

Cassie Abbott and Ashley Byerly – American Humanics

Needline Service Learning Project

Mentor / Sponsor: Dr. Roger Weis

The focus of our project was to collect canned food items for the Needline of Murray, KY. We did this by holding a Class Wars Food Drive at Calloway County Middle School. The winning class received a donated pizza party. The purpose of this project was to demonstrate the procedure that one must go about in order to implement fundraisers and projects in the Youth and Non-Profit field.

Charissa Acree – Journalism and Spanish

International Communication Technology

Mentor / Sponsor: Dr. Howard Whiteman

This project's primary focus is on international communication technology and its effect on world communication. The advancement of technology over the past century has not only changed the way we communicate with each other, it has changed the way nations communicate with one another. This project will first seek to analyze how communication has changed for human beings, and will define the different ways we communicate. Once a basic understanding of communication in general has been established, the paper will discuss technology and the role it has played in changing the face of communication. Cable, radio, broadband, internet, telecommunication systems and data transmission systems and their effects on international communication will be discussed. A general summary of how these technologies work will be given, but the paper will primarily focus on explaining the changes these technologies have had on the world. In light of these effects, the last part of the project will examine the effect these technologies will have on the future through globalization and communication theories.

Amy Allbritten – Criminal Justice

Technology of Death

Mentor / Sponsor: Dr. Lillian Daughaday

The methods of execution for capital punishment have changed over time from barbaric practices such as disembowelment to more "humane" methods such as lethal injection. The purpose of this paper is to examine how technologies have changed execution to a more sterile, impersonal procedure, not necessarily more "humane."

Jillian Aguiar - French*Jacques Derrida and French Literary Philosophy***Mentors / Sponsors: Drs. Theresa Saint Paul and Meg Brown**

For centuries, France has engendered many of the world's most profound and influential thinkers. Throughout the 20th century in the area of literary criticism, meaning found within the object and structure of literature progressively turned to the subject. French philosopher and literary critic Jacques Derrida critiqued structuralism and thus fathered and began the deconstruction movement. To Derrida, there were literary works within literary works; he would reveal involved webs of meaning and internal conflicts from an image. In this study, I will be presenting the genealogy of French post-structuralist thought in the philosophy Jacques Derrida.

Morgan Barnes – Pre-Veterinary Medicine*The History and Influences of German Veterinary Medicine***Mentor / Sponsor: Dr. Meg Brown**

Veterinary medicine affects almost everyone in the world. Whether people have encountered animals as pets, farm animals, or zoo animals the advancements of veterinary medicine have contributed to the experience. As early as the time when man and animal began a symbiotic relationship, German veterinary advances have contributed to the development of animal care. From Meister Albrant, the first to document his work with horses in German instead of Latin, to Erwin Becker, who developed many techniques and instruments for equine dentistry, many Germans have furthered the development of the science of veterinary medicine. This presentation will show the specific ways that advances made by Germans have affected the relationship between man and animal. During times both of war and peace Germans have been able to take veterinary medicine to the next level.

Warren Basham – Mathematics and Computer Science*Recovering the Images Corrupted by White Noise Using Wavelet Filters***Mentor / Sponsor: Dr. David Roach**

In this talk, we will demonstrate the use of wavelet filters to remove white noise from a corrupted image. A wavelet filter is an image processing tool that separates low/high frequency information. By using knowledge concerning the properties of the noise, we can effectively isolate the noise from the signal, recovering the original signal. We will assume the image has been corrupted with white noise, which visually appears as a static or grainy artifact within the image. The algorithm consists of taking the original image and converting it into low and high frequency components, followed by a thresholding of the high frequency pixels, and a reconstruction of the recovered image. The algorithm will be coded using the C++ programming language, including convolutions and input and output of binary graphics files. We will demonstrate the effectiveness of the algorithm by using a signal to noise ratio analysis.

LaToya Battle – Management and Marketing

Geographic Information Systems in Marketing

Mentors / Sponsors: Drs. Fred Miller and Terry Holmes

The goal of this project is to integrate Geographic Information Systems (GIS) into higher education marketing curricula. The GIS software is used in existing marketing courses as supplementary material relating to the subject being taught. Several different industries are already utilizing GIS in their strategic planning. These businesses recognize the numerous advantages that GIS offers them. Therefore, there is a job market for people with experience using GIS. Launched to capitalize on the innovative use of GIS in order to enhance the teaching curriculum, "Spatially Enabling the Marketing Curriculum" is a series of GIS software modules constructed for the use of students enrolled in college marketing courses. Presently, there is one module being used to test the effectiveness of GIS in a retail management course at Murray State University. The module is entitled "Retail Site Selection in San Francisco." While students study course material on GIS, they are exposed to the retail module and they are asked to use the software to determine where to locate a new "Better Books" store in San Francisco. We have tested this module for three semesters and have made improvements to it throughout that time period. The improvements were largely based on the feedback gleaned from students' evaluation surveys. This project will continue as we add more modules to be tested in the marketing courses. For example, we plan to add a module for the consumer behavior course that addresses demographic, lifestyle and purchasing behavior patterns. Similarly, a module for a marketing research course will focus on the use of socioeconomic and demographic data to create customer profiles.

Courtney Bennett, Brian Collier, Elizabeth Dandeneau, Rebecca Garmon, Amber Lyles, and Tasha Nickell

Student Teacher's Eligibility Portfolios

Teacher Education Services Coordinator: Jeanie Robertson

Each student teacher is required to present an eligibility portfolio and supporting material to faculty during the student teaching semester. Both a hard copy in notebook format and electronic version of the portfolio must be submitted. Developing an eligibility portfolio involves selecting appropriate artifacts to demonstrate attainment of the professional skills and dispositions represented in the New Teacher Standards. The eligibility portfolio also requires a reflective statement for each standard. While selecting a good artifact that addresses a standard is important, the reflections are where the student teachers are able to communicate their understanding and share their thinking about important teaching and learning issues. Through these reflections, they demonstrate their competencies related to each of the New Teacher Standards. The focus of the Murray State University College of Education's conceptual framework is to prepare graduates to become reflective decision-makers and to achieve Kentucky Standards. The eligibility portfolios provide the opportunity for student teachers to verify that they have achieved these goals.

Amanda Berens - Spanish

Maquiladoras and NAFTA as the Principle Troublemaker on the US/ Mexico Border

Mentor / Sponsor: Dr. Paulo Boero

Downsized American factories have transferred to booming maquiladoras (export factories) on the border in Mexico. Tijuana, Ciudad Juarez, and Matamoros are border cities that have elements of corruption, hard labor, and hope for a better life. NAFTA is the reason why big businesses from the U.S. can use Mexico for cheap labor as well as a way to cut costs environmentally. The majority of maquiladora workers are female, ages 15-22. Corporations prefer powerless women because it boosts production and profits. The family unit has been under attack on the Mexican Border. Orphanages house some of the children hit hard by drugs and poverty.

Ashley Bierman, Matt Buchanon, and Adrienne Hubbard – American Humanics

Needline Benefit Concert

Mentors / Sponsors: Drs. Roger Weis

The Needline Benefit Concert was an effort to raise awareness for the Needline program in Murray/Calloway County, Kentucky as well as to gather as many canned food items as possible. The Main Street Youth Center in Murray allowed us the use of their building to hold the concert. From Nashville, TN, artists included Amy Courts and Paul Koopman as well as the group Patty Mayonnaise. From Murray, artist Jason Hudson and group, Transparent performed also. The concert was free, but as people came through the door, there was a basket for them to drop off their canned items. Flyers were used to advertise the concerts in Murray and on the Murray State campus.

Erin Black – Mathematics and Kristen Rankin – Spanish and Literature

"New": Clear Solution

Mentor / Sponsor: Dr. Howard Whiteman

We will discuss the use of nuclear power today while including a short background of information (i.e. history, motives, and uses). We will present arguments for and against this alternate power source, taking into account all positive and negative aspects including its applicability to our world, its wastes and the handling of those wastes, and how it compares to modes of renewable energy sources, such as solar, wind, and hydrogen power. Based on this information we will state our position on nuclear power to either promote its continuance in the industrial world or to promote alternatives that are or will soon be available and viable.

Derek Brown - Psychology

Why Are You Motivated?

Mentor / Sponsor: Dr. Paula Waddill

Self-esteem among adolescents and young adults is a topic that has received a lot of attention. Past research has found significant relationships between extracurricular and religious involvement and self-esteem, but there has been limited research looking at the motivation behind that involvement. This study looked at the relationship between extracurricular and religious involvement, the motivation behind that involvement, and self-esteem. Forty-six (10 males, 36 females) Murray State University students were asked to complete questionnaires measuring intrinsic and extrinsic motivation for involvement in religious and extracurricular activities and the average amount of time spent in those activities per week as well as a measure of self-esteem. According to the results, there do not appear to be any relationships between the predictor variables and self-esteem. However, results indicate that there are significant relationships between involvement in religious activities and intrinsic religious motivation suggesting that those who are involved in religious activities tend to have more of an intrinsic motivation behind their involvement, $p < .001$. Also, extrinsic religious motivation is significantly related to extrinsic extracurricular motivation suggesting that people who are involved in one type of activity for extrinsic reasons tend to be involved in the other activity for extrinsic reasons as well, $p < .001$. These results may have practical applications to schools, businesses, and religious organizations.

Jonathan Brown and Kimberly Collier – Occupational Safety and Health

Ergonomic Hazards in the Engine Manufacturing Industry: An Assessment of an Assembly Operator's Job

Mentor / Sponsor: Dr. Tracey Wortham

In the engine manufacturing industry, employees are exposed to many ergonomic hazards. Employees experience upper extremity injuries and often complain of discomfort due to excessive force used to lift/lower parts and maneuver conventional equipment used for pushing/pulling. Many tasks require employees to manually transfer engines or other parts of different weights to various locations. Some jobs are performed for a duration of 8 hours without job rotation. This study is an analysis of the job of an Assembly Operator at Briggs and Stratton, an engine manufacturer in Murray, Kentucky. The risk factors were quantified using special tools such as the Rapid Upper Limb Assessment, Liberty Mutual Push/Pull and the Revised National Institute for Occupational Safety and Health (NIOSH) Lifting Equation. The quantified results of the risk factors were compared to accepted ergonomic guidelines.

Lauren Brown - French

Riots, Immigration, and the HLM: France at a Crossroads

Mentor / Sponsor: Dr. Theresa Saint Paul

In the fall of 2005, riots broke out in low-income housing projects across France. These riots lasted for almost a month and left in their wake millions of dollars in damage, some injuries, and a number of questions: namely, who was to blame? What caused these people to act out so violently against their government? What could the French government have done to contain or even to prevent these riots from happening in the first place? This presentation will seek to answer these questions and to give the audience a greater understanding of the elements of modern French culture that precipitated last fall's events.

Rachael Brown – Conservation Biology

Evaluation of Alternative Tagging Methods for Ambystomatid Salamanders

Mentor / Sponsor: Dr. Howard Whiteman

Toe-clipping, once a widely used technique for tagging amphibians has become less accepted in part because of animal welfare issues, and in part because of the development of technologically advanced marking techniques. Two experiments were performed to examine alternative tagging methods, PIT tags (passive integrated transponder) and VI-Alpha tags (visible implant alpha-numeric). There have been few studies on the effectiveness and safety of these tagging devices on amphibians. Experiment 1 involved four treatments administered to spotted salamanders (*Ambystoma maculatum*) from western Kentucky: PIT, VI-Alpha, sham and control. In experiment 2, three treatments were administered to tiger salamanders (*Ambystoma tigrinum nebulosum*) from south-central Colorado: PIT, sham and control. Animals were tagged and then monitored in the laboratory for 12-14 days. Monitored variables included change in mass and condition, incision condition, tag readability and tag retention. All tags were retained during these experiments. PIT tags were successfully read in 100% of the animals in both experiments (20/20 tags), while VI-Alpha tags from experiment 1 could only be read in 60% of the salamanders (6/10). There were no significant differences between treatments in both experiments in regard to change in mass or condition, and there were no cases of incision infection. Thus, neither tagging method had significant short-term effects on salamander health. The rate of failure with VI-Alpha tag readability suggests this tagging method is less effective than PIT tagging, and although the latter is often 3-4 times more expensive, our results suggest that it is the most effective tagging method available.

T. Travis Brown - Biology

The Effects of Stream Channelization and Dechannelization on Mammalian Richness and Activity in River Corridors

Mentor / Sponsor: Dr. Terry Derting

Streams are often deepened, widened, and/or straightened in order to facilitate runoff of water from the land. Some of these streams have recently been reclaimed or dechannelized. Previous studies have assessed the impact of stream channelization on some mammals, but few, if any, have considered the effects of channelization on bats or dechannelization on mammals. I hypothesized that mammal richness and activity would differ between three river types: channelized, unchannelized, and dechannelized. I sampled each river type four times (spring-winter 2005/06) using various measures of mammal activity and richness. Richness of terrestrial mammals, as determined by motion-sensitive cameras, did not differ significantly between rivers. Track plot surveys showed that the unchannelized and dechannelized rivers had significantly more richness of terrestrial species than the channelized river. Track transect surveys, conducted in snow, showed that species richness at the unchannelized site was significantly higher than the channelized site, but not significantly different from the dechannelized site. There was some indication that bat activity (summer 2005) is affected by an interaction between month and river type. Although this interaction was not significant at the $P < 0.05$ level, post hoc tests revealed month specific differences in bat activity between river types. These results suggest that channelization and dechannelization affect mammal richness and activity, and that taxonomic groups and groups using different parts of the river corridor can be affected to a different degree.

Kevin Broy, Matthew Hunt, and Heather Oliverio – American Humanics

The American Heart Association Heart Walk

Mentor / Sponsor: Dr. Roger Weis

The project was in collaboration with The American Heart Association for the American Heart Walk. Our focus was on the entertainment. We provided games for children to play, while parents walked. As a whole the American Heart Walk raised approximately 45-50 thousand dollars.

Paul Buchanan - Sociology

The Military Industrial Complex and the Perpetuation of War

Mentor / Sponsor: Dr. Lillian Daughaday

Building upon the theory of C. Wright Mills and the "power elite," this paper will examine the interrelationships between the government, the military, and corporate structures as it pertains to recent history and the current administration's involvement in the war in Iraq.

Melissa Burcham and Ashley Robbins – Occupational Safety and Health

Murray State University Seatbelt Survey

Mentor / Sponsor: Dr. David Fender

In October 2004 and 2005, at nine locations on the campus of Murray State University, observations were made regarding seatbelt use by vehicle occupants. In 2004, a total of 1477 observations were made, including 1348 drivers, and 129 front seat passengers. In 2005, a total of 2369 observations were made, including 2173 drivers and 196 passengers. Results of the 2004 survey indicated that 50.2% of the drivers and 43.4% of the front seat passengers were restrained; 2005 survey results indicated that 52.6% of drivers and 43.4% of passengers were restrained. Overall seatbelt use by faculty and students of Murray State University was significantly lower than Kentucky and national usage rates.

Jenny Canaday – International Affairs and English, and Emily Just – Biology and Spanish

Are You What You Eat?

Mentor / Sponsor: Dr. Howard Whiteman

The purpose of our research is to determine the effects of food on the human body. Our research will be specifically focused on the effects of specific vitamins, minerals, and food chemicals on body system functions, especially immune system reactions. Also, we will discuss the unnatural substances in processed food and the potential dangers of these substances. In addition, we will research common food parasites and their effects on the body as well as the recent conjecture that humans can catch obesity like a virus.

Alicia Cannon – Outdoor Recreation

Habitat for Humanity

Mentor / Sponsor: Dr. Kelly Rogers

Over the course of the fall 2005 semester, I was required to complete 15 hours of service learning for an introduction to recreation and leisure services class. I chose to complete my hours working with the local Habitat for Humanity chapter. I aided in the construction of a home here in Murray for a local family. In order to present my experience to others I constructed a poster. The poster tells about my own experience as well some background information about the organization and several other topics.

Bekah Carmichael – Outdoor Recreation

Universal Accessibility in a Camp Setting

Mentor / Sponsor: Dr. Mike Gowen

Outdoor Recreation is one of the fastest growing industries in America today. This project specifically looks at a residential camp facility specifically designed for use by people with disabilities. Come find out how to make everything accessible - from the aquatic center to the horse barn!

