

Undergraduate Research Day 2015

Participants

- 1:** David Akner, Robert Stevens, and Joseph Walck. *Proposal for a Security System in the Hayfield House*
The installation of a security system in the Hayfield House. It is home to historical and expensive interior decorative content along with valuable documented information. The security of this building is just important as the security of the rest of the buildings on campus that are under surveillance. The installation of these security and alarm systems were researched in order to determine whether or not the project would be worth it.
- 2:** Kyleigh Hoover. *Indoor Air Quality on Penn State Wilkes-Barre Campus*
Indoor Air Quality in buildings across Penn State Wilkes-Barre Campus
- 3:** Mark Macosky. *Analyzing Gothic Imagination*
Poster deals with the gothic elements in a creative short story as well as the gothic imagination.
- 4:** Michele Brisco and Jessica Wills. *How It Will End*
Joe Harris is everyone's favorite old man. The townspeople adore his sense of humor, his neighbors enjoy his barbecues, and the college students love to see him feeding the city park's ducks. However, no one knows the dark secret which haunts Joe Harris -- his obsession with Caroline Winters. Caroline Winters, a well-known, gorgeous sorority girl stumbles upon Joe Harris every once in awhile, but little does she know it is not a coincidence.
- 5:** Bethany Dennis. *Measures of Water Quality from the Headwaters to the South Branch of the Susquehanna River*
I conducted research in order to measure the water quality of the Susquehanna River, seeing if it becomes worse further down its progression.
- 6:** Mark Cooper and Joshua Cummings. *Exploring Web Accessibility: A Case in Determining the Technology Needs of Older People*
We are creating an application to conduct research to determine the technology needs of older people. We would like to find what font type, sizes, colors, and other attributes best suite this audience. Once data is gathered we will create and publish an article outlining our findings.
- 7:** Mark Cooper and Joshua Cummings. *The Coligny Calendar*
This is the calendar explaining our research on the coligny calendar. It goes hand in hand with having the calendar on display with it.
- 8:** Caitlyn Traver. *The Long Drive*
This poster goes along with a Gothic short story I have written.
- 9:** Charlene McSparron. *Sanitizing Cinderella*
An illustration of how Disney has eliminated and disguised the Gothic in Grimms' fairy tales

10: Steven Zinner. *Gothic Elements of "Second Season"*

A Poster with a short summary of my short story "Second Season". It also goes over a few things that make it Gothic.

11: Carlos Candelario, Greg Copelli, Bryan Flynn, Mark Rowe, and Mike Vadas. *Campus Thoroughfare*

The Pennsylvania State University is considering the development of a student and faculty thoroughfare on each of the 24 campuses. The intent is to provide a more efficient means of access to campus facilities, while minimizing cross-campus commute. In many cases, based on the existing parking constraints at the PSU Wilkes Barre campus, there has been an increased interest in the proposed construction of a through campus drive.

This serves as a feasibility assessment of this aforementioned proposal.

12: Kahli Kotulski. *The Effects of Oil on Temperature & Dissolved Oxygen in Water Sources*

I test six different water sources for dissolved oxygen content and their temperature every one hour, two hours, four hours, eight hours, and fifteen hours. The sources consisted of Harvey's Lake water, then a source with oil added, Stream water, then stream water with oil added, and a Harvey's Lake salt water solution, and this source with oil added.

13: Nick Frushon. *The Jogger*

The Jogger is about a lost, confused jogger who is broken and hurt. He runs into unfamiliar woods and gets lost. He keeps thinking about everything that happened to him recently. Many thoughts keep going through his mind: "How? Why? How can she..?" Nothing makes sense to him. He stumbles onto an unfamiliar cabin. What happens there, will change him forever...

14: Ben Barnett. *Gothic Technology in "The Veldt"*

The affects of technology on society such as parenting skills diminishing, disconnect among people, and the inability of problem solving.

15: Brenda Carrasco-Sickmon. *Using LINKSPRITE JPEG Model LS-Y201 Camera*

The Penn State Wilkes-Barre Electrical Engineering Technology Senior Design Project is to design a satellite and prepare it for a successful launch. Once launched, the satellite will transmit data back and pictures back to earth. The purpose of this research is to discuss the use of the camera module, LS-Y201, in the design project for capturing images while the satellite is in orbit. The research includes information comparing the settings of the camera, how the module works, as well as the process and results for testing it within the lab and interfacing the camera with the other components of the satellite.

