

## **Sara Aull**

### **“The Critic’s Role in Determining the Literary Canon”**

My project addresses the question of who decides what literary works should be deemed canonical. The canon is an integral part of the English tradition because it is comprised of works deemed the “greatest.” But who decides what works are the greatest? Professors, critics and writers themselves are central to canon selection because of their vast knowledge and appreciation of the American literary tradition. For the purposes of my research, I centered on the critics, many of whom work as scholars and writers. Literary critics wield great influence on canon formation since they review and publish criticism in books, magazines and journals. These media outlets promote the work and encourage its adoption as canonical. I researched the history of literary criticism in America, including the importance of New England critics in recognizing the need for a national canon. Consequently, these critics were often biased, favoring writers from their region, such as was the case with Nathaniel Hawthorne. My project examines influences on critical selection, including education, money and power. The context a criticism is published in often decides whether a work has a place in the canon or not. The *Atlantic Monthly*, for example, was a highly influential literary magazine in the 19<sup>th</sup> century and many works critiqued there became canonical. To conclude, I argue why the canon needs literary criticism. As works are continually reviewed, analyzed and published in collections, they become part of the canon and the common culture.

## **Ellen Avsec**

### **“Libraries’ Responses to Technology”**

Technology is a large part of our modern culture that we must adapt to and eventually come to rely on. My project explores how different forms of technology become redeveloped over time and often become superseded by a newer technology. One approach that I took was studying the library. How have libraries adapted to and implemented new technologies and what will the future library look and operate like? I also researched the possibility of the book becoming obsolete, just as other once important technologies of society have become. I began my research by investigating the life of the father of the American library, Ben Franklin. Long ago, citizens could not afford to have books, so Franklin collected money to establish a library in which books could be lent out freely. From that moment on, the American library expanded greatly and I found, through an interview with the Cleveland Public Library director, Holly Carroll, that the library spends about 12 million dollars on new materials, annually. A concern that was raised in my research was whether libraries will be able to spend this money on materials in the future if more digital library content is being lent over the internet. People may stop buying books if they can download them for free over the internet. However, research has proven that although virtual libraries are appealing, books will not become obsolete as they’re still a necessity, and the experience and enjoyment offered from reading a book cannot be replaced by a computer.

## **Stephanie Bartos, Brittany Smith, Evan Mace, Catherine Checkelsky**

Psychology Majors

### **“Priming Effects of School Violence on College Students’ Attitudes towards the Mentally Ill”**

This study investigated the relationship between school violence priming and college students’ attitudes about mentally ill students on campus. Males and females (n=46), over the age of 18, from a small, private liberal arts college in central OH participated in the study. The control group viewed a neutral video about nature before they received a survey, including demographic information and questions regarding attitudes about the mentally ill on campus.

The experimental group was initially primed with a 10 minute video on school violence before they received the same survey. A between-participants factorial ANOVA was used to conduct a process analysis. The findings were significant and supported the stipulated hypotheses. A limitation that was present in the study is a small and homogenous sample size. Because of the student population on the college campus the results may not generalize well to all other kinds of campuses. This research has the potential to bring further awareness to the topic of mental illness on college campuses. This study should be replicated using a larger, more diverse, and representative sample.

**Maria T. Becker**

Family Variables That Contribute To Adolescent Substance Abuse

Substance abuse in adolescents is considered a serious social problem and has been shown to be correlated with criminal activity, addiction, and physiological problems. Previous research has found a link between family variables and adolescent substance abuse. An online survey of Mount Union College students was conducted asking questions about their family environment and the extent of their substance use during their adolescent years. The results show that family violence positively affected adolescent substance abuse, authoritative parenting style positively affected adolescent substance abuse, family substance abuse positively affected adolescent substance abuse, while family composition did not correlate to adolescent substance abuse.

**Danielle Boyer**

Department of Chemistry

“The Development of Methods to Semi-Synthetically Prepare Phospholipid Internal Standards for Lipidomic Analysis”

Lipid molecular species were obtained and semi-synthetically prepared through chemical modifications, in order to serve as internal standard components for lipidomic analysis. A one-phase system using octylglucoside was shown to be the most effective method of modifying the lipids. Phospholipase D commercially obtained from *Streptomyces species* was also shown to be preferential to using Savoy cabbage phospholipase D. Chromatography was used to confirm the purity of the internal standards, while phosphate analysis was used to quantify them.

**Meghan Brammer**

“Fireworks Paintings”

I wanted my audience to gain a sense of excitement and happiness when looking at my SCE project. I wanted this feeling to happen by painting acrylic pictures of fireworks. When I see fireworks I get this “little kid” feeling and am instantly happy. This is what I wanted to share with people through my paintings. My personal goal was for people to see the paintings and say “wow.”

**Stephanie Cain**

“Why Teach English”

The question, “Why would someone want to be an English teacher?” is answered as research shows how education affects a culture’s ideologies. The job of an English teacher is to ultimately create a society in which people are able to participate through producing and consuming texts, which is accomplished through reading and writing.

**Tim Campbell**

Health

Jump For Your Heart

I coordinated the Jump For Your Heart Program at Lincoln Elementary School in Bucyrus City School District. The specific learning objective of the project was to learn how to coordinate both health and physical education at a young age with a program that the kids enjoy. The program was structured into stations which included activities such as Dance Dance Revolution, exercise bikes, single jump ropes, and longer double ropes. Of significant interest to the program is its ability to help reduce the risk of childhood obesity, which is a growing epidemic in our country, by providing fun activities that the children would voluntarily participate in on a regular basis.