Tanya Carr, Joan Kemp, and Denice Manley – American Humanics

Clean Line for Need Line

Mentor / Sponsor: Dr. Roger Weis

Clean Line for NeedLine is a project by college students from Murray State University to collect cleaning supplies for NeedLine, a local nonprofit organization. Clean Line for NeedLine allowed college students to develop a program to help the community while also learning the steps and importance of program planning. The program involved tying bags with flyers on it telling about the program to people doors. The flyer indicated what day and time we would pick up the bags with donated items in it, along with a survey on the convenience of this program to donate. The needed items include bleach, peroxide, dish or laundry soap or any other item used to clean a house. The benefits of this program will go back out within Murray and Calloway County. The Bible states, “Therefore I command you. You shall open wide your hand to your brother, to the needy and to the poor, in the land” (Deuteronomy 15:11). Further, we think donating to this cause is very beneficial to those donating and also those receiving the products.

James Carter and Natalie Crude – American Humanics

Cleaning the Attic

Mentor / Sponsor: Dr. Roger Weis

The purpose of this project was to help the staff and volunteers clean and organize each section of Angel’s Attic. It was important to encourage and promote safety and well-being of the community.

Elizabeth Cawein – Journalism, and LeeAnna Green - Accounting

You Must Be This Gender to Ride the Learning Curve: An Examination of the Effects of Math and Science Programming on Female Involvement

Mentor / Sponsor: Dr. Howard Whiteman

During elementary school, students express the same interest in science and math. Yet a few years later, 64 percent of high school-aged males involved in sciences make the decision to major in science in college, while only 18.6 percent of females equally involved make the same decision. What is causing this sudden drop in female interest? Some have blamed the stereotype of the scientist, male dominance in the classroom, teacher-student interaction patterns, teacher attitude toward sciences and traditional female roles. The Options program, chartered in Shelby County Schools in Shelby County, Tennessee, in 2002, and dozens of others like it nationwide, attempt to answer these questions and level the scientific playing field between genders. But are they working? We will draw conclusions about the successes and failures of this program and examine the statistical information as it has been effected by the programs in these areas. Finally, we will draw conclusions on whether or not, based on the given statistical information, these programs are necessary to the advancement of women in society and in education.

Yavonne Colwell – Psychology

Blame Attributed to the Victim of a Crime: The Influence of Religious Fundamentalism and Sexual History of the Victim

Mentors / Sponsors: Drs. Stephanie Muller & Mark Malinauskas

An individual's perception of crime, and what aspects of an individual may influence that perception, has very obvious implications in legal matters, as the current judicial system relies heavily on the ability of a group of individuals to put aside any personal beliefs and decide on a matter of law objectively. Keeping in mind the importance of factors that may affect the perspective of an individual about a crime, this research attempted to analyze if a link existed between manipulating specific variables of a crime and the amount of blame placed on the victim or the perpetrator. The research was also concerned with whether the individual's level of religious fundamentalism was significantly correlated with amount of blame placed on the victim or the perpetrator. Using vignettes that manipulated only the known sexual history of the victim the research was able to analyze if the victim's sexual history was linked to blame assigned to the victim or the perpetrator. A hierarchical regression was performed with gender entered in step 1, vignette type in step 2, and scores on a religious fundamentalism measure and measures of hostile and benevolent sexism in step 3. Unexpectedly the research did not support the hypothesis that vignette type or score on a measure of religious fundamentalism was significantly correlated with amount of blame attributed to the victim or the perpetrator, but levels of benevolent and hostile sexism were correlated with specific items concerning blame.

Amy Cope and Tracy Crowson – American Humanities

Family Reading Night

Mentor / Sponsor: Dr. Roger Weis

“All Star Reader” is a family reading night that was sponsored by The Greyhound Center October 6, 2005. It was developed for Reidland Elementary School students and their parents. Each child was given a book to read with a parent and refreshments were provided. The program promoted literacy and parental involvement.

Ashley Cottingham - Organizational Communication

How do Gender Communication and Communication Apprehension Influence Employee Assimilation?

Mentor / Sponsor: Dr. Lou Tillson

The purpose of this study was to determine the influence of gender communication and communication apprehension on employee assimilation. The productivity of an organization rests upon how well new employees are assimilated into the organization. These three variables are directly related to the Muted Group Theory and the Uncertainty Reduction Theory. These two theories are helpful to examine when making the connection of the three variables. The effectiveness of gender communication and the amount of communication apprehension present affects an employee's assimilation.

Jessica Crockett - History

A Study of Women's Dress Reform in the 1800's

Mentors / Sponsors: Drs. Regina Sullivan and Duane Bolin

Throughout history, women have worn corsets as a sign of prestige and beauty. However, what has been overlooked are the health effects that tight lacing had upon women of the 19th century. "Drawing their laces" too tightly made females fragile and weak, and has been said to cause crushing of their internal organs. In the early 1800's, a women's reform movement known as the dress reform was started by activists to put an end to the wearing of restrictive undergarments. This study examines the history of the dress reform movement, with an emphasis in studying the health arguments made concerning dress reform.

Courtney Crook – Spanish

Flamenco: Revealing the Duende in Gypsy Culture

Mentors / Sponsors: Drs. Meg Brown and Paulo Boero

The central nationalist Spanish state over the centuries has both marginalized and misrepresented the essence (el duende) of flamenco. The repressive attempts of the Catholic kings during the Spanish Inquisition, the subsequent anti-gypsy legislation, and the extreme dictatorship established during the Franco years, were both historical moments of forced integration of Spain as a modern state. However, despite these attempts, flamenco has continued to survive as a visible and audible manifestation of Gypsy persecution.

Linda Cumby, Debbie Francis, and Bernetta Prather – American Humanics

Youth and Non-Profit Leadership 501

Mentor / Sponsor: Dr. Roger Weis

ICE (Instilling College Education) will help at-risk youth see the need and benefits for a college education. ICE is a one hour-long seminar with graduate students from Murray State University speaking to students at the Greenwood Alternative School in Clarksville, Tennessee on the subjects of college admissions procedures, financial aid availability, and lifestyle changes. This program will allow Murray State University graduate students the opportunity to apply the experiences they have gained through their college education to encourage at risk youth to pursue a college education. The format of ICE will consist of three separate sessions about admissions, financial aid, and life style changes. The sessions will begin with an expert on each area. The first and second sessions will be lecturers from Draughons Junior College admissions and financial aid departments. The third session will be an interactive discussion and comparisons of white collar jobs and blue collar jobs. This portion of the program will include a group discussion as well as question and answer time for the at risk youth. Due to our beliefs that higher education is the key to a successful future, we have chosen ICE as a way to give back to the community. We have chosen to target the population of youth that are at risk for not furthering their education due to a lack of knowledge, financial resource availability, and the labels that society has placed on them.

Abby Cunningham, Sara Berry, and Natalie Wilhelm - Nutrition
Do Parental Eating Behaviors Influence the Child's Eating Behaviors?
Mentors / Sponsors: Drs. Jeff Frame and Lori Crouch

Research suggests an important role of parents in influencing food selection of their children. In this study, researchers hope to better understand this influence and the impact upon childhood overeating and obesity. A convenient sample of fifth-grade students and their respective parents/guardians were selected for the project. All subjects were provided written surveys to determine respective preferences of snack foods, beverages, dining out, and dining establishments. Results showed that when parents selected more nutritious snacks their children selected nutritious snacks more often. Study outcomes further reinforce the influence of parents on their children's food behaviors.

Bradley Diggs – Economics
Growth and Development: An Economic Comparison Between Post-War Taiwan and Saudi Arabia
Mentor / Sponsor: Dr. David Eaton

This paper documents and examines the crucial political and social changes that occur during the development stages of Taiwan and Saudi Arabia. Set in roughly the same time frame, scrutiny of the differences in these two economies provides some insight as to the economic reasons of this distinction. Provided a rough comparison of statistical data, one may see that through economic diversity and growth-stimulating policy, Taiwan has been able to maintain extraordinary economic growth in comparison to that of Saudi Arabia. Much of this can be contributed to the free market economy, industrialization, and success of government policy. Taiwan has statistically vastly outperformed Saudi Arabia in terms of economic development, regardless of its extensive natural resource endowment.

Kelly Dunnagan - Spanish
Basta Ya! NAFTA Impementation and the Economic Difficulties Created in the State of Chiapas
Mentors / Sponsors: Drs. Michael Waag and Michael Basile

Since the implementation of the North American Free Trade Agreement in 1994 in Mexico, the people of the state of Chiapas have been directly impacted at the economic level. Globalization is a force gaining strength everyday and its effects are not always positive. Agriculture is the principal source of income for the indigenous peoples of Chiapas, and because of privatization much of the farmers' land has been revoked and put up for mainstream companies to build upon. All that remains is a small portion of land for subsistence farming. This study will focus on the hardships that have been created by NAFTA and the Mexican government for the native Indians over the past decade, and their response to the threat of their economic, social, and cultural well being.

Kimberly Dunlap and Anna Brown - Chemistry

Atrazine Levels in Water, Sediment and Amphibian Tissue Samples from Selected Ponds in Westernmost Kentucky

Mentor / Sponsor: Dr. Bommanna Loganathan

Atrazine (2-chloro-4-ethylamino-6-isopropylamino-1,3,5-triazine) is the main herbicide used in Kentucky (approximately 1 million pounds annually), primarily on corn crops. Widespread use of atrazine causes environmental contamination. Exposure of atrazine causes endocrine disruption leading to harmful effects in aquatic organisms including reproductive toxicity and immunotoxicity. However, very little is known on the levels of atrazine contamination in regional ponds and the amphibians inhabiting the ponds. The objective of this study is to determine the levels of atrazine compounds present in water, sediment, and amphibian tissue and explain the distribution, environmental transformation and fate of atrazine in ponds in Western Kentucky. Ten sampling sites were selected including: Terrapin Creek, Terrapin Ditch, CLBL, Golden Pond (LBL), Elk and Bison pond, LBL-142, Starcamp, LBL Powerline pond, LBL-Cedar Skunk and Grand Rivers pond were sampled for water, sediment, and amphibians (frogs and salamanders). Atrazine analyses were done using RaPID Assay Atrazine Test Kit. Results reveal that triazine concentrations in water samples ranged from below detection limit to 0.4 ppb. All of the sediment samples from the ponds showed the concentrations below the detection limit. Further analysis of atrazine in tissue samples are in progress.

Erin Dutschke - Spanish

Illegal Hispanic Immigrants- Hidden Causes to Inability to Uplift Living Circumstances

Mentor / Sponsor: Dr. Paulo Boero

Of the entire population of farm workers in the United States, 77 percent are from Mexico and of those, 52% have the status of illegal. As citizens of the United States, we eat food brought to use by the arduous labor of these farm workers on a daily basis. Many times these workers are underpaid, untrained, overworked, without access to resources or a means to citizenship or legalization, and yet they do the necessary jobs that, statistically, Americans are unwilling to do. By exploring the immigrants themselves, the organizations that claim to provide service to them, and the politicians within the United States government, we can discover the hidden reasons for their poor living circumstances. The ever-changing stance of U.S. politicians, the language barrier and fear of deportation of the immigrants, the lack of large scale grass-roots movements within organizations and unions are a few of the many hidden causes to the inability for immigrants to improve their living circumstances here in the U.S.

Amber DuVentre, NaQuita Olive, and Tyron Parks – American Humanics

Great American Smokeout

Mentor / Sponsor: Dr. Roger Weis

The Great American Smokeout was a program that was intended to educate smokers and non-smokers about the effects of tobacco use. The program took place in the Curris Center Lounge and provided Murray State faculty, staff, and students with necessary information on how to kick the habit of smoking, the health dangers of smoking, chemicals found in tobacco, etc.

Julia Earl – Water Science

Measurement Error in Image Analysis of Fluctuating Asymmetry

Mentor / Sponsor: Dr. Howard Whiteman

Fluctuating asymmetry (FA) examines the frequencies within a population of minor deviations from perfect bilateral symmetry and may be a useful conservation tool for evaluating population stress. For FA analyses to be effective, it is necessary that measurement error (ME) be minimized, and image analysis is useful in this regard. One strategy is to take one photograph and measure each image three times to account for ME. However, this method assumes that all ME results from the image analysis, when overall ME actually consists of two components: image analysis ME and positioning error (PE). To determine the importance of PE, a sample of tadpoles (*Pseudacris crucifer*) and newly metamorphosed toads (*Bufo fowleri*) were used to determine ME due to positioning. ME was calculated for one picture measured three times (image analysis ME) and for three pictures measured once each (overall ME). In some traits, such as eye width in toads, there was extremely low ME in both analyses. In contrast, traits such as eye to nare in tadpoles showed little image analysis ME but highly elevated overall ME. In this case, if only one picture was used, the sample would be considered suitable for FA analysis, when the overall ME was actually too high due to PE. Thus, we recommend that three pictures be taken in all FA analyses utilizing photographs, lessening the chance that ME is artificially reduced. Taking multiple photographs per individual has time costs, but it may be suitable to test a sub-sample of individuals for PE.

Mohammed Ebrahim – Computer Information Systems
An Executive Information System for a Manufacturing Company
Mentors / Sponsors: Drs. Victor Raj and George Rice

The Pultrusion Production department in Pella Windows and Doors currently runs about ten machines to convert raw materials into fiberglass. The Machines provide built-in monitor to control their operation and to provide informative regarding each machines work-status. Data is currently collected manually from the machine site and entered into computer systems for further analysis and reports. This current method imposes many problems. Examples include: (1) Executives have to be at the production floor in order to view current productivity data; (2) the machines show only recent data, and (3) No analysis/trending tools are available that help summarize productivity information. The creation of an Executive Information System that provided dynamic, readable, and printable charts and reports would address the above concerns. Our solution project team will utilize the network to create an easy-to-use web-based system that is accessible anytime from the managerial offices to monitor the performance of the 10 machines currently used to process fiberglass at Pella. With this solution, managers will be aware of the production status of all the machines without leaving their offices. In addition, they will be able to analyze historical trends in production that will help them make better decision for the future.

Christina Everett, Amanda Crutcher, and Melissa Welker – American Humanics
B.I.G.S. (Believing in Girl Scouts)
Mentors / Sponsors: Dr. Roger Weis and Sharion Campbell

We developed and held a 2 hour badge workshop for sixteen first grade Daisy Girl Scouts in Dover, Tennessee. Assistance was also received from a former service unit leader and the troop's own scout leader. The badges the girls earned, called "try-its" were carefully chosen to align with the major goals of Girl Scouting. The activities included learning about the history of Girl Scouts and scouting lore, making crafts, and learning about colors and painting. The overarching concepts incorporated include citizenship, leadership, morals and character, patriotism, appreciation for art and history, and responsibility.

Adam Farmer, Aaron Grant, and Jennifer Smith – American Humanics
Senior Sing
Mentor / Sponsor: Dr. Roger Weis

Senior Sing was an hour long project for students from Murray State University to visit residents at Fern Terrace retirement home. This project allowed students to help those living at Fern Terrace by simply visiting and singing to the residents.

Liliana Ferrer – Music Education

The Caja Vallista Drum and its Repertory from Northwestern Argentina

Mentor / Sponsor: Dr. Pamela Wurgler

In this work, I present the study of the caja vallista drum and its repertory from northwest Argentina, and propose its inclusion in the musical education curriculum. This drum and its repertory are an example of the coming together of different cultures. The caja vallista is a two-headed frame drum used in the Calchaqu valleys and Humahuaca region of northwest Argentina. It is played in various events, both sacred and profane, of indigenous and European origin. Its repertory includes the copla, a form of poetry, frequently picaresque, derived from Spanish Golden Century (16th and 17th centuries A.D.) poems. The copla often incorporates words in indigenous languages (e.g., quechua). Scholars like Layne Redmond and Veronica Doubleday gave archaeological evidence and studies showing that frame drums were played by women: The caja vallista is played by women, too. I present the caja vallista, exemplifying its more typical rhythms, and sing examples of various types of traditional songs, such as baguala, carnavalito and tonada. I emphasize how the voice and percussion are linked in a single expressive synthesis, a musical, affective, geographical, and poetic microcosm. The songs are interspersed with pertinent discussion of the what, where, when and why of caja-based music. I also present selected translated lyrics. The songs and their concomitant caja-playing, have an important social role in their region of origin. Studying and sharing the caja vallista may provide insights on the roles of music in communities and the elements that make music meaningful.