16: Kaitlyn Benczkowski, Theodore Frear, Robert Hug, and Kevin Katchko. *Tech Center Beautification Project*

This project is a proposal to beautify the Penn State Wilkes-Barre Tech Center. As part of this project, landscape improvements will be made around the Tech Center, Nittany Drive, and the Tech Center parking lots. A set of steps will also be added in the grass area between the Tech Center and the student parking lot. These improvements will add appeal and safety features to the area of focus.

17: Kayla Ramirez. *Testing Water Samples from Buildings on Penn State Wilkes-Barre Campus*

My experiment I conducted tested for total hardness, phosphate, iron, and copper. I tested 5 different water samples from 5 different locations from campus and the Nittany Commons.

18: Meaghan Merritt. *Little Boxes (How to make the suburbs gothic)*

My research project is a gothic short story, this poster is showing why my story is Gothic.

19: Marty Cirelli. *How Often is a Bald Eagle on its Nest*

Bald Eagle nesting activity is related to human activity. I am determining the best time for humans to be around a bald eagle test for any number of reasons such as collecting data from the nest. I expect to find that the bald eagle will be on the nest mostly in the morning hours, and evening hours, and off the nest in the afternoon hours.

20: Kyle Brogan, Neil Frankavitz, Mark Macosky, Vincent Munro, and Cary Vailes. *Proposing a Mobile Application*

Exploring the research and implementation of a mobile application for Penn State Wilke-Barre.

21: Ruby Amigon, Bob Costello, Corey Eyerman, Michael Green, Quentin Hugo, Kevyn Luchaco & David Peterson. *Local Radio and Tv stations in the Wilkes-Barre area*

This poster implements local radio and TV stations around the Wilkes-Barre area. The poster gives a brief explanation of the different kinds of radio and TV stations near the area and facts about them. The poster also gives a brief description of our group, (Electrical Engineering Technology) and a whole aspect of what we have learned over the course of the semester.

22: Hayden Gfeller. *Tic-Tac-Toe C++*

A poster showing the thought train used to create this particular program, and it also shows the part of the coding language that is used to create the program. It also shows how part of the problem looks when it's run and displayed to the screen.

23: Shane Dunn, Tristan Fry, and Jonathan Walker. *Environmental Club: Cultivating a Garden*

Our poster describes the proposal to initiate the start up of an Environmental Club at Penn State Wilkes Barre. By doing so, our club will be able to attack the problems that the wildlife on campus face each day. Our first goal is to cultivate a garden in which serves as a sanctuary for these wildlife.

- 24:** Michael Gentile, Michael Giedosh and Yamoutou Keita. *The Magnetometer*
The testing of the magnetometer (MAG3110) with the coil to see how the resultants would effect the magnetic field.
- 25:** Stephen Jesso and Vanessa Robbins. *Expansion of Penn State Lehman Pond for the Benefit of Students and Wildlife Proposal*
A proposal explaining the benefits of expanding the Penn State Lehman's pond three quarters of an acre and stocking it with fish.
- 26:** Simone Person. *Sibling Rivalry*
Its a poster about sibling rivalry and the different effects it can have on children.
- 27:** Michael Arjune and Johnnie Dang. *Magnetic Torquers*
This poster offers viewers the theory, build, and results of a 3-axis magnetic torquer which will be used for the senior EET cube satellite project.
- 28:** Dashiell Lopez Mendez. *Complex Dynamics in a Differential Equation with Delay*
Differential equations with delay serve as mathematical models of real world phenomena. They exhibit complicated dynamics which can be reduced to those of certain one-dimensional maps that can be visualized by graphs.
- 29:** Sebastian Rachon. *Exploring Polish Culture and Tradition*
To find out more about the Polish culture that I come from, I decided to delve deeper into the cultural and societal aspects of the country, as well as their travels and living in the United States. I studied the history of the country and the immigration patterns to the United States as well as what they brought along with them. I come from a family that is Polish so I used my father, mother and grandmother as a source. I obtained most of my information from these sources, due to the fact that they have first hand experiences relating to the topic of Polish culture, tradition and immigration. Aside from these sources I found 3 informative websites that I have found to be useful in writing this report. I knew a lot about the culture but I found plenty of little details that I found new and interesting to me and I feel as if I have learned a lot about the culture and portrayed that throughout the report.
- 30:** Zachary Zimmerman. *Vampirism in Gothic Literature*
A look at vampirism in gothic literature and how it has changed over time.
- 31:** Stephen Jesso. *Whitetail Deer: Their College Diet and Activity Rates*
An experiment done for bio 220 observing the whitetail deer on campus. Three different areas were observed with trail cameras to determine when the deer on campus are most active and also what area they prefer to be at. Deer feed and preferences were also examined in this experiment.