**Kelly A. Croysdale**

Department: Education

"The Fabric of My Life"

This poster presentation displays four years of research and investigation into the world of early childhood education. The SCE part I binder provides artifacts of individual practice in regards to the National Association for the Education of Young Children's (NAEYC) Developmentally Appropriate Practice (DAP). The SCE part II binder explores artifacts related to the early childhood setting and teaching experience from the preclinical experience. Photographs, lesson plans, and student resources were gathered to support the NAEYC Standards for classroom accreditation, initial licensure, and corresponding to the ODE Early Learning Content Standards. The SCE part III critical research portfolio includes the analysis of articles from the 28<sup>th</sup> Annual Edition: Early Childhood Education. The culminating Part IV of the SCE is a photo journal display that is relevant to the NAEYC initial licensure standards. The title for this photo display is "The Fabric of My Life" as the early childhood profession has been woven into my life through my experience with the Mount Union College Teacher Education Program.

**Tiffany Topper-Ewing**

Department of Chemistry

"Reinforcing Resin Replacement in Tire Tread Formula"

Many ingredients are mixed together to make tires: rubber, fillers, processing and curing aids, protective ingredients, and other miscellaneous materials. Reinforcing resins can be added to tires to make them stiffer and harder. Reinforcing resins can be broken down into two parts: the resin portion and a methylene donor. Three studies were conducted to determine a replacement resin for a control tire tread formula. These studies investigated resin type, type of methylene donor, and ratios of resin to methylene donor. Each resin was mixed into a standard rubber formula and cured. The rubber samples were tested for hardness, stiffness, and performance, as well as curing and processing properties. It was determined that a nonmodified resin showed the greatest amount of stiffness and performance and would be ideal for replacing the control. It was also determined that methylene donors should be used at a level of 5 to 7.5% of the resin level. Hexa-methoxy-methylmelamine (HMMM) was determined to be the ideal replacement methylene donor.

**Bethann Fitch and Keith Hawkins**

"The Proper Motions of Two Nearby Stars"

Modern observations and archival data were obtained for the nearby stars BD +20 2465 and Lalande 21185. Astrometry software and the Hubble Guide Star Catalog were used to measure the positions of the stars. Corrections for precession and parallax were included, and the proper motions of the stars were determined.

### **John Gallo**

"James Joyce, Bruce Springsteen, and the Virgin Mary Walk into a Bar:  
Roman Catholic Metaphor, Metonymy, and a Couple of Artists as Young Men"

James Joyce and Bruce Springsteen are strange bedfellows, indeed. What do, arguably, the greatest writer in the history of the English language and a scruffy rock and roll star from New Jersey have in common? More than one would initially think. In his 1914 novel, *A Portrait of the Artist as a Young Man*, Joyce's ideas of metaphor and literary philosophy are heavily influenced by the Roman Catholic Mass. The young writer realizes that every movement and ritual has an apparent, as well as, a deeper meaning, culminating in the ultimate two-in-one, the transubstantiation of the Eucharist. This metaphoric influence is also apparent in Springsteen's first three albums, especially in 1975's *Born to Run*. The themes of escape, ideal yet vague women, and the search for what it means to be an "artist" are themes that permeate both Joyce and Springsteen's work. Through comparing and contrasting the use of these themes, this project illuminates the inner workings of two artists whose shared upbringing in the Roman Catholic Church laid the groundwork for their eventual mastery of metaphor and metonymy. This project is not in the business of trying to elevate Springsteen or lower Joyce; such rankings are arbitrary and perhaps elitist. What needs to be recognized is that there is value in trying to understand the common thematic threads between the two. In seriously comparing Joyce and Springsteen, a novel concept can ultimately enrich the reader's understanding and appreciation of both artists.

### **Ellie Geiger**

Sociology Scholar Day Abstract  
College Students' Attitudes Toward HIV/AIDS

This study examines college students' attitudes toward people with HIV/AIDS. Previous research suggests that gender, major, Greek affiliation, and attitude toward homosexuals are related to attitudes toward those with HIV/Aids. An e-mail survey was sent to 250 Mount Union College students to examine these variables. 74 of these students responded and completed the survey. Results indicated that Greek affiliation and major did not affect students' attitudes. There were some differences when attitudes were tested against gender and attitudes toward homosexuals. The relationships with additional factors and attitudes toward those with HIV/Aids were also examined.

### **Laurel Gibson**

Elementary Education Experience

This poster will display pictures from my pre-clinical experience at KidWatch in Louisville Ohio. The pictures include lessons that I performed with the students, the students learning motor skills, and the meeting of various standards. Along with my poster I made a scrapbook that shows how I met the standards with examples and pictures of the children meeting the standards.

**Keith Hawkins**

“Correlation between Intergalactic Light and Super Massive Black Holes Shed Light on Galaxy Collisions in Compact Clusters”

In modern astronomy galaxy collisions are elusive due to our inability to view them in real-time. This investigation resolves that by studying two properties whose evolution results from galaxy collisions. The profiles and correlations between these two properties hold important clues about the processes involved in galaxy collision. Intergalactic light (IGL) is used to study off-centered collisions from high impact parameter collisions. The properties of the intergalactic light (IGL) hold key details on the accretion history and dynamical evolution of galaxies in clusters. Super massive black holes (SMBH) are used to study centered collisions from low impact parameter collisions. This study investigated the collisions of galaxies in five Hickson compact clusters measuring the correlation between average mass of SMBH and IGL (at the +26.5 mag/sq. arcsec isophote). Data on the clusters were compiled from the atlas of compact groups of galaxies; remaining data was collected from the Hyperleđa data base. Results show the average mass of a SMBH in a compact cluster is proportional to the negative of the square of the IGL luminosity. This relationship indicates there is a deeper connection between the SMBH and galaxy evolution than previously thought. This investigation suggests that the impact parameter is time-dependent such that galaxy collisions in compact clusters become more off-centered with time.

