

PROGRAM SCHEDULE

MONDAY, MAY 1, 2006

AFTERNOON CONCURRENT SESSIONS

Department (s)	Bldg/Room	Presenter	Presentation Time
BAD/SW/PSY	BAC-44	Emily Hill, Leah Booth, Staci Colson (SW)	2:00 p.m.
		Jennefer Jones, Kasey Nunn, Brittney Stephens,	2:20 p.m.
		Rachel Cooper, Ashley Spruell (SW)	
		Kellie Roe (SW)	2:40 p.m.
		Sarah Young, Tyler McMurtry,	3:00 p.m.
		Alisha Pinner (PSY)	
		Joshua Willhite, Stephanie Terrell,	3:20 p.m.
		Deidre Gastenveld (PSY)	
BIO	PAC A-7	Landon Preston (BAD)	3:40 p.m.
		Eunice Sung	2:00 p.m.
		Benjamin Pham	2:20 p.m.
		Angela Jackson & Brad Spencer	2:40 p.m.
		Daniel Holsinger	3:00 p.m.
		Chelsea Mytyk & Brent Jones	3:20 p.m.
	PAC B-27 (poster presentations)	Melissa Lowe & Chrissa Norton	3:45-5:00 p.m.
		Scott Harden & Heather Higdon	3:45-5:00 p.m.
		Jill Konkol & Erin Moody	3:45-5:00 p.m.
		Kelley Tate & Noah Stearns	3:45-5:00 p.m.
		Beth Brown & Andy McBride	3:45-5:00 p.m.
		Amanda Blankenship & Amelia Lewis	3:45-5:00 p.m.
CHE	PAC A-9	Jennifer Hamman & Leslie Brown	2:00 p.m.
		Kenneth Lewoczko	2:40 p.m.
		Kimberly M. Lindsey	3:00 p.m.
		Eunice Sung	3:20 p.m.
		Benjamin Pham	3:40 p.m.
CHR/ART	JEN 325	Andrew Helms	2:00 p.m.
		Gregory Poore	2:20 p.m.
		Jill Hickman Zimmer	2:40 p.m.
		Joshua Brubaker	3:00 p.m.
		Drew Zimmer	3:20 p.m.
		Marcus Bohler (ART)	3:40 p.m.
DMS/ART	JEN 225	Kristen Chute (DMS)	1:00 p.m.
		Bobby Johnson (DMS)	1:30 p.m.
		Bill Dixon (DMS)	2:00 p.m.
		Brad Moore (DMS)	2:30 p.m.
		Deidre Jonas (DMS)	3:00 p.m.
		Debbi Wagner, Erin Laverty,	3:30 p.m.
		Allison Steele (ART)	
COM	Photo House	Nic Pfost	3:30 p.m.
		Matthew Rory Diggs	4:00 p.m.
EGR	PAC D-52	Josh Shrewsberry	2:00 p.m.
		Dou Dou Huang, Blake Waggoner, David Foster,	2:30 p.m.
		Justin Montgomery	
		Andy Robinette, Ginger Allen, Jeremy Sullivan	3:00 p.m.
		Andy Robinette, Ginger Allen, Jon Brasher,	3:30 p.m.
		Joshua Brooks, Jeremy Sullivan	
		Josh Shrewsberry, Zack Jackson, David Foster	4:00 p.m.