Tamara Fletcher – American Humanics

Luau Fall Party

Mentor / Sponsor: Dr. Roger Weis

This organization is a non profit agency that serves mentally disabled adults. Three times per year the agency has parties for the clients. This party was the fall party and the theme was Luau. The special guest was an Elvis Impersonator. The party was a huge success. Generally, these parties need to be planned some four weeks in advance and there are many duties that need to be done to ensure a successful event. There are community supporters who are invited to attend, as well as family members of the individuals. With team work and advance planning, the agency hopes to continue to provide this type of service to the individuals. The main objective for such a party within this organization is developing social skills for the client and providing recreational entertainment for the clients.

Lindsey Flowers – Human Services

The Effect of Nutrition Intervention on Performance Measures of University Rowing Team Members

Mentor / Sponsor: Jeff Frame

Studies on nutritional intake of athletes have demonstrated suboptimal intakes in the areas of total energy intake, carbohydrate intake and calcium and zinc intake. Suboptimal eating, misconceptions about nutrition, improper use of supplements and use of fad diets have contributed to the challenge of nutrition education of athlete populations. Few recent studies have been performed on university athletics demonstrating the role of nutrition intervention in maximizing athletic performance, and no known studies focus upon team members of competitive rowing programs. It is the objective of this study to answer one question: Will nutrition/hydration education intervention of competitive university rowers be reflected in changed eating lifestyles, physical attributes and rowing performance measures? Selection of the nutrition/hydration intervention delivery medium is important in maximizing nutrition lifestyle behaviors. Use of peer nutrition education programs has demonstrated effectiveness in improving knowledge of university athletes.

Krista Floyd, Jill Pierce, and Alexis Phillips – American Humanics

Too Blessed to be Stressed

Mentors / Sponsors: Drs. Roger Weis and Paula Waddill

Too Blessed to be Stressed was an interactive project and poster presentation set up on the 2nd floor of the Curris Center by students from Murray State. The objective was to promote awareness and to educate fellow students on stress, and stress management. As students ourselves, we understand the stress of college life, and what it can do to young adults such as ourselves. We understand that stress can cause both physical and emotional damage to a person, and hoped that our project could give helpful hints on how to control stress levels and give healthier ways to cope. We handed out informational pamphlets and stress balls to those who stopped by. We want college students to cope with stress in healthier ways instead of turning to alcohol, drugs, or other harmful substances.

Brooke Fugate, Hope Browning, and Jake Wall – American Humanics

Halloween Fest

Mentor / Sponsor: Dr. Roger Weis

The purpose of this project was to plan a Halloween festival for children at the First Presbyterian Church in Murray, Kentucky. This project brought children a safe and fun atmosphere in which to celebrate Halloween. Students were put into groups and able to communicate with other children.

Brittany Gedling – Graphic Communications Management and Katie Conkle - English

Technology in Printing

Mentor / Sponsor: Dr. Howard Whiteman

Printing is one of the three leading industries in our nation. Dozens of things that we use in our everyday lives are printed, from the table tops in our dining halls, to the juice bottle in your hand are printed products. The focus of our project is not how printing affects us, but how science and technology have influenced and will continue to influence the printing industry. To this end, we will show how the printing industry and the products that are created through it utilize an extensive amount and variety of science and technology. This is prevalent in packaging and magazine production, along with many other examples of printing which we will touch upon in our presentation.

Melissa Gibbs – Accounting

Deregistration: Are there Early Warning Signs?

Mentors / Sponsors: Drs. Rob Seay and Margie Boldt

This study evaluates potential financial trends between companies that have elected to deregister from the U.S. stock exchange in 2005. Deregistration is an opportunity for public companies with less than 300 shareholders of record to avoid financial reporting. To deregister, companies do not require the consent of shareholders; yet the impact on stock price when a company deregisters can be devastating. In the past, stock prices have dropped as much as 30% in the same week that deregistration was announced. No published studies have been designed to statistically evaluate the motivations behind deregistration. Since this trend has alarmingly increased over the last decade, shareholders would value any predictive measure that would protect their investments from surprise devaluations. Using statistical analysis, key financial measures of deregistered companies have been examined for potential similarities. The initial hypothesis predicted that companies with poor financial performance would be more likely to avoid the administrative costs associated with financial reporting. Accordingly, the findings of this study indicated that financial performance is not a predictive measure of a company's decision to deregister. Therefore, additional research is necessary to evaluate patterns that may exist between the 754 companies that opted to deregister in 2005. This study provides building blocks that may enable future researchers to uncover the driving force behind deregistration.

Elyse Gibson – Geoarchaeology

An Archaeological Survey of Mount Pleasant Free Will Baptist Church in Land Between the Lakes

Mentor / Sponsor: Dr. Kit Wesler

This paper addresses the history of Land Between the Lakes (LBL) region, with a particular focus on African American Baptists living in the area and on the Mount Pleasant Free Will Baptist Church. Mount Pleasant was located on the outskirts of a sizable African American community within LBL and stood from 1938 to 1967. The goals of this paper are to answer the following questions about the church 1) can we identify the church archaeologically, 2) can we identify the denomination of the church using only archaeological data and 3) how does the site fit into the community both socially and spatially.

Megan Gibson - Psychology

The Effects of Juror Bias in Rape Cases

Mentor / Sponsor: Dr. Laura Liljequist

With this project, I plan to study potential juror biases in sexual assault cases. Previous research has been done in the areas of juror bias and rape empathy but not many, if any, have been done comparing the two. I will be looking for a correlation between prosecution/defense bias and rape empathy using the Juror Bias Scale (Kassin 1983), the Just World Scale (Rubin 1975), the Rape Empathy Scale (Deitz 1982), and the Rape Myths Acceptance Scale (Burt 1980). I think it will be interesting to see if there is any correlation between these four scales and the finding of the jurors in a hypothetical case. I hope that we will be able to better predict how jurors will find at the end of a trial.

Elizabeth Glantz, Larry Miller, & Jolene Young - Nutrition

Does Patient Satisfaction Increase with Freedom-To-Choose Meal Times in Hospitalized Post-Partum Women?

Mentors / Sponsors: Dr. Jeff Frame and Lori Crouch

America's hospital administrators are finding that providing more personalized services to patients increases patient satisfaction and decreases the cost of hospitalization. An emerging concept called Room Service consists of a telephone meal-ordering system in which patients conveniently order meals by telephone when meals are desired. This study focused on measuring patient satisfaction levels with meals by comparing a room service concept with the traditional meal service program. A convenience sample of 32 hospital patients were selected for the project, 16 patients receiving the traditional meal service program and 16 patients receiving the room service program in which meals were ordered when patients desired. Results showed higher satisfaction on 14 of 17 parameters measured in areas such as food temperature, flavor and friendliness of the staff. Results suggest that this new approach to meal ordering may be warranted for use in the delivery of hospital food and nutrition services.

Jenny Green, Julie Goins, Candace Hickey, & Jessica Tabor – Nursing

Nurse Anesthesia Students' Effect on Anesthesia Controlled Operating Room Turnover Time

Mentors / Sponsors: Dr. Michael Perlow and LaDonna Cates

The purpose of this pre-experimental study was to determine the effect nurse anesthesia students have on anesthesia controlled operating room turnover time. A non probability, convenience sample which consisted of CRNAs and nurse anesthesia students was utilized. Students were divided into three levels which corresponded to their level of education in their anesthesia program. Data were collected on 107 turnover time periods with 27 participants. A one-way ANOVA revealed a significant difference of turnover times between CRNAs and students. Post hoc analysis revealed no statistical difference between turnover times for Level I and Level III students. No statistical difference was discovered between Level II students and CRNAs. The null hypothesis was rejected. Results indicated that Level I and Level III nurse anesthesia students increase anesthesia controlled turnover time, which could lead to increased cost to the hospital and patient, decreased surgeon satisfaction, and increased work hours of operating room staff.

Kristen Gunderson

Following Fiscal Footsteps: European and American Tax Reform

Mentors / Sponsors: Drs. Gail Herndon and Mark Malinauskas

The complexity of the current U.S. tax code is in the forefront of today's news. A call for tax reform resonates throughout Washington. In fact, with the current U.S. tax system facing rising compliance costs and increased complexity, reform is a must. This study analyzes the problems with the current U.S. tax system. High costs and low compliance are some of the grave trends in America's current taxation system. In search of tax reform, this study turns its focus to Europe. The trends of flat income taxes and value added taxes are present in much of Europe. This study analyzes how tax trends in Europe could work for America. From the research, it can be concluded that both a flat income tax and a value added tax could be solutions to the U.S.'s question of tax reform.

Brandon Hale – Biology and Mathematics and Jacqueline Doyle – Biology

A Method to Predict and Compare Clutch Sizes in the Two Adult Forms of the Tiger Salamander

Mentors / Sponsors: Dr. Howard Whiteman and Nicole Gerlanc

The tiger salamander (*Ambystoma tigrinum nebulosum*) is known to be facultatively polymorphic, meaning it may enter adulthood in one of two forms. It may grow into the fully aquatic paedomorph or the terrestrial metamorph. Clutch sizes for the two morphs were estimated based on a model that uses pre-laying and post-laying weights of the females taken during a field experiment. This work uses statistical methods to compare the two morphs in terms of their annual clutch sizes from years of field data.

Crystal Hanen - Psychology*Memory for Word Lists***Mentors / Sponsors: Drs. Paula Waddill and Mark Malinauskas**

This study investigated the effect of the presentation format of various words lists on recall rate. In addition, the participants' individual learning style was taken into account. Previous studies suggest that people tend to remember pictures better than either spoken or written words. Furthermore, it is believed that auditory learners will remember spoken words better than those that are written, whereas visual learners will have better recall rates for the written words. In this study, participants were presented with three words lists, each being presented as either pictures, written words, or spoken words. Results of this specific study and their possible applications will be presented.

Rebecca Hardin - Psychology*The Effects of Encoding and Retrieval Methods on Facial Memory***Mentor / Sponsor: Dr. Paula Waddill**

Many different factors can positively and negatively affect how accurate our memories are. This study was designed to determine if any interactions exist between various encoding and retrieval techniques and facial recognition. Full vs. divided attention, shallow vs. deep processing, and simultaneous vs. sequential lineup paradigms were used for the study. This study consisted of 145 Murray State University students divided into eight groups formed by the combination of the independent variables. Each group was asked to view 10 target pictures (5 male and 5 female), complete a distractor task, and then try to recognize the 10 target pictures among 50 distractor pictures presented in either a simultaneous or sequential lineup. Results indicated that the full attention and sequential lineup groups were able to discriminate between targets and distractors significantly better than the divided attention and simultaneous lineup groups. There were also interactions between processing and attention and between attention and lineup format. These results have many implications for the criminal justice system regarding eyewitness testimony and the factors that can affect eyewitness accuracy.

Tammy Hardy and Janet Gunther – American Humanics*My Body & Me***Mentor / Sponsors: Dr. Roger Weis**

The “My Body & Me” Program will teach importance of healthy eating choices, hygiene and exercising. We will target children between the ages of 5 to 12 years to help them understand that their health is greatly impacted by the choices they make. Our goal will be to educate them about forming healthy habits and making the right nutritional choices and learn the responsibility of taking care of their body for a healthier life and learn to incorporate daily exercising into their schedule while having fun.

Lindsey Harlan, Elizabeth Hostilo, and David McCall – American Humanics

Pet University

Mentors / Sponsors: Dr. Roger Weis and Kathy Hodge

As students in the American Humanics/Youth Non-Profit Leadership department at MSU, we planned and implemented an educational program for sixth graders at Calloway County Middle School. We joined forces with the Calloway County Humane Society to educate children about animal dangers, and pet care and responsibility.

Shawna Harris - Biology

Immunity in Dragonfly Naiads (Odonata: Anisoptera): Indicators of Water Quality

Mentors / Sponsors: Drs. Howard Whiteman and Claire Fuller

It is important that scientists have an early-warning system capable of identifying environmentally stressed organisms before the stressors cause irreparable population or regional harm. Terrestrial insects with aquatic stages are good biological indicators of both short and long-term environmental change because their life cycles expose them to multiple stressors in both aquatic and terrestrial environments. Currently, however, there are no studies examining immunity as an indicator of environmental health in insects. We collected larvae of the dragonfly *Plathemis lydia* from ponds in western Kentucky. Hemolymph was collected from the larvae and assayed for prophenoloxidase (PPO), phenoloxidase (PO), and protein content of hemolymph. Individuals were measured for prementum width, width of segments 8 & 9, and tibia length. Water and sediment was analyzed from each pond for metals, organophosphates, pcb s, temperature, and pH. Increased levels of prophenoloxidase, phenoloxidase, protein content of hemolymph, and increased body size have been linked to an increased ability to resist infection in insects. My hypothesis is that as water quality decreases and stress increases, immune parameters will decrease.

Lauren Harms – French and English

Assimilation in France

Mentor / Sponsor: Dr. Janice Morgan

France has had a long, successful history of assimilation, or what was thought to be a successful method of assimilation until recently. The events of the past year, particularly the riots of October, brought to the forefront many underlying issues that had been simmering beneath the surface of French society for some time. France's model of assimilation has been called into question for its effects on immigrants, from unemployment to blatant racism from political parties. This presentation will explore the history of France's policy of assimilation, its successes and failures, racism in France, the riots of the past year, and the direction that France will or should take to solve the problems that the riots of the past year brought into light.

Daniel Heath - Economics

Social Security Privatization: Analysis of Experiences Abroad

Mentor / Sponsor: Dr. David Eaton

The United States Social Security System is in need of reform. If no changes are made, the system will be insolvent in just a few years. There have been several ideas for possible reforms including: increasing taxes, decreasing benefits, raising the retirement age, and privatization of the system. My paper examines privatization of the Social Security System. Several nations around the world have implemented partially privatized systems of Social Security. These experiences abroad can be useful in choosing the brand of privatization that may best fit the United States. My paper explores the costs involved in executing these privatization programs, which bears the transitional costs, what type of benefits these programs have produced, where these programs have failed, and whether or not they can be considered successful. Finally, I analyze how the best ideas abroad compare to the best ideas on the table here at home.

Adam Heck – Economics

The Legacy of Alan Greenspan: An Analysis

Mentor / Sponsor: Dr. David Eaton

Throughout the past two decades, the political and economic climate of the world has changed dramatically. Mr. Alan Greenspan, the former chairman of the U.S. Federal Reserve, has led our nation's economy through many crises in the U.S. and the world. He left a legacy we should all learn from in order to maintain a stable economic environment. In this paper, I will attempt to explore the legacy Mr. Greenspan has left us, as well as develop a model future central bank leaders could apply toward maintaining a stable economy in an unstable world.

Adam Hedges – Telecommunications Systems Management

Designing a Dynamic Internet Experience

Mentor / Sponsor: Dr. Meenu Singh

This presentation will uncover the techniques used by today's web developers to create dynamic web content. The 'click-and-wait' days of the Internet are dwindling in the light of techniques such as Ajax, or Asynchronous JavaScript and XML, as the content of more and more web sites become completely dynamic. Many web sites, most notably Gmail (Google's free internet-based email service), have been implementing Ajax techniques to bridge the gap between desktop applications, and internet-based applications. The Internet world is slowly converging with the 'off-the-shelf' world, and techniques like Ajax are leading the way.

Tiffany Hedrick – Biology and English and Christopher Hopper - English

Medical Applications of Carbon Nanotube Technology

Mentor / Sponsor: Dr. Howard Whiteman

Our project examines the current and possible future medical uses of Carbon nanotube technology. A Carbon nanotube is a hollow, cylindrical member of the fullerene structural family with a diameter of a few nanometers. Carbon nanotubes are noted for their unusually great strength as well as their unique structural, electrical, and thermal properties. The recognition of carbon nanotube structure developed from the C60 "buckyball" research of Robert F. Curl, Harold W. Kroto, and Richard E. Smalley. Although nanotubes have been used to improve everything from brushes for commercial electric motors to composite fibers in polymers and concrete, we chose to focus primarily on medical applications in our research. Because they are hollow, nanotubes can be filled with biological molecules and used to transport the molecules into cells. Current medical applications of carbon nanotubes are limited, but new research is exploring the use of nanotubes as detectors of harmful contaminants, bone grafts, and glucose monitors. As production techniques like arc discharge, laser ablation, and chemical vapor deposition make nanotubes more affordable, the medical world will undoubtedly put these and other applications into more widespread use.