**Brandi Hershey**

“Landscape and Nature Paintings”

For my Senior Culminating Experience I want to take a realistic approach to my subjects and paint landscapes and nature as they appear in real life. I want the paintings to depict an open space rather than confinement by showing a sense of depth and perspective. More precise brush strokes and color intensity help emphasize objects up close while unfinished, duller brush strokes show distance. I will concentrate on using the appropriate colors to depict the right mood. I will create a visual tension by emphasizing specific brush strokes. The brush strokes will vary in weight, size as well as color. Each painting will have strong unifying elements. I chose to paint in oil paint because I feel the most confident using this medium. Throughout my Senior Culminating Experience I have worked hard to perfect my own unique painting style as well as incorporate the years of skill and artistic development. I have taken the foundation of my art education and produced aesthetic results. As a result I feel a sense of pride and accomplishment upon completion of my art studies here at Mount Union College.

**Cassandra R. Hickman**

Hispanic Immigration in the United States: Cultural Aspects

The main focus of this presentation will be the cultural issues that arise from Hispanic immigration. Such cultural issues arise from adjustments to language, work, study, and religion. Current news stories will also be used to illustrate the importance of cultural transition. Also, discussion on illegal immigrants in conjunction with Christian churches used as asylums will be scrutinized.

**Cara Jackson**

NAEYC Standards for Initial Teacher Licensure

As an Early Childhood Education Major, I was required to find evidence of each National Education of Young Children (NAEYC) Standard in my field placement. This was performed at

Alliance Early Learning School in a Kindergarten Class as I completed my pre-clinical practice (pre-student teaching). In my portfolio you will find evidence of each standard. Also, I completed a critical analysis of four research articles on Preschool through 3<sup>rd</sup> grade education today.

### **Amber Jaeb**

“What Are We Fighting For?: A Closer Look at the United States’ Purpose in Iraq”

Many Americans currently oppose the war because the United States was unsuccessful in finding weapons of mass destruction, as often referred to as President Bush’s reason for invading Iraq. But looking at the Bush administration’s initial reason for declaring war, some may recall that the U.S. went into Iraq for three very specific and publically addressed purposes, as stated by President Bush: “[t]o disarm Iraq of weapons of mass destruction, to end Saddam Hussein’s support for terrorism, and to free the Iraqi people.” Although the United States did not stand alone in this decision, aided by the physical support of at least thirty-four other countries, the confidence in its purpose has gradually deteriorated, initially with its inability to find such illegal weapons. Many U.S. citizens are currently wondering why exactly the United States is increasing both financial and military funding to a rather foggy cause. In my research, I look at the reasons for the United States’ invasion of Iraq, including: the lack of cooperation of the Iraqi government in agreeing to UN inspections regarding nuclear, chemical, and biological weapons; Saddam Hussein’s support for terrorism; and the accused Iraqi government’s obtainment of human rights from its citizens. In addition, I compare the initial reasons for war to the current goals of U.S. forces in Iraq.

### **Seana Kelly**

Sociology

Onset of Early Sexual Activity

The purpose of this research was to examine the factors that cause an onset of early sexual activity among adolescents. The predictors that were examined were parenting style, level of sexual education, and relationships with close friends. An online survey of 250 Mount Union College students was conducted. The survey asked questions regarding authoritative parenting style, level of formal sex education, close friends’ sexual activity, and self sexual activity. The results show a significant relationship between authoritative parenting and a later onset to sexual activity. Results also show that there was little communication by parents about sex to students in grade school and middle school and only slightly more during high school and college, perhaps indicating that parents left the topic of sex to the schools. Finally, the data showed that the average age for onset of sexual activity for students’ peers was 15.1 and the students’ average age was 15.9.

### **Emily Kirkpatrick**

English Department

“Creating Connections: High Schools Lessons for College Bound Students”

In this poster presentation, I showcase one writing assignment and assessment measure for high school language arts students. In order to complete this project, I first reviewed the scholarship on writing pedagogy and writing assessment, and together with my own reflections on learning to interpret and complete writing assignments, I developed a writing assignment titled, “Creating Connections.” This assignment speaks to feminist, collaborative, process and writing across the curriculum pedagogies of writing, in which students learn various ways of thinking about and approaching the composition process. It also reflects a cultural studies

approach to learning about other cultures and mind frames while exploring the student's own history and ideas. In addition, I researched the Ohio State Standards for language arts students in high school and the assignment reflects an emphasis on teaching reading comprehension, historical, social, and cultural analysis, and reader response strategies toward students' graduation requirements and writing proficiency. As my poster will demonstrate, creating effective writing assignments requires pedagogical and assessment research as well as feedback from others, including the willingness of someone to test drive the assignment.

**Kountz, Rick, Jeffery Beck, Josh Van Sickle, and Darren Paxson**  
CS & IS majors. "Un Buon Ristorante"

This project involves the development of an online software system that allows customers of a fictitious restaurant to make table reservations via the Internet. There will be several types of users of the system: the general public may make table reservations without a specific login mechanism, an employee login will be available to provide the capability to edit and maintain reservation data, and a manager login will be provided to enable adding new employee or manager accounts to the system. The software consists of a Web-based front end interface that communicates with a relational database through industry-standard programming techniques. The system has been designed to model a typical restaurant, and is customizable so that an actual client restaurant could adopt the system and tailor it to their needs.

**T. J. Krumel**

"Revamping the International Studies Homepage: A More Effective Version Based on the Discourse"

Group specific discourse exists because groups often have specific needs and purposes that are unique to them. A simple example of this can be found if you examine the dialogue one would use text messaging a friend versus writing an economics term paper. A writer would not use the slang they use text messaging in their term paper, and vice versa; they would not use the jargon they would use in the term paper text messaging a friend, unless that friend was also part of the economics discourse community. This difference exists because certain discourses are not appropriate in settings outside their common use. For this project, I had the chance to research political science discourse and analyze the International Studies website thoroughly. I quickly came to the conclusion that the site did not make effective use of the program's discourse, and in many ways, actually hindered it. I then took it upon myself to attempt to make the site a stronger tool for both current and prospective students inside the major. I started by eliminating the things that distracted from the information provided on the site. This included flashy backgrounds and numerous animations. I also included more information about the program, including a more comprehensive faculty list. The final and maybe most important change I made was to make the site was more user-friendly. Now the information on the site is allowed to speak for itself, allowing the discourse to show through.