Department (s)	Bldg/Room	Presenter	Presentation Time
ENG/TESL	PAC D-54	Matthew Turner (ENG) Megan Parrish (ENG) Leigh Ann Gordon (TESL) Christina Schulz (TESL) Jared Lawrence (TESL)	2:00 p.m. 2:20 p.m. 2:40 p.m. 3:00 p.m. 3:20 p.m.
	Student Lounge	Creative Writing: Jerome Azbell, Jill Casey, Chris Deming, Adam Foote, Josh Hall, Brett Logan, Katie Mathis, Sarah Nadaskay, Amanda Norris, Courtney Nute, Matt Owens, Julie Riddle, Alex Scarbrough, Bob Sparks (ENG)	3:40 p.m.
HIS/PSC	PAC C-6	Jennifer May	2:00 p.m.
		Clayton Sanderson Jenny Buffington Jessica Gertig Natalie Treece Cassandra Harris	2:20 p.m. 2:40 p.m. 3:00 p.m. 3:20 p.m. 3:40 p.m.
IIS/LAN	PAC D-53	Nikola Djordjevic (IIS) Marko Pavlovic (IIS) Jared Lawrence (IIS) Rachel Melton (IIS) Wendy Wilson (LAN) Nathan Michael (LAN) Joanna Causey (LAN) Tiffany Ramirez (LAN) Ashley Bradford (LAN)	2:00 p.m. 2:20 p.m. 2:40 p.m. 3:00 p.m. 3:20 p.m. 3:40 p.m. 4:00 p.m. 4:20 p.m. 4:40 p.m.
CSC/MAT	PAC C-17	Kevin Jett (CSC) Robert Jacks (CSC) Paul Simer (CSC) Kendal Hershberger (CSC) Tasheena Richmond (CSC) Kevin McDaniel (CSC) Denise Baughman (MAT) Tony Winkler (MAT)	1:00 p.m. 1:30 p.m. 2:00 p.m. 2:30 p.m. 3:00 p.m. 3:30 p.m. 4:00 p.m. 4:30 p.m.
MUS	Hartley Hall	Nathaniel Webb Laura Huggins	1:00 p.m. 1:20 p.m.
Poster Presentations	Library	Emily Hill, Leah Booth, Staci Colson (SW) Jennefer Jones, Kasey Nunn, Brittney Stephens, Rachel Cooper, Ashley Spruell (SW) Rhett Barker (CHE)	2-5:00 p.m.

RECEPTION FOR PARTICIPANTS, FACULTY & OUTSIDE GUESTS

Coburn Dining Room

5:00-6:00 p.m.

KEYNOTE ADDRESS

Mr. Kolo Goshi, Electrical Engineer

"Take the Leap"

Coburn Dining Room

5:30 p.m.

PROVOST PRESENTATION

ART

Christians and the Arts: A Look into the History of Art and the Christian Faith compared to the Modern Church's Mindset

Presenter: Marcus Boehler
Faculty Advisor: Lee Benson

The intention of this presentation is to enlighten the listener to the postmodern Christian artist's dilemma. The history of the role of art in Old Testament and New Testament times as well as the history in the church will be discussed. The main focus will be on the abandonment of the church in the arts (visual not aural) and the possible effects this has caused in developing the postmodern, subjective art climate in which we live.

Once the Christian is exposed to the truth about art and its Biblical roots and traditions in the church, it is hoped they will understand the importance of reclaiming this realm of humanity to the glory of God and the role that all Christian non-artists play.

Three Voices in Clay

Presenter: Debbi Wagner, Erin Laverty, Allison Steele
Faculty Advisor: Lee Benson

Learning to speak in clay is twofold, not only does the artist need to master technique but one must find their voice. In this presentation we will look at three different perspectives and the driving forces behind the work:

"I am drawn to metaphor, particularly the clay vessel's power to portray time and space, interior and exterior, birth and death, and body and spirit. As the subject of poetry and painting, the stuff of archeological digs, and the plate we used for supper, it is clay's richness and diversity which persistently motivates me."

"Passion drives me daily to create beautiful ceramic objects. I desire to make graceful forms that reflect the poise, elegance, sensuality, and intimacy of the female figure. Ultimately I seek to convey a lighthearted cheerfulness and a deep founded joy in my vessels through whimsical details paired with delicate and sophisticated forms."

"Working with my hands to create pottery that will be used and enjoyed by others brings me the deepest sense of satisfaction and joy. I desire to stimulate within people an appreciation for life's simple routines such as serving food, eating, or drinking."