- 32:** Edward Buckley. *An Introduction to the Hill Cipher*
A basic introduction to the Hill cipher as well as explaining its encryption and decryption method.
- 33:** Taylor Leicht. *The science behind Sudoku*
a brief history behind Sudoku, the math way and science
- 34:** Bryan Whiting. *Proposal to Complete/Restore PSU-WB's Fitness Path*
The poster proposes paving the looped path between the student commons and water tower. It includes photos, maps, and cost projections.
- 35:** Austin Elko, Joseph Perillo, and David Yunkunis. *Android control of the real world*
This poster details our research into the design of a system that allows a user to control a DC motor via Bluetooth communication from an Android platform
- 36:** Sarah Blamire. *Air Pollution in Rural and Urban Settings and the Effect on Our Environment*
Testing air pollution using milk jugs and some Vaseline and recording the amount of particles that stick to the Vaseline over several days.
- 37:** Trey Decker, Nick Esposito, Nicholas McCarroll, William Romanowski, and Lake Thomas. *Science Building Door Proposal*

The lower level door in the Science building is supposed to be handicap accessible, as it is the only entrance that is ADA approved. During the winter months, the concrete pad beneath the door is lifted by the frost by about an inch every year, and prevents the door from opening. The most efficient and cost effective solution would be to replace the concrete pad in front of the door and install drainage. This project needs to be completed in order to make sure that the handicap accessible door will be able to open at all times of the year without impeding foot traffic.
- 38:** Vanessa Robbins. *Assessing Fish Species Using Different Baits During Early April at the Susquehanna River*

Fish species worldwide will differentiate depending on what time of year it is. My area of focus for this project is the Susquehanna River in Wyoming, PA. Using two very different baits, I will assess which type of fish are attracted to which bait.
- 39:** Taylor Leicht. *Divorce & Separation*
I will talk about what effects divorce has on a family and a child
- 40:** Rocky Rutkoski. *Finding Fundamental Solutions For Some Types of Differential Equations*
Using different techniques and theorems to solve different types of differential equation in general with multiple solutions in real and complex cases.

41: Ashley Lara. *Recipe for Solving Initial Value Problems for Engineers*

A general equation for solving Initial Value Problems in First Order and Second Order non-homogeneous differential equations. These equations have been produced from a general First and Second Order differential equation so that the person using the equation can easily plug in their constants and achieve the same answers with half the work.

42: Katy George and Ryan Sotelo. *The Gambler*

Our poster was composed for Gothic Lit; we decided to make one on how to write a Gothic story using one of our own as an example. We included text details, Gothic examples, and a story plot.

43: Joe Prednis and Will Jezewski. *Designing Printed Circuit Boards for Orbital Applications*

This poster highlights the design process as applied to PCB's (Printed Circuit Boards). Specifically, to fulfill the application of controlling a miniature satellite.

44: Tyler Kazokas. *Sandman' and the American Gothic Dream*

Please do not print me a copy. I am opting to format the poster on my own. I was unsure if this form needed to be submitted to finalize our spots in the event or just to be completed upon the request of the student, so I filled it out just to be safe.

My research is a survey of Gothic literary elements present in Neil Gaiman's DC comic strip, 'The Sandman'. I explored different aspects of the work (like narrative style, aesthetics, and structure) to explore why, despite being written by a British author, Sandman has been so influential towards our contemporary American Gothic audience. Some key points of interest are Sharkey's authorial notion of the "shifting center", the integration of Shakespearean elements into pop-culture, and an exploration in the literary traditions of British and American Gothic.

45: Tyler Avery. *Pathogens In Local Drinking Water*

I took water samples from 6 sites and tested them for bacterial content, chlorine level and their pH level. I then to this data and related it to how these levels effect the health of humans.

46: Ryan Leonardo and Greg Strazdus. *Alcohol Abuse*

This poster makes a brief connection to research surrounding the before, solutions, and after affects of abusing alcohol.

47: Meghan Flanagan. *Internship Experience: Federal and State Grant Research*

The poster focuses on research that I did about the RACP Federal Grant program, the PIDA State Grant Program, and the Act 13 and Multimodal Transportation Fund State Grant Programs. I also include details and research on Luzerne County demographics that are needed to apply to some of these programs.