**Alex Kubli**

"What's So Funny?: The Rhetoric of Humor in Society"

This project is a rhetorical examination of how literary characters and characters in TV and movies use irony and comedy to highlight social issues, call for social change, and affect society. This presentation examines literature of the twentieth century, including Joseph Heller's *Catch-22*, George Orwell's *Animal Farm*, and Kurt Vonnegut's *Cat's Cradle*. By rhetorically analyzing these texts, I show how authors use the rhetorical strategies of ethos,

pathos, and the invoked audience to connect to their readers and entertain while at the same time advancing a social agenda.

### **Brittany Kugler**

Brittany Kugler, a senior theatre major with a Stage Management concentration, did her SCE project on stage management for the theatre. She will present a poster outlining her research and work as stage manager for the fall semester Theatre Department production of *Absent Friends*, written by Alan Ayckbourn, that was performed in Rodman Playhouse on November 15, 16, and 17, 2007.

### **Amanda Kusler**

"Cultural Explorations: An American in France"

My SCE was a cultural exploration. In the first portion of my SCE, I included several anecdotes, some positive and some negative, from my time in France and my cultural impressions of each experience. For the second part, I explored the cultural differences between the French and Americans in regards to sexuality and flirting. In my research, I found that although the French are more open than Americans to the themes of sexuality and nudity, this does not mean that they are a more promiscuous country, as their sexual habits are very similar to those of Americans. I found that the different ways each culture views sexuality are partly a result of the role religion played in each country's revolution. In the American Revolution, religion helped found our country, whereas in the French Revolution, religion was partly the cause of the revolt. For the topic of flirting, I interviewed both French and Americans in order to understand the subtleties of each flirting in each culture. I then used my research to write a set of "rules" for flirting in each country.

### **Matt Lambert**

Department of Sociology

How Physical Attractiveness Can Affect a Person's Choice of a Study Partner.

I randomly selected 300 male Mount Union College students to complete one of two different surveys on whom they would prefer as a study partner. Subjects were asked to select a potential study partner from among the photos of three women, who varied in attractiveness, and two men. Each photo was accompanied by a brief description of the academic background of each potential study partner. I hypothesized that students would choose a study partner based on physical attractiveness rather than on their academic background. Using an Independent T-test, the results did not reach statistical significance. However, the results were in the predicted direction. I speculate that if I had a larger sample I would have found significant findings to support my hypotheses.

### **Virginia Landis**

"Unity and Division Through Language"

My research presents the various ways language is used both to create unity and cause divisions within groups. Looking at theories posited by Pierre Bourdieu, Terry Eagleton, Walter Ong, and James Berlin, I explore how unity and separation are created by language on many levels, including national language and literature, social classes, gender, dialects and stereotypes



### **Jensen T. Lewis**

#### EFFECTS OF DIOXIN ON LIMB REGENERATION IN THE MEXICAN AXOLOTL

The environmental contaminant, dioxin (2,3,4,8-Tetrachlorodibenzo-p-dioxin), has been shown to inhibit Zebrafish caudal fin regeneration. Previous observations in our laboratory suggested this also may be true for amphibian limb regeneration. The purpose of this study is to determine the effects of dioxin on the timing and morphology of limb regeneration in the Mexican axolotl, Ambystoma mexicanum. Forelimbs or hindlimbs of twenty nine 10 cm axolotls were amputated. Dioxin was provided IP at concentrations of 70ng/g or 140ng/g to groups of 3-7 animals. Four subject groups were used: Control, Sham-injected, 70ng/g, or 140ng/g. Dioxin was injected based on weight of animals at the time of amputation or one week post-amputation. These times correspond to pre- and post-blastema formation, an early developmental stage critical to regeneration. Initial observations of the subsequent stages of regeneration indicate dioxin does not affect the rate of limb regeneration when compared to the rate of regeneration in control or chloroform (sham) injected animals. Observations of the morphology of regenerated limbs (e.g. proportioning or patterning) utilizing Victoria Blue stained regenerated limbs is now underway. These experiments may identify a model system for later studies investigating molecular mechanisms involved in the regulation of regeneration.

### **Ryan Maxwell**

#### Antibacterial Treatment of Streptomycin-resistant *Acinetobacter calcoaceticus* Biofilms

Within the last few decades the number of antibiotic-resistant bacterial species has become increasingly problematic. More specifically, species from the *Acinetobacter* genus have been shown to become multi-drug resistant. The *Acinetobacter* genus has also been found to form common structures called biofilms which create an overall stronger bacterial structure. Biofilms of streptomycin-resistant *Acinetobacter calcoaceticus*, a member of the *Acinetobacter* genus, were established and subsequently treated with three antibiotics; neomycin 16µg/mL, tetracycline 20µg/mL and ampicillin 8µg/mL. In addition two potential natural antibacterial agents; (+) usnic acid 20µg/mL and caffeine 5000mg/L were also used against established biofilms. OD580/OD600 ratios revealed that the antibiotics only slightly affected the established biofilms. Ampicillin was the most effective antibiotic with an average ratio of 1.970 compared to the average ratios of tetracycline (1.141) and neomycin (1.087) respectively. Conversely, the three antibiotics were relatively successful in killing planktonic *Acinetobacter calcoaceticus*. Ampicillin was again the most successful antibiotic yielding a 23% decrease in planktonic bacterial cells according to OD600 readings. In addition, the concentrations of the two natural antibacterial agents did not show any ability to kill either the planktonic bacteria or established biofilms at the concentrations tested.