Tiffany Hedrick – Biology and English, Patrick Howell – Biology, and Courtney Thomason – Wildlife Biology

Fluctuating Asymmetry as a Measure of Stress from Habitat Disturbance

Mentor / Sponsor: Dr. Terry Derting

Because human activities impact wildlife populations, it is increasingly important to understand the relationships among habitat disturbance and stress. Prior research indicated that white-footed mice (*Peromyscus leucopus*) in undisturbed patches of habitat experienced greater moderate-term stress, associated with reduced food quality, than mice from disturbed patches. Our objective was to determine whether long-term stress was also associated with disturbance. One tool useful for examining effects of prolonged stress on free-living animals is fluctuating asymmetry (FA). We tested the hypothesis that FA differs between mice from disturbed and undisturbed habitats. Adult male mice were trapped from disturbed and undisturbed habitats during the summer and winter of 2003. Disturbed patches were located in either residential or agricultural areas. Undisturbed patches were located in the Land Between the Lakes National Recreation Area. We measured eight bilateral characters of the dental, cranial, and post-cranial skeleton using digital photographs. During the winter, FA levels were greater in undisturbed patches compared with disturbed patches. However, the reverse occurred during summer. Based on prior research, mice in undisturbed patches experience greater nutritional stress during winter. As hypothesized, they also exhibited greater FA in winter. During summer, FA may be greater in mice in disturbed patches because of the effects of increased density due to better food resources and increased competition for mates. FA varies by amount of stress associated with season and patch type, mainly nutritional stress in winter and competition stress in summer, and increases are seen in patches experiencing the most stress during that season.

Erin Heltsley - Psychology

The Relationship of Parenting Style to Moral Reasoning

Mentor / Sponsor: Dr. Paula Waddill

The study consisted of 51 participants, all of whom were students at Murray State University. The purpose of the study was to examine the relationship between perceived parenting styles and moral judgment. Participants filled out questionnaire packets containing two instruments that measure both parenting styles and levels of moral reasoning. Results indicated that the more authoritarian characteristics the father had the lower the level of moral reasoning in their children. These results may have important implications for psychologists.

Marlesha Higginson – Organizational Communications

How Does the Perception of African American Women Leaders Affect Supervisor-subordinate Communication and Trust?

Mentor / Sponsor: Dr. Lou Tillson

This research explores the difficulties facing organizations, as well as the African American women who are entering them. Each element will be discussed independently, and then analyzed collectively using communication theories.

Sarah Hobson – Communication Disorders

Qualitative Review of Direct Communication Interventions for Dementia

Mentor / Sponsor: Dr. Jo-Ann Hammons

Individuals with dementia represent the fastest growing clinical population served by speech-language pathologists (SLPs). Therefore, SLPs are challenged to provide effective interventions that will assist persons with dementia to function at an optimal level. This presentation addresses the current state of knowledge in the field of speech-language pathology concerning direct interventions used with persons with dementia. Clinical procedures theoretically classified as cognitive-behavioral, cognitive-linguistic, and cognitive-sensory are described. Clinical methodologies cited in current literature are subjected to a qualitative review and the efficacy and effectiveness of each intervention is discussed. The presentation will conclude with implications for speech language pathologists working with the dementia population and suggestions for further research.

Gary Holder, Earlie Fugate, and Michael Maybin – American Humanics

Shriners Hospital Volunteer Program

Mentor / Sponsor: Dr. Roger Weis

This is a program that we worked on to help revise the training program with the Shriners Hospital for training volunteers. We are also trying to encourage people to become a volunteer and that anyone can become a volunteer. The rewards of helping a young child and seeing their smile is a tremendous feeling.

Courtney Howard – Geosciences*Cost-Path Analysis Applied to Trail Construction***Mentor / Sponsor: Dr. Robin Zhang**

This project was to study the effectiveness of using the cost-path analysis in a geographic information system (GIS) to determine the locations of recreational trails and access roads. The study site was Thunder Mountain, located approximately one hour west of Colorado Springs, Colorado. This site fit the criteria of being more than 9,000 feet above sea level, within 30 miles of a town, and within two miles of a lake. Since the site was situated in a valley, the geography provided the desired recreational features. A Digital Elevation Model of Eleven Mile Canyon was obtained for the project. To find the potential locations for the trails and roads, slope was considered as the resistance factor. The hypothetical least-cost path that would pass through gentle slopes and be short in distance was automatically constructed using the cost-path model. The analysis showed that some path of least resistance was not necessarily the best path considered by a site planner. One result created a trail that detoured into the lake for ¼ mile. This was remedied by removing the lake from the calculation of cost-path. Once the lake was “masked”, the trail followed the least-cost path without diverting to the lake. While the path of least resistance generated by the model was not the most realistic, it was the most logical. Each trail created using the model was a viable option. The cost-path analysis technique is very useful as a decision support tool when determining where to construct a trail.

Jon Iglesias – Geosciences*Why are There Cancer Clusters?***Mentor / Sponsor: Dr. Robin Zhang**

Cancer is a widespread disease that claims many lives every year. There is no known cure for any type of cancer. Each type of cancer may have many different causes. This leaves a great deal of opportunity for studies on possible causes of cancer. The objective of this project is to research spatial distribution of many types of cancer and their possible causes using GIS (Geographic Information Systems) techniques. Spatial correlation between the possible causes of cancer and the mortality rates is studied using geostatistical method. Specifically, two causes of cancer are focused in this research. Watershed is used as the geographic unit to determine if a cancer is related to the water supply. The correlation between high average UV index and high average melanoma mortality is also tested. The data collected for cancer mortality is on a county wide basis. The project is limited to this extent. This can create problems because the natural phenomenon that is studied does not follow these political boundaries. An example would be one county sharing two watersheds. This would make it more difficult to link one water supply to one county's high incidence of cancer. However, this project helps to understand the spatial relationship between the distribution of cancer mortality and the distribution of some causes of cancer.

Nathan Jaco – Public Administration

Decision Support Systems in Government: Electronic Emergency Management System

Mentors / Sponsors: Drs. Brian Clardy, Ann Beck, James Gantt, & Victor Raj

Decision Support Systems (DSS) have been researched since the 1960's. Commonly referred to as dashboards, they are operating systems designed to render variable-based, real-time feedback on a computer screen to an executive. Though I have researched this extensively, I have not found instances of DSS's being used by government executives to manage their respective political units. My hypothesis is that if such a system were to be implemented by a government executive for use in a political capacity, they would find it to be a valuable tool in improving the efficiency of their decision-making process to a percentage equivalent to the percentage of time they spend gathering and processing information for the several systems that they manage. I am contracting the development of a rudimentary working model based on my designs for an Electronic Emergency Management System to address the problem with inefficiency in the Fire Services offered by Paducah, KY. The EEMS would give real-time feedback on a variety of data points that encompass two primary categories: Prevention and Suppression, and are under the umbrella of Fire Services. The prevention objective data points comprise information on sprinklers, alarms, and enforcement, which itself is composed of developing building codes and conducting fire marshall inspections. The suppression objective data points comprise information on manning, training, and the purchase and maintenance of equipment. This system would present an allocation table of available budgetary funds that could be allocated to the objective data points based on the efficiency information presented. The dashboard would consist of a graphical user interface with an user-friendly design to be utilized by the city's manager. My conclusions would be based on the feedback that I receive from the city manager and the efficiency data recorded using Malcolm Baldrige Criteria for performance excellence based benchmarks.

Lindsey Jacob – Music Education

Music for Film: Creating a Soundtrack to Enhance Video Imagery

Mentor / Sponsor: Dr. John Steffa

Though often unnoticed by the viewer, sound enhances the overall experience of a film by building continuity, creating reality, or providing emotional material. When composing a soundtrack for film, particular technical and creative aspects must be considered, such as synchronizing music to video images, editing prerecorded sound sources, interfacing video and audio playback, creating various textures through the use of non-traditional sound sources, and creating musical sequences that reflect moods established by the video. Computer software utilized to create a soundtrack includes Professional Digital Performer, to sequence MIDI data, and Sound Edit, to edit recorded sound bites. The film involved in this present work, entitled *The Letter*, is about one female character's struggle with depression and thoughts of suicide.

Rachael Jaenichen – Advertising and Organizational Communication

Food for Thought: What Lies Ahead for Those With Eating Disorders

Mentor / Sponsor: Dr. Howard Whiteman

The primary objective of this project is to define and examine the characteristics or symptoms of those suffering from Anorexia Nervosa and Bulimia. A secondary objective of this project is to consider the prospects for treatment research, focusing on the challenges that lie ahead for the design, implementation, and interpretation of controlled clinical trials, as well as presenting opportunities for effectiveness studies. The increasing evidence of the role played by biologic susceptibility factors and the potential future contribution to treatment research of advances in pharmacogenetics and molecular neuroscience will also be examined.

Jeremiah Jagers – Political Science

Voting on Valence Issues: An Empirical Study of Universal Healthcare in the 2000 Democratic Primaries

Mentor / Sponsor: Dr. Mark Wattier

In primary elections voters are often faced with having to choose between candidates with similar ideologies and stances on position issues. However, valence issues present the voter with an opportunity to differentiate between similar candidates. While both candidates in a primary take the same stance they will differ on concerns about the issues such as motivation, leadership, or the ability to accomplish. This rule was tested using data from the 2000 National Annenberg Election Survey. The rule assumes that valence issues indirectly guides voter choice and evidence suggests that valence issues indirectly influenced voter selection.

Erin Jones - Art

Intoxicating Color

Mentor / Sponsor: Dr. Howard Whiteman

Who would think that beautiful colors could have poisonous secrets? Historically, artists have been notorious in using hazardous compounds for their unparalleled color properties. In retrospect, it is suspected that their common illnesses came from these materials. The purpose of this research is to determine the evolution of modern artist's pigments and the effects of technological innovation and government standards on the materials involved. Focusing on the discipline of painting, this presentation examines developments in pigments, solvents, and binders. Conclusions are drawn about the comparative quality and safety of these materials, and suggestions are made about the continuing responsibility of the artist as a chemist.

Jessica Jones – Dietetics

Consumer Acceptability of Salad Dressings Made with Fish Oil

Mentor / Sponsor: Kathy Timmons

Scientists have been investigating the potential benefits of fish oils, which are high in the omega-3 fatty acids eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA), to the human body since the 1970 s. Most of these benefits are related to cardiovascular and nervous system health and function. The body endogenously synthesizes EPA and DHA from the essential omega-3 fatty acid, alpha-linolenic acid (ALA), found in high amounts in flaxseed oil which is less offensive to taste than the fish oils. However a current study performed at the University of Otago, Dunedin, New Zealand, is finding that the body's process for synthesizing EPA and DHA from ALA is not nearly as efficient as taking preformed EPA and DHA . The purpose of this study is to begin to evaluate the feasibility of fortifying commonly eaten foods with fish oil as a means of supplementing the diet with preformed EPA and DHA. Three different versions (varying in amount of fish oil) of two different salad dressings will be evaluated. Each participant will be given a questionnaire asking them to rate the dressing sampled for flavor. The data obtained will be evaluated using analysis of variance to determine significant differences within each group and a Tukey's test will be performed to determine any significant differences between the groups. It is hoped to show that fish oil is a viable fortificant to increase Omega-3 fatty acid intake of the typical American.

Rachel Jones - History

New Deal vs. Great Society

Mentor / Sponsor: Dr. Stephanie Carpenter

Perhaps more than any other time period in American history, the twentieth century witnessed some of the greatest cultural, racial, and economic turmoil in the United States. The 1930s and 1960s were prime examples of these large-scale shifts in both the American government and the lives of citizens. During these respective decades, two Democratic presidents, Franklin Delano Roosevelt and Lyndon Baines Johnson, put forth their own policies to address the needs of a changing nation. Given that the New Deal and the Great Society programs constituted some of the most extensive change in the United States, it seems fitting that they should be evaluated in terms of each other. In order to grasp a greater understanding of the contribution of each president to the United States, I propose to analyze a representative number of programs from each administration and determine whose legislation was more satisfactory. Some of the factors included will be how many people each program reached, what kinds of people it reached, and to what extent the program continued to affect the United States. Based on these factors, among others pertinent to each specific type of program, I will ascertain which president, Roosevelt or Johnson, had the better respective agricultural, racial, economic, etc. policy.

Emily Just – Spanish and Biology

A Democratic Comparison: the United States of America and Spain

Mentor / Sponsor: Dr. Leon Bodevin

The nature of a democratic government has become increasingly important as more and more nations are adopting democratic constitutions. As new democracies are formed, it is essential for them to study the structure and policies of more established governments in order to determine what would be the best form of democracy for their own country. In addition to the influence of older democracies, the way in which a democratic government is adopted has a great effect on the structure of the government. This is evident in the cases of the United States of America and Spain, where the influence of the events directly preceding the adoption of a democratic government can be seen not only in the constitutions of these countries, but also in their election processes. While these two countries have differences, it is also clear that Spain was able to learn from the United States when developing their own policies. This ability to learn from more established democracies has enabled Spain to be a more effective government, made apparent by data regarding voter turnout and satisfaction with the government.

Emmy Kacer – Spanish and Erin Bogle – Middle School Education

Recycling: Using Technology and Education to Preserve the Environment

Mentor / Sponsor: Dr. Howard Whiteman

As citizens of an ever-growing economy, we must be concerned about the effects of our actions on the environment and seek ways to preserve it. One of the most important and practical ways to preserve our environment is through recycling. As the population and the amount of consumption continue to increase, recycling efforts must also intensify. Through new developments in science and technology, we are seeing new products produced from recycled materials and new methods to recycle previously discarded materials. However, in order for this technology to positively impact the environment to its greatest capacity, it must be supplied with materials to be recycled, hence the need for an environmentally concerned population. This project will explain the effects of recycling and how they have changed with more materials being recycled, discuss how technology has affected the way recycling is done and the amount of recycled materials produced because of new technologies, discuss the growing market and demand for products made from recycled materials, and offer solutions to how we can increase public awareness and involvement with recycling in order to preserve our environment for future generations.

Laura Elizabeth Kight – English Literature and Philosophy

A Philosophical Exploration of Fast Food in America

Mentors / Sponsors: Drs. Cynthia Gayman and Barbara Cobb

The ominous presence of fast food in the U.S. has been the subject of talk shows, documentaries, and sociological studies. It's far-reaching consequences extend to the degradation of the practices of the American family and radically affect the way in which women fulfill the roles ascribed to them by society. Fast food has become a quick-fix solution to a myriad of deeper problems. These issues, whether interpersonal, internal, or imagined contribute to America's reliance upon convenient sources of mass-produced, filling, and artery clogging comfort. The philosophical ramifications of America's continued confidence in fast food encourage gluttonous dependence upon an entity that should be encountered with temperance or at best, with little acknowledgement. Fast food must no longer be regarded as the key to happiness, psychological stability, or as an instrument of time-conservation; it must be seen as an agent who threatens to shake the foundations of both the family and its subsequent health and well-being

Eun Jeong Kim – English Literature

MSU can Provide a Better Educational Condition for International Students.

Mentor / Sponsor: Dr. Gina Claywell

I have studied here at Murray State University two years. Since I am in international student, I have dealt with different obstacles from American students. For example, the language barrier becomes the first issue in every class. Therefore, I was wondering what kind of issues or problems other international students deal with and how they overcome them. Moreover, I wanted to study what and how MSU provides for international students in various programs. My project started last spring semester and over the summer break. I surveyed over 80 international students on campus as well as interviewed 10 individuals from different countries. I also visited three other universities and learned how they help their international students.