48: Tessa Wells. *Synthetic and Organic Fertilizers Impact on Growth Rate*

The purpose of this experiment is to observe the impacts synthetic and organic fertilizers have on growth rates of bush snap garden beans, and to determine if a fertilizer is even necessary to grow bush snap garden beans given an environment with adequate conditions (sufficient sunlight, water, nutrient content of soil). Three experimental groups have been established to achieve this experiment. One group contains three bush snap garden beans planted in soil containing a synthetic fertilizer, one group contains three bush snap garden beans planted in soil containing an organic fertilizer, and one group contains three bush snap garden beans planted in soil containing no fertilizer. The heights of bush snap garden beans for each group will be evaluated and compared weekly to determine which group achieves the greatest growth rates.

49: John Kanarr. *Gothic Elements in "The Shining"*

Explains the gothic elements in Stephen King's "The Shining"

50: Kalene Belles, Jade Chi Mei Liu, and Michael Pahler. *Penn State Wilkes-Barre Arboretum*

Our group, Kalene Belles, Michael Pahler, and Jade Chi Mei Liu, conducted a proposal for re-developing the arboretum across to Hayfield House and implement new gardens. This arboretum will be established as the center of the campus for people to be aware of the local species and its importance to our environment and ecosystem. Lots of local plants and trees will be installed and implemented on and near the pond, walkway near Student Commons, and area near Hayfield House. We will develop this arboretum in collaboration with local companies and universities and make it as an open-to-public arboretum.

51: Daniel Leighow. *Electrical Engineering Technology Senior Project Structural Design*

This poster is a break down of the satellite projects main structural design.

52: Stephanie Baines. *Parental Conflict*

My poster is mainly about what is parental conflict and how children can suffer from parental conflict.

53: James Cosgrove and Mike Wright. *Solar charging system*

Poster will explain the charging system of a miniature satellite project.

54: Tyler Avery, Alan Gulbierz, and Do Ee Yang. *Research on Diabetes and Its Latest Treatments in Biomedical Field*

Our poster is a research on diabetes and its treatments in biomedical field. We researched on basic knowledge about diabetes which includes causes, symptoms, complications. We also included how to manage diabetes in daily life and new treatments found by scientists.

55: Jimmy Cosgrove, Mike Gentile, Danny Leighow, and Mike Wright. *3D Printing of Senior Project satellite*

Feasibility of 3D printing used in the senior project satellite by the EET's

56: Heidi Kile. *The History Of Sudoku*

I chose to research the history of Sudoku because of how interesting I find it. I feel its to be played by any age group, which is why I had starting learning to play at such a young age when my grandfather taught me how to play! Also, I found the information behind Sudoku rather interesting, and hope you will as well!

57: Sierra Eskridge, Joanna Sobeck, and Sarah Zabloutney. *The Curse*

Aliah and her family are preparing for a storm that is approaching Kansas, as Aliah heads inside she notices a doll that is very intriguing. She grabs the doll before she heads inside, hiding her from her careless parents. As soon as the doll is in her grasp strange things start to happen that are out of Aliah's control.

58: Cary Vailes. *The Gothic elements within "Replacements"*

Includes a brief summary of the story, broken down into key parts within the story, the Gothic elements found within the story (the Uncanny, the Supernatural, and the Gothic Perversity) , a the meaning of its title "Replacements".

59: Christopher Albee. *Classification of Waterways within the Commonwealth of Pennsylvania*

The commonwealth of Pennsylvania has a vast number of streams, rivers and lakes that an individual may encounter on a daily basis. The public rights that surround these waterways are often complicated, confusing or even unknown to the average property owner. There are also no resources available that classify these bodies of water as public or private waters. This paper will examine the riparian and littoral rights with regard to Pennsylvania waters, discuss what constitutes navigable waters, non-navigable waters or standing waters and also assist readers in clarifying any questions they may have in regard to the use of waterways within the borders of Pennsylvania.

60: Christopher Albee, Aaron Severence, Tyler Shelly and Alex Wood. *Surface Based Comparison of Errors in Topographic Mapping*

Statistical analysis of the errors introduced in different methods of collecting topographic data and comparing surface models.

61: Heather Nicholson. *Practical Application of Python in GPS*

Practical application of Python programming in GIS. The project involves creating a script to automate grass roots lobbying for a membership based organization.