### **Andy McFarland**

#### Curating the Whitaker Mammoth

The Whitaker Mammoth, found on a farm in Alliance, OH, is a partially complete skeleton of a mammoth. There are a few nicely preserved bones, such as the right molar, left unerupted molar, portions of the tusks, bones of a foot, and a femur. Three vertebrae were also found fairly well preserved. A few ribs, one humerus, and one radius are decently preserved but broken by post-mortem events. Another section of tusk, presumably buried much shallower than the other, is much more weathered and poorly preserved. There are also many bones that are missing, including the entire skull, pelvis, many vertebrae, the other humerus and femur, the

radius and ulna and the tibia and fibula. There are many small fragments of bone that were found at the site that may be parts of the skull and/or other missing bones.

Judging by the well preserved foot and femur, it is possible that the mammoth got its foot stuck deep in mud and starved to death. It was also found in what was once possibly a bog, which serves to back up this hypothesis. There are no visible injuries or scars on the bone which suggest predation. There are some scratches on the femur, but these are most likely due to root action after the mammoth was buried.

Using the lamellar plate frequency and enamel thickness of the molar, I have determined the relative age and species of the mammoth. It was a young- to middle-aged adult Jefferson Mammoth (*Mammuthus jeffersonii*) or a Woolly Mammoth (*Mammuthus primigenius*). It closely matches characteristics of *M. jeffersonii*, but also shares some characteristics with *M. primigenius*. Further research is necessary to determine whether the mammoth is actually a Jefferson Mammoth or a Woolly Mammoth. I plan to accomplish this by looking at humerus and femur length and comparing with current data on Jefferson and Woolly mammoth's of around the same age.

### **Morgan McKinnon**

Little Hands, Big Hearts.

My project is a scrap-book and 3-ring binder of information and standards that were met through my pre-clinical experience in early childhood education. In the binder, the standards are broken up into sections that detail and describe the standards that were met. The scrap-book that will be presented is a way of creatively "showing-off" different projects, lessons and activities that I was a part of while doing my pre-clinical observations and teaching.

### **Tim Mellish , Mike Zimmerman, Joey Pellett, and Patrick James**

IS & CS majors. "MUCEarth"

This project involves the design and development of a three-dimensional model of several of the major buildings on the Mount Union College campus for use in the Google Earth program. The model will be loaded so that the buildings will be viewable if the "3D Buildings" option is selected by a Google Earth user viewing the area of the Earth that includes our campus. The buildings are viewable from any angle, are correct in terms of size and scale, and have actual building features included. This is a unique project, in that very few colleges and universities in the state of Ohio have had buildings modeled for the Google Earth platform.

### **Matthew Merlene, Jeremy Harper, Lori Wagner, and Jenn Prosis,**

Psychology Majors

"The Effect of Celebrity Status and Commercial Duration on Consumers' Ability to Recall Brand Names"

Due to enormous industry growth in television advertising, we investigated the effectiveness of television commercials based on two variables: duration of commercial (15 seconds v. 30 seconds) and the presence or absence of a celebrity in the given commercial. We measured advertising effectiveness by asking 25 Mount Union students to recall a product brand after watching a 30 minute television program with eight commercials embedded. We predicted that the duration and the presence of a celebrity would affect the participant's ability to recall the product. Our data supported our hypothesis of an interaction between duration and celebrity presence in a commercial, but we did not expect celebrity presence to have a significant negative effect on viewers' recall ability during 15 second commercials.

**Margaret Morgan**

“Becoming a Better Learner: The Medium is the Metaphor”

Writing has been found to be one of the best ways to improve the learning process. In light of this, learning techniques are especially relevant to English Studies because of the close relationship learning and writing share. Writing and reading are primary focuses of English departments, and writing is one of the chief ways to facilitate learning. Therefore, examining the relationship between writing and learning is both appropriate and necessary within English Studies. Closely tied to the writing-as-learning process is critical reading. Writing and critical reading both demand critical thinking and sophisticated reasoning from the learner. This process of reading and thinking, often culminating in a written product, is an important process to understand and consciously practice if one wishes to improve their assimilation and synthesis of information.

**Jason Nussbaum, B. J. Douglas, Kyle Lott**

Investment Analysis (Finance SCE)

The purpose of this research was to find the different effects the economy, industry, and its competitors had on four particular restaurants. The restaurants or companies consisted of Wendy's Incorporated, Sonic Corporation, Yum Brands, and McDonalds. In this process, the areas of world events, public attitude, GDP growth, unemployment, were the focus as we felt these would affect the companies the most. In the industry section, certain life cycles, government regulations, product quality, R&D expenditures, and industry norms and standards were compared. The company's analysis of a number of ratios and growth were used to compare to the industry, and then again to its competitors. After extensive analysis, conclusions were drawn regarding investing in the restaurant industry (full-service eating places) and whether or not it would be a good idea to do so in the year of 2008.

**Mary Jo Osterman**

“Flower Paintings”

My initial proposal was to create a variety of different flowers in acrylic paints. I wanted to represent the beauty of nature through the use of color, texture and space. I chose this medium because I want to use a variety of colors to make each painting look very different. The paintings would be different size, color, texture, and of course a different types of flower. They will all be different, but at the same time, unified because they are all flowers and express feelings. For example, the dandelion seedling would be suitable for conveying a particular feeling. The seedling expresses a delicate, softness to it because it looks so fragile. The viewers should feel a sense of happiness and appreciation of nature while viewing the different paintings because of my interpretation of the beauty involved.

In the past year, while working on my Senior Culminating Experience, I have learned a lot more about painting. My earlier paintings that I produced in September and October, I struggled with creating the illusion of depth. Many of the flowers that I painted looked flat and lifeless, which was not part of my proposal. But with the help of my professors, I began to better understand how to make my paintings look three-dimensional and lifelike.