Wade Kingston – MBA/E-Business Option

Health Choice: A Decision Support System Diet Tool

Mentor / Sponsor: Dr. Meenu Singh

Health complications in America, particularly as they relate to diet, are reaching epidemic proportions. The majority of Americans are overweight, and a high percentage of those are considered obese. Other diet-related problems, primarily heart disease and diabetes, are on the increase. There is a plethora of information available about healthy eating and diet choices, many of which are listed at government web sites. But the tables, lists, and databases are difficult to find and often too complicated for the average computer user. Most of the reliable and user-friendly sites are available only to subscribers. As part of the CIS 645 (Decision Support Systems) class project, a Decision Support System was created in a Microsoft Excel spreadsheet. This spreadsheet utilizes lists imported from databases on the U.S. Food and Drug Administration website, to help pull together some of the disparate pieces of information into a reliable and easy to use form.

Alex Klausung – Outdoor Recreation

Murray-Calloway County Parks and Recreation: Ice Cream Festival

Mentor / Sponsor: Dr. Kelly Rogers

This project was a way for Recreation and Therapeutic Service Majors to explore possible career opportunities. The poster is not only a reflection of my service learning volunteer experience at the parks, but a way for those opportunities to be showcased to other students. The poster itself provides information about the Ice Cream Festival, the Murray-Calloway County Parks, the population served by the program, and the activities that were available to the public during the program.

Elena Krieger - Psychology

Personality and Reports of Discrimination in the United States and Germany

Mentor / Sponsor: Dr. Paula Waddill

This study used scenarios to investigate discrimination in the United States and Germany. Discrimination was examined with two different measures, self-reported desire for social distance and preferred distance attributed to the general population. Right-wing authoritarianism, which tends to be associated with discrimination, was also measured. Lastly, two types of social desirability bias, impression management and self-deceptive positivity, were evaluated. For Americans, participants who desired more social distance tended to have more authoritarian tendencies and show more self-deceptive positivity. For both Germans and Americans, people who attributed more desire for social distance to others also tended to have more authoritarian personalities and tended to rate themselves as wanting more social distance also. German and American samples scored similarly, although Americans were more authoritarian in nature and Germans reported more personally desired social distance overall. For both cultures, discrimination against out-groups was revealed both in overall social distance and other-attributed desire for social distance. This discrimination was related to targets' foreign ancestry and birthplace.

Elena Krieger – Psychology*Verbally and Spatially Mediated Memories***Mentor / Sponsor: Dr. Paula Waddill**

False memories are a topic that is widely studied in the area of cognition and particularly memory. A paradigm regarding false memories that has received much attention is the Deese-Roediger and McDermott (DRM) paradigm. When given a list of words themed around one critical word, subjects often recall the critical word as one they have been exposed to even though they actually have not. Spatial false memories can also occur when subjects remember seeing a shape in a place that it did not actually occur. The current study investigates whether spatial or verbal abilities are related to incidence of verbal and spatial false memories. A block-rotation task is used to examine spatial abilities while anagram solution is the measurement verbal ability. The superiority of females in verbal tasks and males on spatial tasks has become almost a fact of psychology it is so widely accepted. This is supported by many empirical studies, but there is also plenty of research to indicate that the sexes perform equally well on these tasks. The current study compares performance on a block-rotation task and anagram solution to examine verbal and spatial abilities. It additionally examines whether gender plays a role in false memories.

Victoria LaFont – Liberal Arts*Affrilachian Poets: "Some of the Bluegrass is Black"***Mentors / Sponsors: Drs. Ted Brown, George Hovis, & Staci Stone**

I will present a paper written on the formation of the Affrilachian Poets, their effect on the poetic landscape of Kentucky, and their evolution as a group and as individual poets. The paper will focus both on the writing of these individuals and also present their experience as seen through the eyes of social science. This project will include personal interviews, close readings, and video clips from the documentary "Coal Black Voices."

Karim Lalani – Computer Sciences*Voice Activated Home Automation and Security Solution (VAHASS)***Mentor / Sponsor: Dr. Victor Raj**

VAHASS is a computer program that enables owners of X10 Home Automation devices to use voice commands to control X10 modules. Its users will no longer have to walk to an electrical interface (switches) to activate devices and appliances. VAHASS provides a medium for two way communication between the computer and X10 modules. This means that not only can a user operate X10 modules on voice commands, but the computer can respond to manual access to X10 switches. This allows for special functionality to be added to VAHASS which include User defined macros for automated activation of multiple devices and executing special purpose applications. For example, surveillance cameras can be turned on as soon as doors of monitored are opened, Voice messages when certain events occur, such as garage door opening, car entering drive way, etc. VAHASS can find applications in Computerized Home Automation, Computerized Home Security Solutions. It also caters needs of disabled and handicapped who have limited mobility but have a clear voice.

James Locke – Chemistry

Hydrogen Bonding is the Prime Determinant of Carboxyl pK_a Values at N-termini of α -helices

Mentor / Sponsor: Dr. Pablo Molina

Experimentally determined mean pK_a values of carboxyl residues located at N-termini of α -helices are lower than their overall mean values. Here, we perform three types of analyses to account for this phenomenon. We estimate the magnitude of the helix macro-dipole to determine its potential role in lowering carboxyl pK_a values at N-termini. No correlation between the magnitude of the macro-dipole and the pK_a values is observed. Using the pK_a program propKa we examine the molecular surroundings of 233 protein carboxyl groups versus those of 18 N-termini carboxyl residues. The statistics indicate that the local environments at N-termini are very similar to those encountered in other regions of proteins. Still, carboxyl residues at N-termini present a larger number of pK_a - lowering backbone and side-chain hydrogen bonds. Using a QM-based pK_a prediction model, we investigate the chemical environment of the two lowest Asp and the two lowest Glu pK_a values at N-termini so as to quantify the effect of various pK_a determinants. Computed pK_a values are in good agreement with experiment. We show that local interactions suffice to account for the acidity of carboxyl residues at N-termini. The effect of the helix dipole on carboxyl pK_a values, if any, is likely marginal. Backbone amide hydrogen bonds constitute the single biggest contributor to low carboxyl pK_a values at N-termini. Their estimated pK_a lowering effects range from about 1.0 to 1.9 pK_a units.

Leslie Ann Lyons – Geosciences and Mathematics

Broadband Availability and Technology Adoption in Kentucky

Mentor / Sponsor: Dr. Tom Kind

The lack of availability of broadband across Kentucky is a hindrance to the success of the state's business, industry and education. In this work GIS-based mapping technology is used to provide economic and demographic analysis in relation to broadband availability and technology adoption across the Commonwealth. This work includes collaboration with Murray State University's Mid-America Remote Sensing Center to produce value-added maps that offer broadband providers an inside look at Kentucky's untapped subscriber base, thus helping to build the business case for expanding broadband infrastructure into unserved areas. The maps illustrate service gaps and the associated household density within these gaps, exposing large unserved areas with similar household densities in western, eastern and central Kentucky. As expected, much of these gaps fall within the rural areas of the state. A rough analysis using the Census Bureau's definitions of rural and urban and GIS technology confirmed this, revealing almost complete availability in the urban areas of Kentucky and less than 70 percent availability in the rural areas of the state. In a subsequent analysis focusing on technology adoption in individual counties, most of the higher adoption rates coincided with those counties containing metropolitan areas. Overall, the availability of broadband is considerably higher in the more urban areas of the state. However, those counties with 100 percent broadband availability are rural counties with lower adoption rates. Thus, this work serves as a spatial tool in the case for broadband infrastructure expansion and education into the unserved areas across the state of Kentucky.

Amy Mangla, Donna Crabtree, Tyler Downing, and Veronica Inland - Biology
Enzymatic Activity of Renal H+K+ATPase in the Outer Medullary Collecting Duct of Transgenic Mice

Mentor / Sponsor: Dr. Suguru Nakamura

H+K+ATPase (HKA), a potassium dependent transporter, plays an important role in acid-base homeostasis. Studies have shown the gastric isoform (HKA α 1) is dominant under normal conditions and the colonic isoform (HKA α 2) is increased under low-K conditions. However, the enzymatic activity of HKA in the outer medullary collecting duct (OMCD) is incompletely understood. The focus of the present study was to elucidate the enzymatic activity of HKA in the HKA α 1 and HKA α 2 knockout (KO) mice under normal diet (ND) and K-free diet (KD). Ten OMCD tubules were dissected and treated with osmotic and temperature shock, and then divided into a K-free and a K-containing tube equally. HKA enzymatic activity was based on the hydrolysis of ATP to ADP, coupled to the oxidation of NADH. ADP generated in the assay system is determined by a decrease in NADH fluorescence. In the presence of K, NADH fluorescence in HKA α 1 KO mice was 13.5 ± 0.7 pmol for ND and 10.3 ± 0.2 pmol for KD ($p < 0.02$), indicating the upregulation of colonic isoform. In HKA α 2 KO mice, NADH fluorescence was 6.8 ± 0.3 pmol for ND and 5.4 ± 0.3 pmol for KD in K-free media ($p < 0.002$), 6.0 ± 0.3 pmol for ND and 4.6 ± 0.2 pmol for KD in K-containing media ($p < 0.0005$). K addition produced a significant change in NADH fluorescence in ND or KD KO mice, respectively. The results demonstrate that potassium depletion is associated with increased enzymatic activity of the HKA α 2 isoform. However, under KD diet, the HKA α 2 KO mice exhibited higher ATP production than expected, possibly due to the enhanced enzymatic activity of H-ATPase under potassium depletion.

MacKenzie Mash – Liberal Arts

The Modern Prometheus: Raising Ethical Concerns in Science

Mentor / Sponsor: Dr. Howard Whiteman

My paper examines ethical concerns of science as discussed in Mary Shelley's Frankenstein. It offers a reading of the text that is a warning against humans playing the role of God or nature. As our knowledge of science and technology increases and branches out necessitating new ethical questions, this first science fiction novel continues, perhaps increasingly, to be pertinent to the ethics of science. A close textual analysis of the role of science in the novel should reveal some timeless ethical issues as well as some which are more pressing in modern times. When the subtitle, or, the Modern Prometheus, is read sarcastically the novel becomes a rather dire warning against the meddling of human science into the affairs of nature. Meanwhile though modern scientists are not sewing corpses together to create new life, the possibilities of cloning and stem cell research confirm the relevancy of the text.

MacKenzie Mash – Liberal Arts

Nietzsche Included: An Argument For His Inclusion Into Social Theory

Mentors / Sponsors: Drs. Cynthia Gayman and Lillian Daughaday

Despite the influence exerted by Nietzsche's works within sociology, as is evident in the recurrent discussion of him by sociologists particularly Simmel, his work is excluded from social theory, especially in the United States. This thesis considers him for inclusion into sociology by way of social theory. Although there has been a recent interest in Nietzsche such interest focuses upon his dichotomization of culture vs. civilization, and dismisses this view as anti-sociology. My thesis will take a different approach; I will consider Nietzsche's presence within Simmel's work, as well as others (including but not limited to Mayreder and Roger Haussling) and I will evaluate the merit of Nietzsche's inclusion into social theory based upon Nietzsche's critique of Christianity in comparison to the work of Simmel and of Max Weber's theory of the Protestant Work Ethic. Although there is no ultimately cohesive Nietzschean philosophy, this thesis will draw mainly from Nietzsche's Beyond Good and Evil and On the Genealogy of Morals for his analysis of Christianity.

Stephanie Mathis, Nathaniel Francis, and Yashira Reveron – Occupational Safety and Health

Ergonomic Evaluation of Possible Musculoskeletal Disorders and Repetitive Motion Hazards in Winslow Dining Facilities

Mentor / Sponsor: Dr. Tracey Wortham

The purpose of this study is to evaluate workers tasks for Musculoskeletal Disorders (MSD) potential in the Murray State University (MSU) Winslow Dining Facilities. The workers were video taped and interviewed about the daily tasks needed to wash dishes. The video tapes, interviews, and work area were analyzed accordingly with several ergonomic evaluation tools. These tools include a 2D biomechanical tool, Rapid Upper Limb Assessment tool, NIOSH Lifting Equation, Liberty Mutual Psychophysical tools, and/or Strain Index. The results of the ergonomic analyses were used to make recommendations to MSU Food Services to reduce MSD risks.

Kelley Maxham - History

Australian Foreign Policy: The Menzies Government, 1950-1965

Mentors / Sponsors: Drs. Stephanie Carpenter and William Mulligan, Jr.

This paper will examine the upgrade of diplomatic status from Charge d Affaire to Ambassador between Ireland and Australia after WWII. Contributing factors included the Statute of Westminster of 1931, which granted more freedom of self government to the Dominions; post war changes in politics in both countries; and the wording of the letters of credentials that were to be presented to the governments. Even though there was a significant Irish population in Australia, the prevailing political attitude was pro-British and protection for the sovereignty of the Crown. The main point of contention was evident in the issue of the legal status of Northern Ireland. Australia wanted to give no grounds for future claims by Eire on the six counties in the north.

Andrew McCormick – Political Science

Understanding Displacement and Adjustment After Natural Disasters

Mentor / Sponsor: Dr. Ann Beck

I apply a theoretical framework about adjustment after natural disasters displacement to a case study. I ask the questions: How do displaced persons adjust to changes within a new community? What role do various community actors play in facilitating or inhibiting the adjustment process? Using semi-structured interviews with a person who was displaced by Hurricane Katrina, community assistance workers, and community volunteers, I collect information and impressions about the displacement/adjustment process. Based on my findings, I suggest how the theoretical framework might be refined and hope to provoke discussion about what role individuals should or might play in this adjustment process.

Christopher McEachron – Outdoor Recreation and Eric Wilson – Electrical Mechanical Engineering

Personal Hydration System Low Water Warning

Mentor / Sponsor: Dr. Howard Whiteman

We have designed and built a prototype of an accessory for a personal hydration system (PHS). This accessory can be attached to the PHS and will alert users when their water level is low. Most PHS's are worn on the back, and so the first indication many people have that they are low on water is when they physically run out of it. Earlier detection of such a problem could make it easier and safer for individuals to use a PHS. Our prototype design is that of an elastic sock for the PHS. The sock will contain a prox switch which, when the PHS bag is nearly empty, will activate a small LED light at the tip of the hose where the user can see it. This will allow said user time to find another water source before they completely run out.

Lynnsey McGarrh - History

Venezuela: The First Latin American Superpower?

Mentor / Sponsor: Dr. Michael Basile

This presentation explores the historical circumstances, including relations with the United States, that are influencing Venezuela's recent rise and influence in both Latin America and the world. I will also take a close look at the role in this rise in influence of Venezuela's current president Hugo Chavez, who has proven to be a controversial leader both in Venezuela and all over the world. Finally, I will discuss the related issues of oil and Venezuela's role in OPEC that are currently affecting Venezuela politically, economically, and how Venezuela is likely to influence world affairs in the years to come.

Bianca McNees – English Literature

Fashionable Values: Fashion and its Affect on American Values

Mentors / Sponsors: Drs. Ann Landini and Mark Malinauskas

Fashion and issues surrounding it have become an important part of today's society. It has turned into major content for the media, even having a channel on television dedicated to fashion issues. This was not the case in the 1950s. Therefore, an historical examination of the way fashion has grown as media content since the end of World War II would be in order. This examination would include looking at the importance of fashion in the United States and how it affects, if it does affect, fundamental values such as home and equality. Also, it would be important to examine the role that celebrities play in making fashion important. Why is it that some people are more famous for their wardrobe than the work they do in films or on stage? Why are some people famous for merely dressing well? These questions, among others of the same sort, will be researched and documents regarding these will be used. Interviews with sociologists will also be useful for this historical examination.

Jolene Miesner – Liberal Arts and Carrie Pond – English Literature and Spanish

Que Technologia! Developing the Use of Technology in Second Language Learning

Mentor / Sponsor: Dr. Howard Whiteman

As globalization increases, the need for second languages in both the business world and personal life is also rising with this increasing necessity for second languages comes the need for additional methods of learning. This presentation will explore past and present learning programs involving various forms of technology- including Mobile Assisted Language Learning, online collaboration, and Computer Aided Language Learning- and look at the effectiveness of each of these programs. We will also use the effective technologies to form a proposed language learning system.