BUSINESS ADMINISTRATION

A Quantitative Analysis of Materialism, Ontology, and Religious Satisfaction

Presenter: Landson Preston
Faculty Advisor: Darin White

In recent years, studies have shown that materialism can be directly related to a disruption or social disadvantage in an individual's life (poverty, divorce, etc.). As a result, materialism is often viewed from a psychological and sociological perspective as a coping mechanism used to deal with social abnormalities within one's life. In contrast, studies have also proven that individuals with high levels of religious activity and religious satisfaction tend to be less involved in social disturbances and find a sense of being in their religion.

These two facts lead the researchers to ask the following question: If materialism is often viewed as a coping mechanism, what is the relationship concerning materialism, personal assessment, and religious satisfaction? The answer to this question and others was found in the collection of 407 surveys gathered from a random sample of college students in twenty-six colleges and universities across the United States.

BIOLOGY

Burkitt Lymphoma: Mutations and Alter-Egos

Presenters: Amanda Blankenship and Amelia Lewis
Faculty Advisor: Carol Weaver

Burkitt Lymphoma (BL) is a nonHodgkin's lymphoma that is prevalent in, but not limited to, persons of African descent. The majority of those affected with BL are children due to their underdeveloped immune systems. Although rare, adults can contract the disease, and they have a significantly lower survival rate than children. The Epstein Barr Virus (EBV), a human herpes virus that is normally associated with mononucleosis and certain malignancies, causes BL. EBV acts upon B-cell lymphocytes, producing a mutation of the c-myc oncogene. In addition, the presence of Epstein Barr Virus Nuclear Antigen 1 (EBNA1) inhibits apoptosis, causing rapid cancer growth. Cells that are uninfected with EBNA1, but which have a mutated p53 tumor-suppressor gene, exhibit the behaviors associated with EBNA1. This poster focuses on the affects of the mutated c-myc oncogene and certain EBNA1s involved with BL.

Fountain of Youth? Studies of Premature Aging in Werner Syndrome Patients Shed Light on this Possibility by Examining Telomerases and DNA Helicases

Presenters: Beth Brown and Andy McBride
Faculty Advisor: Carol Weaver

Werner Syndrome is a rare, autosomal recessive genetic disorder characterized by accelerated aging with onset at puberty. A variety of age-related pathologies such as type II diabetes, osteoporosis, cataracts, arteriosclerosis, diminished fertility, and graying of the hair occur prematurely, and death usually follows by age 50. Werner Syndrome is caused by a defective gene on chromosome 8 that produces a faulty helicase and thereby preventing proper replication and recombination. It has been suggested that the premature shortening of telomeres also plays a role in the disease and the resulting pathologies. In order to understand the causes of aging, this premature aging disease has been used as a study model. Modern research into Werner's syndrome and the aging process has revealed potential methods for increasing life span. This poster explores the molecular causes of Werner Syndrome and its effects on aging in addition to possible means of enhancing longevity.

Asthma Susceptibility Associated with Genes Located on Chromosomes 5q, 11q, and 12q

Presenters: Scott Harden and Heather Higdon
Faculty Advisor: Carol Weaver

Asthma, a prevalent disease found in all cultures of the world, is caused by a combination of genetic and environmental factors. Although the genetic factors of asthma are not completely understood, it is known that several genes contribute to one's susceptibility to the disease, and most of the identified genes are on chromosomes 5q, 11q, and 12q. A combination of these genes predisposes certain individuals to acquiring the disease if environmental conditions contribute. The onset of asthma can be seen as soon as two years of age. This poster focuses on research of asthma genes in an attempt to gain an understanding of the genes' affects on asthma. Treatment options, which currently are severely limited, and strategies for preventing the diseases in the future are explored in order to develop a more thorough understanding of the underlying genetic contributions.