**Megan Pankuch**

“Painting Sound in Art”

For my SCE I was looking at the idea of sound in art. Originally at the beginning of the year, I wanted to communicate the sound of music without using such obvious tools such as an instruments. I had planed on working with patterns, rhythms, and textures to paint a more abstracted portrayal of what music would look like on a flat silent surface.

Throughout the process of my SCE I changed the structure of my proposal. I decided that by keeping my paintings completely non-objective, my audience would not be able to relate to my subject matter. As my paintings developed, I continued to work with color, repetition, and rhythm. However, I started to really focus on creating a sense of movement in my work that helped to communicate a full, lively sound.

I continued to leave the instruments and figures very abstracted with only hints of facial features. I did this because when an individual is watching a musical performance, they are not focusing on the musicians, but they are directing all their attention to the sound of the music and taking in all the auditory stimulation around them. I wanted all the pieces of my paintings to work together to create a unified feel through color and design that would communicate to my audience a distinct musical feel.

**Nickolas P. Parr**

“Robotic Arm”

Mechanical Engineering is a popular field that involves the application of principles of physics, design, and mechanical systems. Mechanical Engineers allow everyone else to live their lives easier and in a more relaxed fashion. From car engines to robots, no matter what the tool is, it can help us live better and simpler lives. For my SCE I decided to design a robotic arm. Operated by a touch pad, it will locate and retrieve computer chips on command. This robot arm will be located in the Digital Electronics lab in Bracy Hall. Hopefully after other students see this design it will attract then to the field of Mechanical Engineering.

**Julie Perkins**

Department of Sociology

The Portrayal of Men in Popular Magazines

My research examines the images of men used in advertising found in several popular magazines targeted specifically at men, specifically at women, and magazines that are targeted at both men and women. I hypothesized that more traditional images of men would be found in the men’s magazines and more nurturing and emotionally available images of men would be portrayed in women’s magazines and in magazines read by both men and women. According to my analysis, I found that some of my hypotheses were supported based on the magazines and types of images that I found.

**Christopher Price, Jacob Jahnke, and Brandon Frank**

Psychology Majors

“ Personality Types and Willingness to Lie to Authority Figures”

The authors of this study examined the relationship between extroversion and introversion and an individual’s willingness to lie to authority figures in 4 conditions: major situations involving the self, minor situations involving the self, minor situations involving another and major situations involving another. The authors hypothesized that extroverts would be more willing to

lie than introverts, people would be more willing to lie about themselves than others, and that people would be more willing to lie about minor situations. Fifty-six participants were recruited from undergraduate psychology courses at Mount Union College. Introversion and extroversion was determined by results from the Myers-Briggs Personality Type Indicator. Participants' willingness to lie was assessed via a questionnaire which presented 20 hypothetical situations, 4 for each condition. Participants were asked to choose 1 of 4 courses of action that they would employ in each given situation. The possible actions varied in terms of the extent to which participants' were truthful. A score was calculated for each participant in each condition indicating their level of honesty. The data were analyzed by a 2 x 2 x 2 ANOVA. The predictions were partially supported. A significant interaction suggests that individuals lie more about themselves in minor situations, but lie more about others in major situations. In contrast to predictions, personality type was not found to be correlated with participants' willingness to lie, and participants were more willing to lie about others more than themselves.

### **Michael Romano**

At the beginning of the semester Archbishop Hoban High School, Akron, Ohio, approached our BA474 Policy & Strategy marketing cap-course seeking help. Administrators of the school were concerned with the retention of students and the potential of declining future enrollments. Stark County was identified by Hoban decision makers as a possible source of additional students. Our project, therefore, was to quantify that potential, determine if it was worth going after, then, if so, devise a strategy in the form of a marketing plan to guide administrators in their efforts to penetrate the Stark County market. We anticipate that Stark County will represent a viable source of students and that our strategic guidance will aid school administrators in their efforts to retain and attract from that market.

### **Ashley Ross**

Department of Sociology  
Causes of Delinquency

The focus of my research project was to study the effects of deviant peer association, parental maltreatment, and parental structure on subjects' delinquency. I conducted my research using an online questionnaire that was distributed via e-mail to a random sample of current, full-time, Mount Union students. Deviant peer association has a strong correlation with delinquency, signifying that the more deviant a child's peers and friends are, the more likely that child will become deviant as well. The hypothesis on parental maltreatment was also supported: the lower the level of parental maltreatment, the less likely for the child to be delinquent. There was no relationship found between parental structure and delinquency.

### **Darren Ross**

Sociology Department  
Body Image Concerns Among College Athletes

This research project examined the body image concerns of athletes at Mount Union College. An online e-mail survey of 250 MUC athletes was conducted, including both male and female athletes and participants from all sports. Previous research shows that athletes who are involved in team sports are less likely to be concerned about their body image than athletes in individual sports. The uniform that an athlete is required to wear affects whether or not the athlete is concerned about his or her body image. Because of society's view of gender, female athletes are more concerned about their body image. Athletes that have more pressure from coaches, parents, and other students have more concern for their body image. The age of the

athlete also affects whether or not the athlete is concerned about his or her body image. The older, higher class status athletes (seniors and juniors) place less emphasis on body image than athletes that are younger and have lower class status (freshmen and sophomores). My research shows that some of these variables were related to the body image of Mount Union College athletes, while some were not.

**Jenny Runner**

Spanish

Un Caldo de Religiones

While Catholicism has remained the most dominant religion in Spanish speaking countries, over the past several years there has been a growth in Protestantism. Protestantism has been growing at a large rate due to a dissatisfaction with Catholicism, aggressive evangelization, and the social conditions of the region. These conversions to Protestantism have caused cultural changes throughout towns and families. In examining the conversions occurring in Latin America, the mixture of religions in Spanish speaking countries is better understood.