Jolene Miesner – Liberal Arts

The Power of Suggestion: Stereotype Threat in Minority Behavior

Mentors / Sponsors: Drs. Mark Malinauskas and Sarah Appleton

Minority behavior and representation is often debated in today's media. I became interested in possible causes of minority behavior and found the theory of stereotype threat in psychology. Stereotype threat is a theory that a minority, when exposed to a stereotype held against them, will behave accordingly. I explored stereotype threat in psychological journals and publications to find its relevance. To further develop the prevalence of stereotype threat, I researched cultural artifacts in novels and poetry to find further evidence of this threat in our society. This research has led me to conclude that minority behavior can often be explained by adhering to stereotypes held by the majority.

Jennifer Millay – Spanish Education

The Purhépecha: Before and After Spanish Arrival

Mentor / Sponsor: Dr. Michael Waag

Many native cultures were invaded and nearly demolished by the Spaniards. The natives lost their languages, land, and customs. One group, however, was able to survive through Christianization and maintain their identity even today. The Purhépecha began as a nomadic group that settled in Michoacan, Mexico. The story is interesting from the ambiguity of the beginnings for their culture, the arrival of the Spaniards, the destruction by Nuño Beltrán de Guzmán, the rescue by Vasco de Quiroga, and their lives today. This presentation will discuss the history, struggles, and triumphs of the Purhépecha and how key people affected their culture. By analyzing the Purhépecha, one forms a greater understanding of the people and discovers the beauty of the culture.

Billie Dawn Moss, Lauren Thompson – Agriculture, and Chris Rodgers - Agronomy

Dark Fire Cured Tobacco: Comparison of Bloom Stage and Topping Heights

Mentor / Sponsor: Dr. Ken Bowman

This research experiment was designed to help farmers increase net profits by illustrating yield differences that occur when tobacco is topped at different heights and times. Time frames tested were elongated bud, 50% bloom and 100% bloom. Tested topping heights were 12 leaves and 16 leaves. The test plot was arranged in a randomized, complete block design to space trials and allow for bad spots in the field (low spots hold an excess of water and dramatically affect yields). The research project had six different treatments. In treatment #1, tobacco was topped at elongated bud stage at 12 leaves. In treatment #2, tobacco was topped at elongated bud stage at 16 leaves. In treatment #3, tobacco was topped at 50% bloom stage at 12 leaves. In treatment #4, tobacco was topped at 50% bloom stage at 16 leaves. In treatment #5, tobacco was topped at 100% bloom stage at 12 leaves and in treatment #6, tobacco was topped at 100% bloom stage at 16 leaves.

Angelo Munoz – Computer Science

Content Management Systems (CMS): Low Cost Solution for Developing E-Business Sites

Mentor / Sponsor: Dr. Victor Raj

Anyone who tried creating and managing web sites knows that the process can be unforgiving and intimidating. They will be faced with acronyms like HTTP, FTP, HTML, WWW, HTTPS and many others. Lately there has been a push towards automating the entire process through tools known as Content Management Systems (CMS). The beauty of CMS is that the user doesn't even have to know HTML as there is a user-friendly drag-and-drop feature built in to most CMS. Best of all, most CMS are free (open source). So all we would need to update our website is a computer with an internet connection. In this project, we explore several different CMS to meet the needs of a local small business owner. We helped the owner through all the complex tasks of domain selection, selecting hosting companies and software tools. We show that such technology is well within the reach of the smallest of businesses. The site has been completed and is now a fully functional E-business site. The owner can now transact business with anyone in the world as long as they can pay with a credit card.

Tera Rica Murdock – Chemistry and Spanish

The WTO and Developing Countries: Relieving the Disease Burden

Mentors / Sponsors: Drs. Farouk Umar and Mark Malinauskas

Problems with development in the southern half of the globe have recently been attributed to the fact that these countries experience a large percentage of the world's disease burden. Many scholars have begun to evaluate the intellectual property rights policies of the World Trade Organization's Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPs), to which most countries adhere, as a possible basis for the continuation of this problem. These scholars believe TRIPs promotes an environment in which pharmaceutical companies dedicate a disproportionate amount of their research dollars to diseases that mainly affect economically developed nations and that patents create an economic barrier to the products that would have an influence on the disease burden of developing nations. This paper analyzes whether programs that propose to solve these ethical and economic concerns can be developed that complement the TRIPs system, how the TRIPs system affects pharmaceutical companies, and how modifications built into TRIPs propose to benefit developing countries. Latin America will be used as a case study region, focusing on its disease burden, how each country utilized the TRIPs agreement upon joining the World Trade Organization, and how changes to TRIPs may affect the disease burden of Latin America.

Shane Newborn, Zachary Brain, and Charles Doom - Biology

The Study of Plant Invasion in Kentucky Using Taxonomical and Ecological Attributes of Non-native Species

Mentor / Sponsor: Dr. Kate He

Biological invasion is considered a most consequential component process of global change. Its impact on the biota is already enormous concerning losses of biodiversity and alterations of the structure and function of native ecosystems. Thus, it is not surprising that the identification of invasive and potentially invasive species has emerged as one of the crucial areas of ecological research. This paper studies the taxonomic pattern of plant invasions using the vascular plants of Kentucky. Taxonomic heterogeneity in invasion success is found at both family and order levels. The families with most non-native and naturalized species are identified as Poaceae, Asteraceae, and Brassicaceae. The largest families in the Kentucky flora, Asteraceae and Poaceae contribute the most to the total numbers of non-native species. Morphological, physiological, and ecological traits are studied on these three families and comparative results show that significant differences are found only in certain life history and ecological strategy traits. This indicates that different biological traits can trigger the invasion success in the introduced habitats. Statistical analyses show that strong correlations exist between the total numbers of species and total number of non-native species, and between the total number of non-native species and total number of naturalized species all within a family. The results suggest that the taxonomic pattern can be used to predict the invasive potential of future invaders; it also provides valuable information for biological conservation.

Michael O'Brien & Jessica Shaw - Biology

Blood And Fecal Parasites Of The Tiger Salamander (Ambystoma Tigrinum Nebulosum) According To Life Stage

Mentors / Sponsors: Drs. Howard Whiteman and Leon Duobinis-Gray

This study provides a unique look at differences in parasite prevalence within two life stages of tiger salamanders, *Ambystoma tigrinum nebulosum*. Individuals in the paedomorphic life stage reach maturity while retaining larval characteristics such as gills and a membranous tail. It is also these characteristics which bind them to an aquatic lifestyle. Metamorphic individuals commonly transform before becoming adults and lose their larval characteristics, allowing them to enter the terrestrial environment. These life stages separate the individuals into two ecosystems (aquatic and terrestrial) which suggest that differences between parasites in the same host species might occur according to life phase. Juveniles were also sampled for parasites, providing a third life stage for comparison. Within juvenile stages a cannibalistic morph, characterized by a wider mouth and enlarged "teeth", also occurs. We hypothesized that metamorphic adults should have higher prevalence of blood parasites (e.g., trypanosomes) due to increased exposure to vectors and that cannibals should have a higher prevalence of intestinal parasites because of increased exposure after eating infected larvae. Blood and fecal samples of tiger salamanders were collected from ponds in south-central Colorado in 2004-05. Blood smears (N = 128) were prepared in the field while parasite eggs (N > 100) were separated from fecal samples with a sucrose gradient floatation and prepared for observation under a microscope.

Kelli O'Hara – School Counseling*Relationship Satisfaction***Mentor / Sponsor: Dr. Paula Waddill**

For a large number of people having a romantic relationship is one of the most important things, and even more important is to have one that is satisfying. This study tested the relationships between relationship satisfaction and communication styles, length involved in a relationship, number of prior relationships, self-esteem, and the quality of adjusting to one another. Undergraduate participants from Murray State University (n7) who were currently involved in a romantic relationship completed measures, of communication style, self-esteem, length involved in a relationship, and number of prior relationships and rated their relationship quality and satisfaction. Results showed that people with better communication styles, ability adjusting to their partner, and fewer prior relationships were more satisfied with their current relationship. These findings suggest that relationship satisfaction largely depends on the way a couple communicates. The study also shows the importance of the ability to adjust to one another in a positive manner. Also, and having more prior relationships (experience) not necessarily produce increasing satisfaction. It may hinder a person's satisfaction with a current relationship for reasons of either having expectations heightened or of given up hope that there is anyone right out there.

Katie Oller – Spanish Education*The Thread that Holds Together López Velarde's 'Suave Patria'***Mentors / Sponsors: Drs. Mica Howe and Meg Brown**

The year 1921 marked the centennial of Mexican independence and a decade free from the dictatorship of Porfirio Díaz, yet social instability persisted as the new democracy sought a national identity in the wake of industrialism and reform. Influenced by realism and naturalism, both features of Latin American modernism, and forging Latin American Vanguard with his writings, Ramón López Velarde captured the heart of Mexican society grappling to find meaning and order in an era of change in his poem, *Suave Patria* (Sweet Native Land). In this sophisticated analysis of his homeland, López Velarde identifies fatalism the belief that events are determined by some power beyond human control as the thread that holds together Mexican society.

Katie Oller – Spanish Education*The Global State of Religious Freedom***Mentor / Sponsor: Dr. Farouk Umar and Mark Malinauskas**

On December 10, 1948, the Universal Declaration of Human Rights was adopted by the General Assembly of the United Nations (UN) to identify those rights and freedoms to which every human should be entitled without any distinction regardless of race, gender, language, religion, political or other opinion, national or social origin, property, birth or other status, or location. These rights include those of life, freedom, safety, humane treatment, equality before the law, fair trial, the freedoms of thought, expression, and assembly, and according to Article 18 the freedom of religion. Therefore, this research will define religious freedom according to the international legal model set forth by this and other declarations and covenants, and evaluate the global state of religious freedom by identifying worldwide patterns and specific concerns on the violation of religious freedom.

Danny Oliver, Craig Bondurant, and Alexander Roberts – American Humanics*Heart Walk***Mentor / Sponsors: Dr. Roger Weis**

The main purpose of the Heart Walk is to raise funds for the American Heart Association and to educate the public about heart disease. The first step of the project was to brainstorm about possible donors for the Heart Walk. Then the local businesses were contacted to obtain door prizes for the event. The names of the businesses and the type of door prizes that they donated were recorded onto a list. Many local businesses were helpful and several door prizes were donated to the Heart Walk. The last part involved attending the heart walk and handing out the door prizes to the winners. The Heart Walk was held on October 29, 2005 at the RSEC building located on Murray State University's campus. Registration for the Heart Walk and the door prizes began at about 8:30am. The drawings for the door prizes began at 9:30am and the Heart Walk ended at around noon. Overall, the project went very well and raised money for the American Heart Association that can be used to save the lives of cardiac victims and aid in the prevention of heart disease.

Deborah Outland – Outdoor Recreation*KY. Fish and Wildlife Resources- Deer Quota Hunt***Mentor / Sponsor: Dr. Kelly Rogers**

Service learning was a key component of an Introduction to Recreation and Leisure Services course completed during the fall 2005 semester. Fifteen hours of service related to material covered in class was required of all students enrolled in the course. Students in this course complete service learning projects in order to learn relevant skills associated with the course and to explore possible career options. This poster presents one student's experience while completing the required hours with the Kentucky Department of Fish and Wildlife Resources. The student's primary responsibilities centered on an annual "Quota Deer Hunt," which was used to estimate area deer populations. The poster also served as the reflection component of the student's service learning project.

Mitchum Owen – Electronic Media

A Web of Variables: An Analysis of End-User Configurations Used to Access the Internet

Mentor / Sponsor: Dr. James Gantt

Creating websites that maintain visual and functional consistency when accessed by different systems can be difficult. Different browsers, operating systems, plug-ins, and user settings can negatively affect both a website's layout and performance. Usually, web designers attempt to mitigate this effect by using widely adopted web standards and providing "hacks" or "workarounds" for specific configurations; however, this can be a resource-exhausting activity. This research project will monitor Internet visitors on various websites, collecting basic and readily available information concerning their operating system, browser, plug-ins, and user settings. Absolutely no personal information will be collected. Through the analysis of collected data, this project aims to determine 1) which end-user configurations are the most popular overall and 2) if the primary configurations vary enough between websites to warrant individual site testing and accommodation of different configurations for each site. Results should help web developers decide whether or not to accommodate certain end-user configurations and whether or not they should analyze their own site's traffic for additional configuration needs.

Steve Ramage - Spanish

International Adoption: Another Way to Have a Child

Mentor / Sponsor: Drs. Michael Basile and Paulo Boero

International adoption is a trend that is rising in popularity in the United States. There are many reasons for someone who wants to have a child or children to consider international adoption. There are many orphans in some developing countries that would love to have real parents. Many of these orphans face lives which would inevitably be cut short due to poor health and other social situations or at best they face life in a harsh world with no one to love them or help them. International adoption offers a solution: take them in as your own. There are many advantages and some disadvantages to international adoption and this presentation intends to cover both while arguing that the advantages outweigh the disadvantages.

Brian Rickard - Economics

The Impacts of the Euro on the German Economy

Mentor / Sponsor: Dr. David Eaton

With modern transportation systems countries are closer to one another than ever before, especially in Europe. To ease financial transactions across national borders the European governments created one currency, the Euro, to replace participating European currencies. To have a multi-state one currency system there must be one economy, but merging many economies, in different phases of the business cycle, into a single economy is not a simple task. When the Euro became the official currency of the 11 European Central Bank (ECB), member states the German economy was the strongest of all the ECB members. As the country with the most to lose, Germany is in charge of unifying the economies of the ECB members. The Euro is supposed to help the economies of all ECB members prosper. Many questions and much speculation have risen in the wake of the Euro. This presentation looks at how the German economy has been affected by the Euro while also looking at the underlying issues. The discussion begins with the relevant economic history of Germany, and other ECB members. Then it moves to the anticipations of a multi-state single currency system, and an evaluation of the German economy since the switch to the Euro. The presentation comes to a close with an analysis of the collected data.

Allison Ridenour, Misty Brown, and Kristen Windsor – American Humanics

Pet Smarts

Mentors / Sponsors: Dr. Roger Weis and Kathy Hodge

As American Humanics students and students of Dr. Weis' YNL 350 class, we designed a program for our service learning project. With the help of Murray-Calloway County's Humane Society, we visited Murray Elementary School's Kindergarten class and taught them the safety of pets. We showed a video at the beginning of the class and had a lesson plans designed to teach the children about kindness to animals, focusing especially on dogs, and the responsibility of taking good care of your pets. The Humane Society provided us with a chocolate lab, Mocha and her trainer, as she showed the children tricks and ways to be safe around dogs. We hope that the children that we visited learned a lot and had a good time.

Ryan Ringley – Organizational Communications

How do Gender Communication and Conflict Management Affect the Physician-nurse Relationship?

Mentor / Sponsor: Dr. Lou Tillson

The healthcare care field is a substantial organization encompassing over 13.5 million people. In an organization of this magnitude, it is imperative that the issues of gender communication and conflict management are examined, and how these variables affect the physician-nurse relationship. In order to answer the research question, the Muted Group Theory and the Standpoint Theory were applied. The conclusion to the question was both positive and negative. Through research, gender communication was proven to have a large effect on the physician-nurse relationship; however, conflict management was shown to mostly be nonexistent.

Marianna Romero and Danielle Rudolph – American Humanics

Good Manners University

Mentor / Sponsor: Dr. Roger Weis

The Good Manners University curriculum was created to focus on teaching good manners and etiquette to the third graders of Farley Elementary School in Paducah, KY. The goal of the Good Manners University is to develop mature, well-behaved students who have a sense of self-discipline and respect. The program consists of five one hour lessons. The lessons focus on the following: Respectful Words (Greetings, Please and Thank You, Interrupting Others), “Tele-Netiquette” (Telephone and Internet Etiquette), Pass the Manners, Please (Table Manners), Behaving with Grace and Charm (Behavior When Out and About, Good Sportsmanship), “HospitaliTEA” (Afternoon Tea with students and parents to demonstrate what has been learned). A Parent Newsletter was sent home at the beginning of the program to inform the parents of how they can encourage good manners in the home. Both parental and teacher reinforcement of the weekly lesson were important to the success of the project. Students also sent an invitation to the HospitaliTEA to their parents and then learned how to write a thank you note to either their parents for attending or to the volunteers who helped prepare the food for the Tea. Through the Good Manners University curriculum, students learned acceptable social skills that will help them not only to succeed in school, but will help them become respectful and courteous adults. Students who learn to respect others are more likely to respect themselves. Manners as a part of character education is one way schools can ensure that students not only do well in school, but that they become empowering and caring adults.