"The Effects of a Strong Electromagnetic Field on the Growth of Escherichia coli"

Presenter: Daniel Holsinger
Faculty Advisor: Elsie Smith

Scientific and public concern has been raised in the last decade over the potential health risks of magnetic fields associated with the use of personal electronic devices such as cell phones. In this study, the effect of a strong electromagnetic field on the growth of Escherichia coli was examined. Samples of nutrient agar broth were inoculated with Escherichia coli and subsequently exposed to a field strength of two thousand gauss in a DC electromagnetic static field. The broth was enhanced with glucose to allow optimal growth conditions for the Escherichia coli. The plates were then incubated at 37 o C for 48 h. After

incubation, the growth of the bacteria was determined by measuring the turbidity of the broth. Inferences on the level of influence an electromagnetic field can have on a living organism may be drawn from the data collected.

"Macroinvertebrate Stream Analysis: A Collaborative Study with the Tennessee Department of Environment and Conservation"

Presenters: Angela Jackson and Brad Spencer
Faculty Advisor: Wayne Wofford

As environmental concerns have become a high priority and as humans continuously have an impact on the environment, it has become necessary to monitor the quality of water. Local governments often provide resources to examine the quality of large bodies of water but often lack the manpower to evaluate the smaller streams which still have a significant impact on nearby ecosystems. Therefore, we followed the TDEC Mini-Biorecon protocol for three Gibson County streams. In the field, various stream parameters were recorded in addition to the collection of macroinvertebrates. Then, the macroinvertebrates were identified to the family taxonomic level. The presence and variety of the macroinvertebrates give an initial indication of the water quality of the stream, as some serve as indicator species.

Rounding the Bases: A Review of Possible Mechanisms by Which Neurodegeneration Occurs in Lou Gehrig's Disease

Presenters: Jill N. Konkol and Erin E. Moody
Faculty Advisor: Carol Weaver

Amyotrophic lateral sclerosis (ALS), more commonly known as Lou Gehrig's disease, is characterized by a fatal neurodegeneration of motor neurons and strikes approximately 1 to 2 persons per 100,000 individuals. While ALS does occur sporadically, roughly two percent of cases are attributed to autosomal dominant transmission of a mutated superoxide dismutase type 1 (SOD1) gene located on chromosome 21 in humans. ALS typically affects Caucasian males in their fifth decade of life and is generally fatal within five to 10 years of diagnosis. Current treatment for ALS is limited to the use of a single drug, riluzole; therefore, research is aimed at identifying the pathological mechanisms by which damage transpires. This report will examine those possible mechanisms which target more effective treatment options.

Ellis-van Creveld: Mutation in EVC Genes on Chromosome 4 Lead to Numerous Physical Disfigurements

Presenters: Melissa Lowe and Chrissa Norton
Faculty Advisor: Carol Weaver

Ellis-van Creveld syndrome (EvC) is a rare autosomal recessive skeletal dysplasia caused by mutations on chromosome 4. This non-lethal disorder causes deformities

such as postaxial polydactyly, chondrodysplasia, oral abnormalities, and cardiac malfunctions. The disease bears the name of its founders, Richard Ellis and Simon van Creveld, who saw firsthand the effects of these deformities in their pediatric patients. In order for a child to present with EvC, he or she must inherit a recessive gene from each heterozygous parent. Cases are prevalent among the Lancaster County, PA, Amish population due to family intermarriage. This poster focuses on research providing evidence that EvC is caused not by a single mutation on chromosome 4 but rather by various mutations on this chromosome. Recent discoveries include finding two related genes, EVC and EVC2, in a head – to – head configuration on chromosome 4.

“Assessment of the Health of Four Streams in West Tennessee: A Collaborative Study with the Tennessee Department of Environment and Conservation”

Presenters: Chelsea Mytyk and Brent Jones

Faculty Advisor: Wayne Wofford

The health of many streams in West Tennessee has not been assessed by the Tennessee Department of Environment and Conservation (TDEC). In a collaborative effort with TDEC, we have assessed the quality of three streams in West Tennessee: Haley Creek, Trace Creek, and Jones Creek. The assessment of these streams included determination of chemical, physical, and biological attributes of the streams according to the TDEC Mini-Biorecon protocol. These assessments were subsequently used to assign a quality rating to each stream. Chemical characteristics with known importance to sustaining life, such as pH, dissolved oxygen, and temperature, were determined. Benthic macroinvertebrates were collected, preserved in 80% ethanol, and identified to the family level. From this information, the streams were classified as fully supporting, ambiguous, or severely impaired. This information will be incorporated into the TDEC database for water quality assessment of Tennessee waters.