**Brandon Slone**

*Islamic Banking: Origins, Infrastructure, Effectiveness, and a Comparison to the Western Model*

This paper is an informational report on the practice, law and effectiveness of Islamic Banking. The paper is divided into three main sections. The first section will give a brief overview of the origins of Islamic Economics, and the many factors that have contributed to the evolution of Islamic Banking. The second section will dissect the Islamic Banking model and more importantly the laws and regulations that surround it. The third compares the Islamic Banking model to the Western model, with empirical data/statistics provided and compared. The research has shown that Islamic Banks are very viable options and rapidly growing for countries that have adopted them. Profit-sharing is a sound solution, and Islamic Banks will be able to thrive as long as those running them are innovative in their management.

**Billie Maley, Julie Miller, Heather Smogor, & Deanna Vodenichar**

Psychology Majors

“Effects of Music on College-Aged Students Performance of the Stroop Test”

The purpose of this study was to see whether different types of background noise affect college-aged students' performance on a cognitive task. The researchers analyzed how listening to either aggressive music with aggressive lyrics, non-aggressive music with non-aggressive lyrics, or white noise affected students' performance on the Stroop Test, a task which presents the name of a color in a different text color. The task required that the participants indicate the color in which the text was presented and not the name of the color. The hypotheses for this study were that participants in the aggressive music with aggressive lyrics condition would have more errors on the Stroop Test, and that participants in the non-aggressive music with non-aggressive lyrics condition would have less errors on the Stroop Test. Approximately sixty Mount Union College students ranging in age from 18-22 participated in this research study. While preliminary data analysis showed no significant differences between groups, the aggressive music/lyrics group's response times were greater than the other two groups. There was also a significant negative correlation between music preference and level of distraction.

**Amy Stilgenbauer**

“The Rhetoric and Writing of Social Movements and the Effect of Public Relations”

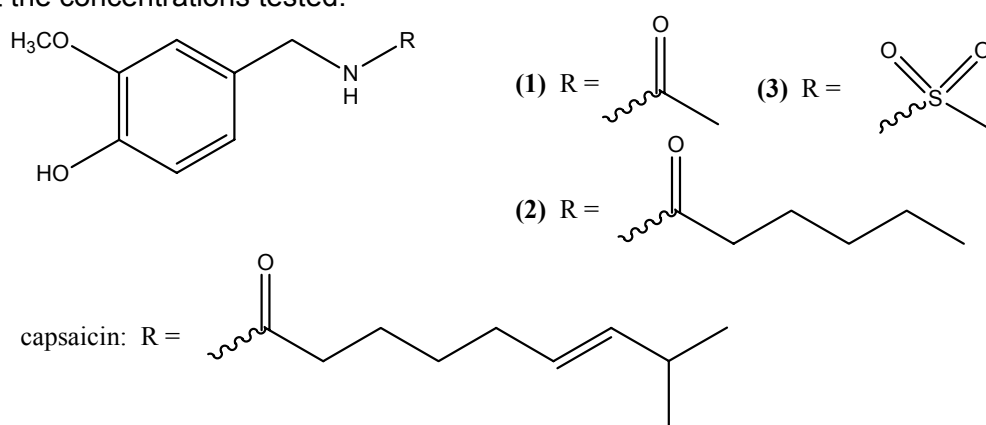
The focus of my senior project deals with the field of public relations in a two-sided situation: legitimacy and application. However, my project moves the discussion beyond public relations' traditional domain, the corporate world, and into the political sphere. This presentation deals with the effect of public relations as a field on the type and quality of writing used in social movements and the political arena. I discuss issues such as the professionalization of public relations as a legitimate career field for pursuit by a writing student, along with the field's use of and the desperate need for social movement efforts.

### Jeremy Taylor

Department of Chemistry

"The Synthesis of Capsaicin Derivatives for Evaluation as Antimicrobial Agents"

Because of the growing resistance to current antibiotics, scientists are constantly searching for new types of antimicrobial drugs. Many plants have the ability to secrete chemical compounds that help in defense against microorganisms. This study focuses on the derivatives of a specific type of antimicrobial compound called capsaicin; a member of the terpenoid family. Two known derivatives of capsaicin, **(1)** and **(2)**, were synthesized in yields of 28.0% and 87.1% respectively, using a novel synthetic methodology which reduced the reaction times from three days to three hours. In addition, a previously unreported derivative, **(3)**, was synthesized in 46.3% yield. These three derivatives were then evaluated as antimicrobial agents against *E. Coli* and *S. Aureus*. None of the capsaicin derivatives showed any detectable antimicrobial activity at the concentrations tested.



### Louise Thoma

Exercise Science major

The effects of localized vibration on lower extremity flexibility enhancement in an older population.

Although flexibility is an integral aspect of wellness and mobility, it is often overlooked when designing proper exercise regimens. As humans age, a combination of an increasingly sedentary lifestyle and the natural course of aging causes the body to degenerate, decreasing joint range of motion, muscle mass, and strength. These factors contribute to decreased functional ability. Traditionally, flexibility enhancement was the product of static stretching, along with ballistic stretching and proprioceptive neuromuscular facilitation. Recently, a method has emerged using vibration as a means of flexibility enhancement. The objective of this study was to examine the effects of localized vibration on lower extremity flexibility enhancement in an older population. Thirty men and thirty women, age 65 - 85, untrained, and healthy, served as

subjects in this study. They were divided randomly into three groups (equal sex numbers). One group acted as a control, another received a traditional stretching protocol, and a third group used the traditional stretching protocol with vibration treatment during the stretch. The vibration treatment was received at the belly of the muscle being stretched. Flexibility enhancement was measured by a blind third party researcher. The following tests were administered: Modified sit and reach, dorsiflexion and plantarflexion, and knee flexion and extension. Data collection has not been completed but the data will be analyzed using a 3 x 2, group by time, repeated measures ANOVA and post hoc testing. Flexibility enhancement is expected to occur. This result could be attributed to the vibration treatment, or enhancement simply due to an increase in activity.