Reagan Rudolph - Psychology

Effects of Congruent, Non-congruent, and Neutral Color-words on Memory

Mentor / Sponsor: Dr. Alysia Ritter

Memory is a vital cognitive function that people rely on constantly. Much research has been conducted in order to understand the functional processes of memory. In addition, much research has also examined how memory and other aspects of cognition work together or against one another. Previous research (Sagi, 1980) identified interference in recall ability when subjects were presented with a color word (e.g., BLUE) in a noncongruent color (e.g., red) and the subjects were asked to recall the printed color. Research by Musen and Squire (1993) suggested that when color and words are correlated by repeated association, the recall rate of the color becomes quicker and more accurate. Research has also suggested that visual media, when presented in color, has a better chance of being more accurately recalled both immediately and over a one week period (Farley & Grant, 1976). This research project seeks to combine elements of the aforementioned studies to further determine the effect of color on memory recall. This research will investigate the effect of three color conditions on memory recall: a congruent condition (e.g., GRASS presented in green), a neutral condition (e.g., CHERRY presented in black), and a noncongruent condition (e.g., BLOOD presented in yellow). This experiment will also investigate whether Stroop-like effects occur when participants are asked to recall words instead of the printed color in the noncongruent color condition.

Julia Rust – International Affairs

France: Its role in the Agriculture Industry and the Effects on the United States

Mentor / Sponsor: Dr. Michael Basile

This will be the study of how France through its role in the European Union has influence on the world's agriculture industry, namely the United States. The emergence of the European Union has proved to be a monumental development for the world. There is now a combined power that has the ability to offset the dominance of the United States. The European Union has a long history and has evolved over the years. France has been involved with the European Union since its existence. Being one of the most powerful countries in the European Union, because of its population and wealth, France has the benefit of influence in European Union policies. Because we live in an international world, these policies prove to be important for all, especially the United States agriculture industry. The United States and the European Union are leaders in the agriculture industry and their policies affect one another. France is the European Union's leading agriculture producer and France has taken a strong stance on some issue, such as genetically modified foods. These stances have an influence on European Union policies which in turn affect the United State as well as the rest of the world.

Adrienne Sams – Geoarchaeology
Spatial Analysis of Owens Farm
Mentor / Sponsor: Dr. Kit Wesler

In 1996, Murray State's archaeological field school conducted a survey of Owens Farm, in Ballard County, Kentucky. The farm has been in the family of Karen Owens for several generations. The survey yielded sixteen individual sites, which include a mixture of historic artifacts and several prehistoric artifacts. Only three of the sixteen sites were large enough to collect on a controlled grid, and therefore included the provenience documentation that was needed to perform a spatial analysis. The objective of the final analysis was to decipher which of the three larger sites was the location of Karen Owens's childhood home.

Alisha Sargent, Marianne Clark, and John Green – American Humanics
Humane Society of Calloway County
Mentor / Sponsor: Dr. Roger Weis

The purpose of this pet therapy in the classroom program is to educate students on the proper methods of taking care of pets and animals. It's second purpose is to increase the awareness of the humane society, animal shelter, and pet therapy program. It is important for the community to be aware of what these organizations do, and how they can become involved to help.

Diane Sater – Economics and French
Currency Exchange Rates and Their Effects on Tourism
Mentors / Sponsors: Drs. David Eaton and Janice Morgan

With the introduction of the Euro came numerous changes in the world economy, one being the effect on tourism. Travel, between and among European Union countries, has been greatly affected by the use of a single currency, however beyond Europe's borders, there has also been a reaction to this transition. The strength of the Euro compared to the U.S. dollar has changed the face of business and travel alike. This is a study of the effects of exchange rates on tourism, focusing mainly on the exchange between the Euro and the U.S. dollar. Making travel between EU countries easier has improved relations among them and allowed for economic growth in the long run. Comparing the economies of EU countries with that of the US economy shows the effects of currency values and exchange rates between these nations, and how ultimately this may have an affect on our travel overseas.

Diane Sater – Economics and French

France and its Role in the European Union

Mentors / Sponsors: Drs. David Eaton and Janice Morgan

The existence of the European Union (EU) is not a new concept by any means, and its role in the global market has grown to be more than necessary. As a major player within the European Union, France has contributed since its origination after World War II with five other countries. It is important to know and understand the role that France has played in the European Union and its influence regarding decision making policies. Seeing as EU laws are based on French politics and the EU idea was first mentioned by French leaders like Charlemagne and later with Napoleon, it is clear that the French served as a significant influence over the EU formation. France will continue to influence change and improvement regarding the European community as a collective super power. This is a study of France and its role in the European Union. Three significant questions to answer in regards to this study include: at what level was the French economy before the European Union came into play? Secondly, what changes in economic development, including trade, have aided in their progression of power thus far? Third, what are the expectations of its government and its people as a world leader and member of a major customs union and finally, what issues do they still face?

Collin Schaumberg – Wildlife Biology

*Do Parasite Loads Vary With Host and Environmental Parameters in Bluegill Sunfish (*Lepomis Macrochirus*)?*

Mentors / Sponsors: Drs. Paul Sikkel, Claire Fuller, and Leon Duobonis-Gray

Parasites have been found to affect the health, behavior, and life history of fishes (Bartoli et al 2000), including reproduction (e.g., mate choice and parental investment), and habitat choice. Centrarchid sunfishes (*Lepomis*) are among the best-studied North American fishes. Considerable data exist on their reproductive habits, diet, and habitat choice. While descriptive studies have characterized parasite communities of sunfishes elsewhere, little is known about parasite communities on fishes in western Kentucky, or the relationship between parasites and the behavior and ecology of sunfishes generally. As a first step in addressing this lack of knowledge, I conducted a field study on parasite loads associated with the gill lamellae of bluegill sunfish (*Lepomis macrochirus*), I hypothesized that: 1) males will have a higher rate of parasitism than females due to decreased mobility associated with defending the nest; 2) parasite loads will be higher in vegetated habitats; 3) gill parasites will be most abundant on the first; and 4) parasite loads will change throughout the spawning season. I collected fish by rod and reel and cast netting at different sites in Western Kentucky. Fish were sexed and processed in the laboratory to determine loads of parasitic monogeneans. Sampling of fish was conducted throughout the spring and summer spawning season (water temperature >65oF). Parasites were found to be significantly more abundant on the second gill arch, and parasite abundance differed significantly over time. Although parasite loads tended to be higher for males, the difference was not significant.

Amanda Scott – Animal Health Technology

Thrush in the Equine Foot: Causes and Contributors

Mentor / Sponsor: Dr. Dale Bennett

The objectives of this study are to determine what microorganism/s contribute to the equine hoof disease condition collectively referred to as thrush in the Murray State University horse herd, what treatment protocols are the most effective at eradicating the infection, and what husbandry or management practices are predisposing these horses to the invasion of thrush. Ten hoof swab cultures were taken with the initial sampling. Six horses with clinical signs and a history of thrush infections were cultured to determine the pathogenic bacteria, mold or yeast. These six horses were selected from different locations to compare environmental conditions effect on the degree of infection and cultured microorganisms. Two methods of sampling were used on one of the infected horse s hoof to determine the best way to remove common contaminants and collect adequate samples. Three horses without clinical signs or a history of thrush were cultured as a control group for comparison to the infected horses. Initial cultures revealed common possible causative anaerobic bacteria in six of seven infected samples. With the pathogenic bacteria determined, sensitivity testing will reveal the best antibiotic treatment. Additional cultures and further research is needed to determine what environmental and husbandry changes must be made to reduce the reoccurrence and infection of thrush.

Andrea Shaffer - Spanish

The Importance of Religion in Spain

Mentor / Sponsor: Dr. Leon Bodevin

Religion, in any country, is an important perspective of the appreciation of culture. Spain has a rich religious background, which dates from the year 711 to the present. Spain has been a predominantly Catholic country since 1492. However, it was the struggle between Catholicism, Islam, Judaism, and Protestantism that allowed for this country s national identity. Religious freedom, and its consequences, has been a constant discord throughout the history of Spain. This presentation will explore how the religious community in Spain has reformed the cultural identity that once was exclusive of dissident religious movements.

Sarah Sharp – Geoarchaeology

Loss Estimation Earthquake Model for Memphis, Tennessee

Mentor / Sponsor: Mrs. Jane Benson

The principal objective of this project is to create a Loss Estimation Earthquake Model for the city of Memphis, Tennessee. HAZUS data will be implemented to display the location of natural gas line, water mains, power lines, and roads in the city. This data in collaboration with population densities will be used to determine probable danger areas in Memphis during the event of this natural disaster. In finding the danger areas, the next step would be to create an evacuation route for the citizens from these danger areas. This project will present the resultant maps and analysis of the findings of this hazard management GIS.

Raven Shelton - Spanish

An Analysis of the Poetry and Life of Gustavo Adolfo Bécquer

Mentor / Sponsor: Dr. Mica Howe

Gustavo Adolfo Bécquer is one of the great writers of The Romantic period. His work was greatly influenced by the events of tragedy and heartbreak throughout his life. He suffered deeply in the ways of love and in his poetry these events, as well as the norms for this time period are clearly reflected. This paper will examine examples of his work linking them to the Romantic Period as well as determine how loss and unrequited love were the most predominant theme in his poems. His poems are filled with ingenious technical form, ideas, and use of natural and personal influences. He also lost all those he held dear in his short life but because of such experiences he was able to create a written form of art that described what he felt and surpassed.

Whitney Shirley and Jonathon Galloway – Agri-Business

The Effects of Tray-Drench Insecticide Applications for the Aphid Control and Reduction of Insect-Transmitted Viruses on Tobacco

Mentor / Sponsor: Dr. Pat Williams

This experiment compared tray-drenched insecticide applications for aphid control and reduction of insect-transmitted viruses such as Tomato Spotted Wilt Virus (TSWV) and potato virus and other viruses on tobacco (POTY). The study used three different insecticides: Admire, Orthene 97 and Platinum in five treatments to see which insecticide application was most effective. The desired amount of chemical was sprayed over each tray and watered to wash chemicals into the root zone of the tobacco transplants. Applications of all chemicals were made one day prior to setting the tobacco. The tobacco was set in a complete randomized block design with four replications of each experiment. Insect population counts were taken at eight and ten-week intervals. The only significant findings were reduced aphid numbers at ten weeks in the chemical treatments compared to the control. After the first rating was taken, all the tobacco plants were sprayed with Tracer and Dipel to control for common larva affecting tobacco. There are no recommended changes to West Kentucky regional cultural practices for tobacco production in regard to insect control.

Sarah Shook – French

Is France Having an Identity Crisis? The Struggle to Maintain National Identity While Integrating Immigrants

Mentor / Sponsor: Dr. Michael Basile

Though the population of France has long been melange of people from many societies, the sense of national identity has remained strong. Keeping it that way has, in fact, been the mission of many French leaders and citizens alike. This effort dates back far in history as the identity of France is made stronger through the years. Charles de Gaulle answered the question what is France with his famous quote “Je suis la France,” literally, “I am France.” This project focuses on problems that result from a strong national identity, specifically immigration integration issues. Though immigrants may become legally French, many never integrate socially or mentally into the society. Often, many live in the suburbs of large cities in government created housing. Inhabitants many times riot and protest against the French government over cultural and political issues. This project gives both France and her immigrants a fair trial as it asks why immigrants in France often do not fit in.

Jeremy Shoulders – GIS Option

Protecting Soil in Calloway County

Mentor / Sponsor: Dr. Robin Zhang

In today’s farming communities, computers have given numerous advantages for farmers to conserve their soils. Soil erosion is one major source that takes nutrients from farm land. The objective of my project is to help the farmers understand the process used in determining soil erodibility utilizing a geographic information system (GIS). The study area is the North West quarter of Calloway County. Aerial photographs, topographic maps, soils, land parcels and owners of farmland were obtained from the Calloway County Tax office for the project. I used a procedure called RUSLE (Revised Universal Soil Loss Equation, $A = R * K * LS * C * P$) to estimate the amount of soil loss. This formula evaluates A = estimates average soil loss in tons per acres per year; R = rainfall-runoff erosivity factor; K = soil erodibility; L = slope length factor; S = slope steepness factor; C = cover-management factor and P = support practice. ArcMap and ArcView were the software packages used for the research. The slope, type of soil, rainfall, and the erodability of the types of soil within each tract of farm land were extracted. Using RUSLE, soil loss was calculated one farm at a time. The results are expected to show the soil loss potential inside the study area and to provide farmers useful information on conservation practices.

Jenni Siler – Organizational Communication

What is the Relationship Among Transformational Leadership, Mentoring, and Small Group Cohesion?

Mentor / Sponsor: Dr. Mark Malinauskas

In this presentation, the qualities that make a leader transformational are examined for their correlation to mentoring behavior, and their role in promoting small group cohesion. The Elaboration Likelihood Model will be used to examine the relationship between effective persuasion and each of these variables.

Lawrence Smith

Pollution Prevention and Energy Conservation

Mentor / Sponsor: Dr. Roger Weis

The company I work with does environmental clean-up to include handling, testing, characterization, disposition, and offsite shipment of a variety of RCRA, Low Level, Hazardous, and PCB type wastes. We work as a subcontractor for the Department of Energy at the Paducah Gaseous Diffusion Plant and the Oak Ridge National Laboratory. WESKEM and its' subcontractors are environmental cleanup companies that can make some necessary changes to its corporate strategy and do its part to minimize pollution and wasting of valuable energy sources. The project is to involve all levels of management and workers to reduce, minimize and prevent pollution. To accomplish this goal, we will need to brainstorm collectively in groups on what we can do to succeed. This group will then branch off into a second group to document the decisions made and to generate a documented process, in draft, as to how WESKEM will reduce pollution and energy. The procedures will include identifying all the environmental aspects and their impacts to the environment; using this information we can, meet objectives and targets. Additional programs to support the environmental improvements will include checks and balances such as an audit program, corrective and preventive action program, emergency preparedness and response, record retention, training program of the new procedures. The top-level group will define the overall organizations' environmental policy to be posted in all applicable locations. I chose this project because every organization should be striving to reduce pollution, minimize energy consumption and initiate recycling. I believe that every individual should strive to improve our environment and energy for future generations and ourselves.

Andria Smither - Spanish

What Is Love? The Theme of Love in Spanish Poetry

Mentor / Sponsor: Dr. Mica Howe

One might say that the concept of love is one of the most moving and diverse emotions possessed by human beings. Humans define and experience love in many different ways. Today, Americans use the term to make love to mean a sexual relationship and the term brotherly love to mean a close relationship between friends and neighbors. This project defines the term love as it is used throughout poetry in Spain. The project also analyzes poets utilization of the term s definition in each literary period. The journey starts in Renaissance Spain, winds through a couple Baroque and Romantic poets, and finally concludes with the analysis of the vivid imagery of love in 20th century Spanish poetry. In addition, this project tracks the changes that occur in the definition of love, and notes the influential forces that are constant throughout Spanish poetry.

Kevin Smothers - Geosciences

Analysis of Two Terrestrial Impact Craters Using Satellite Imagery

Mentor / Sponsor: Dr. Haluk Cetin

This study involves the comparison of two different terrestrial impact craters using Landsat TM images. The impact structures will be analyzed using ERDAS Imagine software. Several image enhancement techniques will be used along with digital elevation models to create 3-D images of the impact structures which will allow for a better comparison.

Tammy South – Independent Studies

St. Stephens Catholic Church: Standing as Testament to Churches of the Former Land Between the Rivers

Mentor / Sponsor: Dr. Kit Wesler

St. Stephens Catholic Church is the only church building that survived destruction of buildings in order for Tennessee Valley Authority (TVA) to construct Land Between the Lakes. It is for this reason that the church is considered by many people to be a representative icon for all the churches which were destroyed or removed from the former Land Between the Rivers (LBR) region. The German Catholic community, associated with this church, immigrated to this region and worked with the iron ore furnace industry in the former LBR. The goals for this research paper were to address the archaeological identification of the church and associated denomination and to determine the church s relationship to the community that it served.