“Negative Antimicrobial Effects of Cilantro Extract on *Sarcina luteus* and *Escheria coli*”

Presenter: Benjamin Pham

Faculty Advisor: Elsie Smith

Many garden-variety herbs and spices contain a mixture of compounds working together to combat microbes and exhibit antimicrobial properties. In this study, zones of inhibition were measured in Petri dishes measuring the effect of Cilantro on a gram negative and gram positive bacteria, *Sarcina luteus* and *Escheria coli*. A 1%, 5%, 10%, and 20% concentration of diced Cilantro was prepared in a water solvent. On initial trials an autoclave was used to sterilize all the components needed for this study, but had negative results. It was postulated that the autoclave was destroying the Cilantro’s antimicrobial properties. It turns out Dodecenal was an active antimicrobial compound in

Cilantro with a boiling point of 93oC. When further trials in an antiseptic environment were done, results were also negative and foreign bacteria were on the Petri dishes. In conclusion, it was found that Cilantro did not have antimicrobial effect on *Sarcina luteus* or *Escheria coli*.

“An Examination of the Frequencies of Health- and Life-Style Related Disorders in the United States”

Presenter: Eunice Sung

Faculty Advisor: Wayne Wofford

Private and government agencies periodically report the frequency of occurrence of many different health- and life-style related conditions in humans. Accusations have been raised that some of these organizations use exaggerated statistics in order to make their cause more attractive for funding and public support. In this study, the reported frequencies of behavioral problems, infectious diseases, genetic diseases, cancer, autoimmune disorders, and degenerative diseases within the United States were accumulated and compared in a preliminary attempt to determine the validity of some of these claims. Consistency among sources and the total frequency of occurrence were examined as a means of assessing this.

The Problem With MEN: The Occurrence and Expression of Multiple Endocrine Neoplasia Resulting from Mutations on Chromosomes 11q13 and 10q11.2

Presenters: Kelley Tate and Noah Stearns

Faculty Advisor: Carol Weaver

Multiple endocrine neoplasia (MEN) is an autosomal dominant disorder that occurs in two separate forms, MEN 1 and MEN 2. The gene responsible for MEN 1 is located on chromosome 11q13 and encodes menin, a gene product which acts as a tumor-suppressor. This disorder is characterized by primary hyperparathyroidism in association with endocrine enteropancreatic tumors and anterior pituitary adenomas. MEN 2 presents as a family of cancer syndromes which result from dominant mutations in the Ret receptor tyrosine kinase gene on chromosome 10q11.2. It is characterized by medullary thyroid carcinoma along with bilateral pheochromocytoma and skeletal deformities. Case studies have shown that MEN affects 0.2 – 2.0 people per 1000 adults, with first occurrences between the ages of 20 and 40 years, and affecting twice as many men as women. This study of MEN focuses on its different forms and the inconsistency in expression of its characteristics and symptoms.

CHEMISTRY

Coffee: Brew for a Private, Liberal Arts College

Presenter: Rhett Barker

Faculty Advisor: Charles Baldwin

The Union University SAACS chapter has been extremely active in many areas, including community service, special projects, and professional enrichment activities. The chapter initiated "Tackling TCAP Chemistry," a CISA project which allowed chapter members to go into local schools to present educational chemical demonstrations, which proved to be very successful. This year's special project dealt with coffee, due to its integral role in the lives of chemistry students at Union University. The caffeine content and the presence of flavoring agents were determined for several different blends of Starbucks® coffee using quantitative procedures. This has allowed individuals to select coffee based on their personal preferences. Finally, the chapter played an integral role in numerous meetings of the Kentucky Lake Section of the ACS, including vital participation in the Grassroots Green Chemistry Workshop. Thus, the Union University SAACS has remained extremely involved, thereby enriching the chapter members, faculty, and the community.