### **Brianne Towers**

Department of Sociology

What Common Determinants Suggest Higher Divorce Rates?

Divorce has become a common practice in the United States. The overall purpose of this study is to suggest variables that might contribute to the reduction in monogamy. For the purpose of this study, the correlations between divorce and degree of education, total family income, political views, attendance at religious services, urban and rural populations, and median ages within states were evaluated. A secondary analysis was completed using two separate data sets: The General Social Survey and STATES. Six hypotheses were tested using both Pearson Correlation and Crosstab with Chi-Square test. Two hypotheses were found to be significant while four hypotheses were found not to be significant; although some of them were in the predicted direction.

### **Neal Veverka**

Department of Sociology

Do Violent Video Games Cause Aggression in the Adolescents Who Play Them?

This study was conducted to see if video games have an adverse effect on adolescent behavior. With the increased availability of violent video games, it is important to discover whether teens adopt the violent behavior of the games that they play. Via an online survey, a sample of Mount Union College students were asked to report the amount and type of video games that they played each week and self report on aggressive and delinquent behavior. My data showed that those students who were involved in fights in the past year played more than twice the number of hours of violent video games compared to those who did not become involved in fights. These findings suggest that video game violence is worthy of social concern.

### **Jenna Waid**

“Shakespeare’s Mystique: The Dominant Female Identities of Cleopatra and Juliet”

The study and theory of gender and feminism have become a reasonably large focus in the scholarship on William Shakespeare’s plays. The many elements of his characters, the social structure of the plays and of London, and the many influences of Shakespeare’s life contribute to the intrigue that has overtaken Shakespearean scholars and followers. For this project, I identified these issues, as well as the theory behind much of it, but with a greater focus on the parallels of two of Shakespeare’s most popular leading ladies, Juliet and Cleopatra. These two female characters reveal power and identity in the plays through their sexuality and social experiences which define them as the vivid and well-defined characters we see them as today.



**Amanda Warner**

Department: Sociology

Do Certain Life Experiences Affect a Woman's Attitude Toward Cohabitation?

This research project examines women's attitude toward cohabitation. An online survey of seventy six Mount Union College female alumnae was conducted. The research examined the subject's family background, whether they grew up in a stable home with a stable mother & father figure, if they were married multiple times, if they have cohabitated in the past, and how many sexual partners they have had. The results show that family background had no effect on attitudes toward cohabitation. However, the number of sexual partners showed a positive relationship to attitudes toward cohabitation.

**Lindsey Whittlesey**

Connect "ED" to Second Grade.

My poster is a reflection of my time spent in my pre-clinical classroom. The project includes information based on the curriculum standards and how they related to my classroom set up. Also in my project is a binder with a collection of article summaries that relate to early childhood. The third piece of my project is a binder that compares and contrasts how development and learning are integrated and supported through various aspects of the school and classroom. And the last part of my project is a storybook that highlights my time spent at the school and how I related the curriculum standards into my second grade classroom.

**Justin Wray**

"Electronic Filters"

An electronic filter is a circuit that is crucial to signal processing, and essential to today's electronics. Filters are able to allow a designated frequency pass through while rejecting unwanted signals. The designated frequency range allowed to pass through is known as the passband, and filters can be categorized by the type of passband they have. The main types are the low-pass, high-pass, band-pass, and the band-stop. Filters can be categorized in a number of different ways as well. Initially the first filters were known as "passive filters", and were usually made up of only resistors, inductors, and capacitors. Since then, a shift has been made to more sophisticated "active filters", which usually consist of an operational amplifier. Active filters can be subcategorized even further as there are a number of common circuit topologies, such as the Sallen Key and Multiple Feedback topologies. Filters are also categorized by the shape of their filtration, which is determined by the components used to create it. This is known as the filter response characteristic, and three common ones are the Butterworth, the Chebyshev, and the Bessel. This project will supply information and the background mathematics regarding passive and specifically active filters and their subcategories. In support, a color organ circuit will be created using five active pass filters to provide real-life illustration of filters and their capabilities.

**Kim Wright**

"Chinua Achebe and Aristotle: The Rhetorical Connection"

This project examines the rhetorical strategies used by Chinua Achebe in the novel *Things Fall Apart* to establish credibility, create an emotional reaction, and appeal to the logic of his readers. These three strategies are called rhetorical proofs, and they are referred to as ethos (credibility), pathos (emotion), and logos (logic). The proofs form the Aristotelian Method, which was established by Aristotle. The goal of this essay is to bridge the gap between Achebe and

Aristotle and see how rhetoric plays a large role in Achebe's success. A majority of the research for this project was found in scholarly journals and books about Achebe and Aristotle. While quality research itself was not hard to find, the challenge became connecting the writers and their works. Achebe's success can be attributed to writing the book in English, his upbringing among the Igbo people, and his criticism of Joseph Conrad's *Heart of Darkness*, all of which establish the author's credibility, or ethos. In addition, *Things Fall Apart* affects some readers on an emotional level, and Achebe uses logos to persuade his readers to see Okonkwo and the Igbo people as people with traditions, rituals, and culture.

**Courtney Zwisler**

"Writing Stories for Children"

Aspiring writers of children's literature must know the history and impact of the genre before developing their own work. This poster provides a historical background of children's literature, including oral tradition, stories in print, and animated film. I also provide a brief look at psychoanalytic critical theory to highlight the impact that the genre has on its audience. Finally, this poster presentation outlines the writing and publishing process for children's literature, including a look at the work of some successful writers in both the print and film arenas.