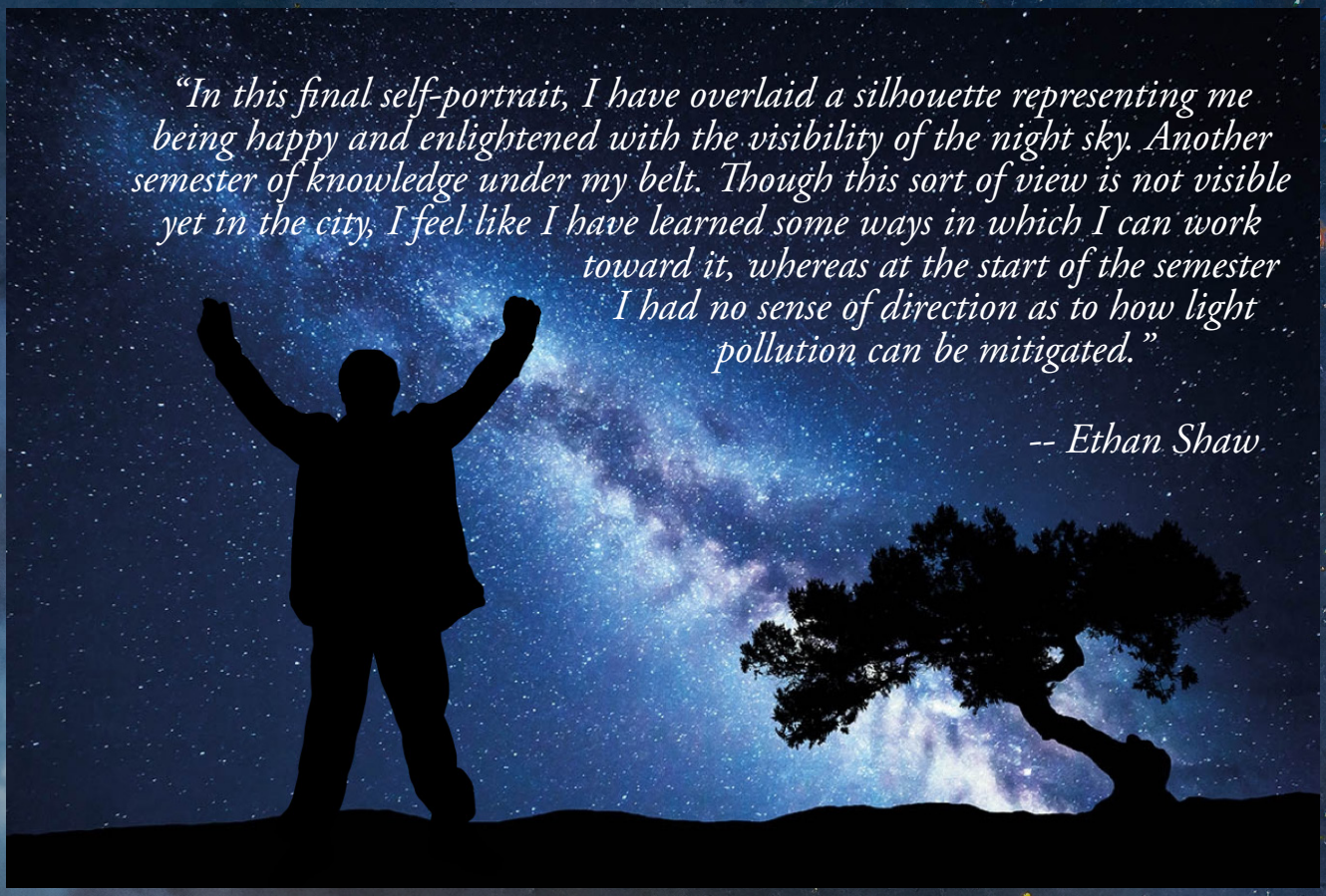
The need for studying the night sky has never been greater; increased amounts of light pollution brighten up the night sky with the growth of urban centers all across the world. While the effects of artificial light at night (ALAN) are still being studied, excessive ALAN has already been connected to various health concerns in both, humans and animal populations. The next generation of policymakers, artists, scientists, and other professionals need to be aware of light pollution and work towards slowing the disappearance of naturally dark and starry night skies. The University's Dark Sky Studies Minor aims to do just that: educate and strengthen young minds to innovatively preserve this beautiful natural resource.