Decomposition of Eriochrome Black T Using Several Seven Coordinate Complexes

Presenters: Leslie Brown and Jennifer Hamman
Faculty Advisor: Jimmy Davis

In 1990, a national policy was established in the United States to prevent or reduce pollution at its source whenever possible. One process that needs to be modified in order to make it more environmentally friendly is the bleaching of wood pulp to make paper. In this series of experiments, several seven-coordinate macrocyclic complexes were investigated as potential catalysts for bleaching wood pulp with hydrogen peroxide, rather than chlorine dioxide. After synthesizing a series of manganese, iron, and cobalt complexes and developing reaction protocols, kinetics trials were conducted to compare the ability of each potential catalyst to bleach Eriochrome Black T dye. The longevities of the potential catalysts were also investigated to see how many times the bleaching reaction could be repeated without adding more of the catalyst. Finally, the effects of different solvents and metal complex concentrations were investigated.

Reactivity Ratios of Silicone Acrylates with Common Monomers

Presenter: Kenneth Lewoczko
Faculty Advisor: Charles Baldwin

The goal of this project was to validate a reliable method for determining reactivity ratios of copolymer systems and then use this method to determine reactivity ratios of a linear silicone acrylate with common industrially important monomers. A model copolymerization system was developed, consisting of styrene and methyl methacrylate. The polymer products were analyzed by UV-visible spectroscopy, and from the resulting data, reactivity ratios were determined for the copolymer system. The results

agreed with the reactivity ratios for styrene and methyl methacrylate found in the chemical literature. The same method was then used to determine reactivity ratios for the copolymerization of the experimental silicone acrylate SA-LH with styrene. For SA-LH and methyl methacrylate, UV spectroscopy was inadequate for the determination of reactivity ratios. Thus, FT-IR spectroscopy was employed in the determination of reactivity ratios for this system.

Development of a Teacher's Manual and Additional Experiments for the Green Chemistry Laboratory Manual for High School

Presenter: Kimberly Lindsey
Faculty Advisor: Sally Henrie

In 2002, nineteen green chemistry experiments intended for use at the high school level were compiled and introduced as the Green Chemistry Laboratory Manual. After dissemination of the manual, field testing the experiments, and gathering feedback from users, it became apparent the manual warranted further development and revision. As a result, all aspects of each laboratory experiment were vigilantly tested and analyzed. Five additional laboratory experiments were developed and too field tested. The Green Chemistry Laboratory Manual was then rewritten to include twenty-four engaging experiments that reinforce the concepts taught in a high school chemistry course and eliminate the need for hazardous waste disposal. A supplementary teacher's manual was created that included answers to pre-lab and post-lab questions in text, unified materials section with supplies indexed, large margins for note taking, and a reference to a Tennessee Educational Standard addressed in each laboratory exercise.

Improved Synthesis of the C17-C25 Fragment in the Anti-tumor Natural Product Psymberin/Irciniastatin A

Presenter: Benjamin Pham
Faculty Advisor: Charles Baldwin

A concise, flexible synthetic avenue was developed for the preparation of compounds with the structures related to those proposed for the novel marine-derived differential cytotoxins psymberin and irciniastatin A. These are effective human cancer and murine cell growth inhibitors (GI50 from 0.001 to < 0.0001 μ g/mL). Our efforts led to their complete stereochemical assignment and the conclusion that psymberin and irciniastatin A are identical compounds. The retrosynthetic analysis envisioned joining three fragments to create the target molecule. Model reactions predicted an overall yield of 8.9%. During the synthesis of fragment C17-C25, our group was unable to remove the protecting PMB groups. By changing the protecting groups to benzoyl, a more efficient synthesis of the C17-C25 fragment (23.75% yield) was obtained. This intermediate was then successfully used in the total synthesis of the psymberin natural product.