Melissa Starks - Psychology*Idiom Comprehension***Mentor / Sponsor: Dr. Paula Waddill**

A distinguishing factor in many cultures is their use of different idioms: sayings that help bring meaning to difficult concepts. These idioms can be found in numerous contexts and can be presented in a plethora of ways. The present study investigated the way in which individual college students comprehend idioms when they are presented in verbal and auditory modalities, and when the individual is either given or not given an accompanying hint word to help better understand the idiom. Also, one's familiarity of the idiom prior to the study was measured. The results indicated that there was a tendency for individuals to understand the idioms better when the idiom was presented in an auditory manner rather than a written manner and the use of a hint helped this particular group in comprehending the idiom better.

Amanda Stone, Chantel Draves, and Danna Valleroy – American Humanics*Stress Management***Mentor: Sponsor: Dr. Roger Weis**

At the end of each college semester, students become stressed with final exams, final projects and papers, and pre-final exams. Prolonged stress can cause health to suffer and performance level to fall. The best way to combat stress is to know how to manage it. The Stress Management Workshop was a 45-minute program that provided student participants with tips for reducing stress, information on situations to avoid for combating stress, and tips for performing stress-free on exams. Participants completed a "stress quiz" to determine their level of stress. In addition, participants followed along with a 25-minute relaxation audio program that included the use of progressive muscle relaxation and guided imagery.

Kevin Taber – International Business*The Colonial Fallout: The Effects of Colonization and Immigration on France***Mentor / Sponsor: Dr. Michael Basile**

Throughout history, even recently, the subjugation of native populations through colonization has led to problems for the colonized as well as the colonizer. This research will address the issues France has faced, and is facing concerning the immigration of people from current and former French colonies, as well as from other countries and cultures throughout the world. This process of integration (or lack thereof) into modern French society has created friction between the immigrants and the native French, the immigrants and the French government, and even the French government and the native French citizens. The preceding questions seek to tie the historical sources of this problem to its current manifestation in the form of recent cultural and ethnic unrest in France.

Brandi Townsend – Spanish and History

Isabel de Carvajal: A Secret Jew Pursued by the Mexican Inquisition

Mentors and Sponsors: Drs. Michael Waag and Meg Brown

In the sixteenth century, the Spanish Inquisition spread across the Atlantic to the part of the New World known as Mexico and brought with it all of the same horrific practices that had eliminated thousands of Jews and other heretics from the Spanish and Portuguese kingdoms. Governor Luis de Carvajal, a Christian convert descended from Jews, gained permission in 1579 to move his family to Mexico in order to establish a new settlement in the fledgling Spanish colony. Unfortunately, the viceroy of Mexico sought to expose the Carvajal family as secretly-practicing Jews, and he accomplished this goal by the arrest and interrogation of the governor's niece Isabel. This presentation will explore the significance of Isabel de Carvajal as not only the key family member used to incriminate the entire Carvajal family, but also as a source of information about the lives of clandestine Jews in sixteenth-century Mexico.

Jackelyn Vargas - Spanish

The Importance of Race- Study of Alejandro Tapia Y Rivera's La cuarterona

Mentor / Sponsor: Dr. Leon Bodevin and Meg Brown

In the 19th century, Alejandro Tapia y Rivera wrote *La cuarterona*, a play that takes place in Cuba. This play revolved around forbidden passion between a mulata, Julia, and a criollo, Carlos. A mulata/o is a person of African and European blood and criolla/o is a person of European blood. Due to the social mores of the time, this powerful drama of love and greed ends in the tragic but heroic death of the mulata, Julia. Just as race was important in this play, it continues to be a central feature of identity in modern society, and is often seen as the source of conflict among peoples around the world. The purpose of this paper is to analyze this play from both literary and sociological perspectives revealing that cultural products such as this play are windows into our world.

Ryan Walls – Mathematics*The Search for the Best Bound***Mentor / Sponsor: Dr. Ted Porter**

One of the oldest problems in mathematics is finding the zeros of polynomials. A polynomial is a simple function constructed using only multiplication and addition, following the general form: $f(x)=a[0]+a[1]x+\dots+a[n-1]x^{(n-1)}+a[n]x^{(n)}$, where n is the degree of the polynomial. Zeros are the values for a polynomial of z which satisfy $f(z)=0$. General equations have been formulated to facilitate in calculating the zeros, but with limited success. Mathematicians are only able to find the exact roots for polynomials of degree $n\leq 4$. The Abel-Ruffini theorem states that there are no general formulas for such calculations for polynomials of degree five or higher, leaving mathematicians with only one option: approximation. Through approximation, the zeros of high degree polynomials can be closely obtained. The only negative aspect of guessing the zeros (besides not finding the exact root) is a range must be set to focus calculations towards the zeros. This range is called the bound of the polynomial. The purpose of my project was to compare bounds and determine which bound was the best, with best defined as the bound with the most accurate zero values and the greatest ease of computation. To expedite the process, the bounds were coded into the computer algebra system Maple. Random polynomials were run through Maple. The results were analyzed to determine if there truly is a best bound.

Chantell Waters, Amy Gardner, and Margaret Hayes – American Humanics

Women and Heart Disease Awareness

Mentors / Sponsors: Dr. Roger Weis and Judy Lyle

The Women and Heart Disease Awareness program was a two-hour, two-session presentation hosted by Murray State University students in the American Humanics Program. The goal of the program was the raise the awareness of women of all ages regarding the risk factors, warning signs and ways to prevent cardiovascular disease. The program was held on November 7, 2005 in the Barkely Room at Curris Center. The first session was from 11:00am to 11:45am; it consisted of blood pressure screenings and counseling. The second session was from 12:00pm to 1:00om; it was an informational forum facilitated by Jeremy Erdmann, a lecturer at Murray State. Attendees received "goodie bags" that contained informational packets, t-shirts, and promotional items. There was a grand prize drawing of a gift basket full of heart healthy items.

Heather Waters – Music Performance

Arnold Schoenberg; The Berlin Years 1926-1933

Mentor / Sponsor: Dr. Scott Locke

Arnold Schoenberg was an extraordinary cutting edge composer of his time. However, he was subjected to criticism and ridicule at every step in his career. Schoenberg's time in Berlin was of no exception; there he spent years cultivating young minds with his teaching and music through his own works. This oral presentation, with the help of his compositions and art work, will examine all aspects of Schoenberg's time in Berlin including; his compositions and the new compositional techniques that he was cultivating, his teaching at the Prussian Arts Academy, the political situation of the time and Schoenberg's personal development.

Yuliya West - German

Bertolt Brecht: The Epic Theater Theory And The Alienation Effect

Mentor / Sponsor: Dr. Meg Brown

Bertolt Brecht was originally one of the most misunderstood and misinterpreted German playwrights of the 20th century. These misunderstandings were attributed to Brecht's new and unusual techniques and his desire to improve the theatrical experience and help viewers develop a more analytical attitude towards theater. These techniques are part of Brecht's epic theater theory and they are one of his theatrical innovations. This theory is supported by a variety of literary devices that make the epic theater different from the dramatic theater. The alienation effect is Brecht's own invention that supports his epic theater theory. This presentation focuses on the investigation of the function and use of the alienation effect in his famous plays *The Threepenny Opera* and *Mother Courage and Her Children* and argues that the alienation effect is one of the most significant devices of the 20th century drama.

Dwayne White, Greg Archer, and Damius Roberson – American Humanics

Poker for Poverty

Mentor / Sponsor: Dr. Roger Weis

Poker for Poverty was a two hour event that was held on the second floor of the Curris Center. It was used to not only raise money and collect canned goods for the Need Line of Murray but, it was also set up to briefly educate the participants on the agency its self. The format of this program consisted of four tables set up with a dealer at each table. There were three players to a table. The winner at each table faced off in a final. After the winner of the final was determined and the game was over, we got several compliments for what we had done. The poker tournament was an overall success and we look forward to doing something of this nature again in the near future.

George Robert Whitfield III – Philosophy and Political Science

The Organic State: An Analysis of Government Formation and Disembodiment

Mentors / Sponsors: Drs. Franklin Robinson and Winfield Rose

Thousands of years ago, one of the world's first great thinkers philosophized about the rise and fall of the organic state. In his *Republic*, Plato detailed the embodiment of the ideal government and its eventual disembodiment into tyranny. According to Plato, governments would decline logically from his ideal aristocracy of talent and virtue in the following order: timocracy, oligarchy, democracy, and tyranny. Additionally, renowned medieval and classical political philosophers have explored the organic theory of government in some detail. In the early twentieth century, the renowned German philosopher Oswald Spengler revisited the organic theory of government in his most significant work *The Decline of the West*. Therein, Spengler theorized that western civilization has declined since its pinnacle around 1800ad. Spengler discussed cultural aspects such as religion, ethics, fine arts, and ethnicity, in addition to science and politics, which he believed devolve with society itself. However, several critics within the scholarly community have disagreed with Spengler's interpretation of history, offering different opinions on the organic theory of government. In this thesis presentation, I will analyze the organic theory of government as presented by history's greatest political philosophers. In addition, I will explore Spengler's perspective in detail, in consideration of Spengler's critics.

Andrew Wiggins - Philosophy

The Importance of Local Community in a Leopoldian Land Ethic

Mentor / Sponsor: Dr. Timothy Martell

Native persons are the best equipped to sustain a tract of land and the animals on it. This is true because years of interdependence between community and environment have shaped the community and the land (in a land ethic sense) to need one another. A people shape the land in their interaction with it. When this takes place they have an intimate understanding of that place which cannot be learned or replaced. Likewise those people are changed and shaped by the land. Their culture will be degraded if they are separated from their place. In this sense place and peoples are interdependent. I am making this argument from Aldo Leopold's conception of the Land Ethic in his book *Sand County Almanac*.

Leigh Wiggins, Paul Rohrer, and Geri Zavala – American Humanics

Furry Friends

Mentor / Sponsor: Dr. Roger Weis

The purpose of this Furry Friends program is to help teach children the fundamentals of good character by using activities and lessons designed to keep children safe around pets. Lessons include learning about fairness, kindness, citizenship, respect, and responsibility.

Stacie Williford, Sarah Kinslow, and Ricka McDonald – Nutrition

School Lunch Guidelines vs. Food Preferences of 5th Grade Children: Bridging the Gap
Mentor / Sponsor: Dr. Jeff Frame and Lori Crouch

Understanding food preferences of public school children can help school administrators to more effectively implement and manage school lunch programs consistent with federal and state school lunch guidelines. In this study, researchers provided food preference surveys to fifth-grade students to determine specific food likes and dislikes. Analyses of nutrient content of foods preferred by the students will be compared with school lunch nutrition guidelines. A better understanding of children's food preferences can assist school foodservice administrators in providing more nutritious foods while meeting children's food preferences.

Anthony Wilson – Political Science

The European Court of Justice: Its Powers, History, and Significance

Mentors / Sponsors: Drs. Joe Chaney and Mark Malinauskas

The European Union's Court of Justice, the first of its kind, was a regional entity that served as the judicial wing of the first strong supranational alliance of European nations small and great on both sides of the World Wars. It was formed to ensure the goals of the EU were achieved and that the Union would not disintegrate by maintaining the rule of law within Europe. Its extensive body of case law is a testimony to its effectiveness in pursuing this objective. Its cases also have an indirect impact on the future of international law and organizations by creating a broad template for how to enforce the rules of a supranational alliance. I will endeavor to prove this by examining key cases of European Case Law and explaining their relevance to the European Union, its citizens, and international law.

Anthony Wilson – Political Science and Thomas Kronos – Public Relations

The Politics of Science

Mentor / Sponsor: Dr. Howard Whiteman

Government and politics has a great influence on the direction of scientific development, and the party in power can also dictate what is researched and what is not. Democrats and Republicans differ in their view and approach to the issues of stem-cells, alternative fuels, and NASA, even though they often say the same thing concerning these issues in their platforms. Republicans have been adamant about limiting stem-cell research, tended to maintain a dependency upon oil, and increase NASA Funding. The Democrats push heavily for more stem-cell research and alternative fuels, while demanding more funding and accountability for NASA. This paper and presentation will examine these differences and what they potentially mean.

Eric Wilson, Shane Black, Ryan Horstmeyer, Bryan Knapp, Kyle Starks, & Matthew Wells – Electro-Mechanical Engineering Technology

ISA Hydraulic Bike

Mentor / Sponsor: Dr. James Benson

ISA (Instrumentation Systems and Automation) student chapter at Murray State University is an engineering club comprised of mostly Electro-Mechanical Engineering Technology majors. Last year MSU's ISA joined seven other schools to participate in the first ever national hydraulic bicycle building competition sponsored by Parker (hydraulics manufacturer that supports our labs). This year's bike team has taken on the challenge in a new light. Organizing and beginning much earlier in the semester, the team has been studying, researching, and testing hydraulics to find a way to get an extra edge this year and take home first place (the team placed 2nd last year). The presentation will explain as best as possible how a hydraulic bicycle works, and special emphasis will be placed on how ideas for this year's bike are/were tested, what worked, what didn't, how, and why.

Kasey J. Wilson – Psychology

Intimate Partner Violence in Women

Mentor / Sponsor: Dr. Paula Waddill

The purpose of this study was to examine the relationship between intimate partner violence, depression, body shape dissatisfaction, self-efficacy, and parenting styles. Forty female Murray State University students ranging in age from 18 years to 35 years completed five questionnaires that were presented in two different orders. Analyses were designed to evaluate if depression, body shape dissatisfaction, self-efficacy, and parenting styles would be predictive of whether or not a participant was likely to experience more intimate partner violence. Results indicated that a father with a predominantly authoritarian parenting style, a mother with a predominantly permissive parenting style, and body shape dissatisfaction were significant predictors of more intimate partner violence. These findings would be useful to service providers interested in helping victims of intimate partner violence. This study also opens the door to future research concerning factors predicting abuse.

Ruby Wing – Spanish Secondary Education

Ricardo Palma's Tradicion "Amor de madre" Evangelina - Heroine or Coward

Mentor / Sponsor: Dr. Mica Howe

In a marriage, traditionally women tend to the home taking care of the house itself and raising the children, while men are in charge of securing the financial security and well being of the entire family. During the time of the Spanish conquest of the New World many Spanish families were started in the colonies where in those times of profound social crisis it was almost impossible to get a soldier to settle down. In Ricardo Palma's *Amor de madre* a captain's debt incurred through gambling leads him to kill another man. His wife in an effort to save him from a sure death as well as to save her children's honor from being tainted exposes herself as an adulteress. The captain tries to recant Evangelina's testimony and ends up losing his mind before he can do so and Evangelina goes to prison. In this presentation I will explore the actions of el capitan Fernando Vergara and his wife Evangelina to ultimately determine that neither one of them could be considered a hero.

Dusty Witherspoon – Spanish and Organizational Communications

The Silver Age of Spain and its Literature

Mentor / Sponsor: Dr. Leon Bodevin

Throughout history, Spanish history has been marked by political unrest, internal division and the constant rise and fall of glory and power. This paper will examine how literature defines and is defined by the periods in which it is written. The silver age of Spain was a literary and cultural rebirth for Spain between 1898-1936 both beginning and ending with war. This era was fueled by an insurgence of creative literary talents who had a desire and need to put into words what was going on around them and within them. The silver age of Spain is best described in terms of the two very separate but distinct generations of writers that helped to define this era of cultural rebirth. These writers have come to be known as the Generation of 1898 and the Generation of 1927 of Spain.

Phillip Wright – German and Computer Science

Political and Social Themes in the Works of Max Frisch

Mentor / Sponsor: Dr. Reika Ebert

As a Swiss author who experienced WWII from the perspective of a neutral bystander, Max Frisch developed a critical view of the Western World which allowed him to analyze the social problems of his (and our) time in a very abstract way. The result of this abstract point of view was the production of literary works which examine the basic fundamental flaws of modern society and mankind and demonstrate the dangers of leaving these flaws uncorrected. This study analyzes these political and social themes, focusing on the concept of the creation of false images of people and groups and how these false images adversely affect the progress of modern society. More specifically, the three themes that will be examined include: the differentiation between us and the others, the inability of intellectuals and mankind to effect change, and the repetition of history.