The DSS Minor is housed within the Department of City & Metropolitan Planning (College of Architecture + Planning) but is designed for any undergraduate student from across campus. To complete the DSS Minor program, students must take 18 credits; 3 required core classes and at least 9 elective credits. DSS courses are taught by University of Utah faculty from different disciplines: anthropology, architecture, astronomy, atmospheric sciences, design, engineering, English, history, philosophy, physics, public health, pulmonary medicine, religion, urban planning, and more.

The DDS Minor invites students to collaborate with communities, academics, and professionals. DSS students engage each other from different disciplinary perspective around a core body of knowledge including the history of lighting, basic astronomy principles, and dark sky friendly lighting design. DSS students explore issues through scientific, humanist, artistic, and public policy lenses with an emphasis on integrating community needs, innovative opportunities to preserve natural nighttime environments, and the negative impacts of artificial light at night.

Photo Credit: Ryan Andreasen

One of the first and last assignments students complete is a self-reflection about their relationship to the night sky:



Except from "Me and Myself":

Hi, my name is Laurin
I enjoy midnight laser tag, spontaneous stargazing
And poking things with sticks
But I don't allow myself to feel as often as I should
I have a duct-taped confidence and a resting smile
My Hobbies include letting my emotions out in any non-verbal way, overthinking the simplest of decisions, and trying not to disappoint the people around me
I don't know much, but I do know this
I know that we have the power to mend ourselves...
And create a new legacy

-- by Laurin Hoadley

With support from a Keck Foundation grant, students in the mechanical engineering program designed and constructed two drones specifically for the Dark Sky Studies Minor. With this drone technology, DSS students can complete field work and take lighting measurements on the sky brightness or the amount of light a surface reflects into the night sky. Especially during the second core course, Nightscapes, students apply their drone skills and work closely with a Utah community. The students who completed the Nightscapes course during the Spring 2020 semester worked with the Town of Helper to take lighting measurements required for the International Dark Sky Association (IDA) Dark Sky Place Certification. We hope DSS students can continue to provide assistance to Helper and other rural Utah communities interested in certification.

Mechanical engineering students launching the drone by Helper's Town Cemetery.

Partnerships are critical to making the DSS a success at the University of Utah. For example, DSS is working with the Colorado Plateau Dark Sky Cooperative (CPDSC) to

- Provide internship opportunities for students who can conduct lighting inventories in critical places identified in CPDSC communities and regions (utilizing new drone surveying tools that will map light sources into GIS databases)
- Create cross-cultural resources for visitors to national parks (and other dark sky) sites. This will enable DSS students to look at the night skies through the lenses of Native Americans and other indigenous people around the globe, increasing cross-cultural understanding.
- Provide data about atmospheric conditions that threaten dark places and traditional connections to the night sky. DSS students an address social justice issues associated with the night sky, making sure that development does not adversely affect indigenous connections to their traditional view of the night sky and associated stories.

Other DSS partners include ALAN, Center for the Living City, Consortium for Dark Sky Studies, IDA, National Park Service and Utah State Parks.

DSS Minor Required Core Course and Electives

CMP 3580: Lightscapes

In this introductory course, students learn about the history of artificial light, some basics of lighting design, ways artificial light interacts with the natural world, and more. Students explore their relationship with the night sky and analyze lighting on the university's campus.

CMP 3581: Nightscapes

In the second course, students engage with local communities by exploring ways to protect the dark sky. This year students focused on Salt Lake City and Helper, Utah. Traveling to Helper, students interacted with the community and collected data on the town's lighting, helping the town work towards becoming a certified Dark Sky Place.

CMP 4282: Dark Sky Studies Capstone

The final require core course is a Capstone; students work on a dark sky topic of their choosing. Students in the Capstone apply the knowledge and experiences from the other courses to a real-time challenge in a community or with a researcher on campus.

Minor students take three electives (totaling at least 9 credits) from a list of pre-approved courses, such as photography, astronomy, urban ecology, writing poetry, energy resources, history of technology, philosophy & human nature, day hikes & dark skies, sustainable tourism, environmental psychology, digital writing and many more!

For more information visit the DSS Minor website at:

http://plan.cap.utah.edu/dark-sky-studies-minor/

or contact us via email at ***plan@arch.utah.edu***

Photo Credit: Ryan Andreasen