The Effects of pH and Temperature on the Decoloration of Erichrome Black T Dye Using Seven-Coordinate Complexes

Presenter: Eunice Sung

Faculty Advisor: Jimmy Davis

Currently, tons of organochlorines and dioxins are produced each day due to the bleaching of wood pulp by chlorine dioxide. Lignin, an abundant organic polymer, gives pulp its characteristic dark brown color. Chlorine dioxide oxidizes lignin efficiently to create quality white paper products; however, its use has proven to have detrimental effects to the environment. A more environmentally friendly method was explored by developing and studying catalysts that would improve the oxidative ability of hydrogen peroxide. A series of manganese, iron, and cobalt complexes were tested for their catalytic effects on the bleaching of Erichrome Black T dye using UV-Vis spectroscopy. The effects of pH and temperature on Erichrome Black T's decoloration were also explored. The longevity of the catalysts were also tested by observing the repeatability of the bleaching reactions with a replenishing of dye.

CHRISTIAN STUDIES

"Contra Open Theism, God's Sovereignty is Not Diminished by Acts of Evil or Instances of Tragedy."

Presenter: Joshua Brubaker

Faculty Advisor: Greg Thornbury

This paper will examine and discuss the significance of the doctrines of open theism and arminianism in regard to their impact on the Christian life. It will explore the aftermath of disasters and the questions raised by them. In addition, the paper will consider how these doctrines impact a person's vision of God. These things will be accomplished through careful consideration of natural disasters and historic instances of evil actions committed by man. The paper will seek to confirm the undiminished sovereignty of God in every worldly event. It will conclude that the sovereignty of God is unlimited and undiminished in occurrences of natural disaster or acts of evil.

The Place of Form in the Aesthetics of Augustine and Thomas Aquinas

Presenter: Andrew Helms

Faculty Advisor: Randall Bush

This paper seeks to examine the question of beauty's ontological location and status from the perspective of the philosophies of St. Augustine and St. Thomas Aquinas, who both wrote about beauty as it relates to the nature of God, and tried to describe exactly how it is reflected from Him into the realm of visible objects. The most important questions relating to this topic have to do with whether either theologian developed certain criteria for detecting true beauty, and what status they believed beauty to possess.

It is illuminating to explore the role of beauty in these two thinkers' doctrines of God. In thinking about the creation, Augustine argues for the conclusion that its beauty is in some sense a reflection of the oneness of God, and can thus raise our minds to the contemplation of His glory. Aquinas also relates beauty to the second person of the Trinity especially.

"The Controlling Influence of Religion in Theoretical Thought: A Examination of Herman Dooyeweerd's Argument"

Presenter: Gregory Poore

Faculty Advisor: Greg Thornbury

Dutch Calvinist philosopher Herman Dooyeweerd (1894-1977) believes that humans are essentially religious creatures. In his transcendental critique of theoretical thought, Dooyeweerd argues that it is the religious "heart" that allows for theoretical thinking. The heart, the center of the human person, is structured with an innate religious impulse. The direction of this impulse—either toward God or toward some aspect of creation—exerts a controlling influence as "the central spiritual motive power of our thinking and acting." Dooyeweerd argues that the heart's religious commitment, though often not recognized or acknowledged, exerts a dynamic influence over all of life, including theoretical thought. Consequently, theoretical thought is not based on an autonomous rationality, contrary to the predominant assumption of Western philosophy, and no field of inquiry is free from the influence of religious commitments.

This presentation briefly develops Dooyeweerd's ideas and arguments, as outlined above, and then notes some of their key strengths and weaknesses.

The Feminism of Jesus: Pioneering A New Vision Of Equality

Presenter: Jillian Hickman Zimmer

Faculty Advisor: David Gushee

This paper explores the cultural view of women in the 1st Century, contrasted with Jesus' actions and attitude toward them. By examining Jesus' ministry to women and how it differed from the culture's treatment of them, it is possible to see how Jesus elevated their status and value. He did this by breaking social norms in order to minister to their physical and spiritual needs, using them as central figures in his teachings, and allowing them to directly participate in his ministry. By looking closely at his life it is clear that he respected and cared for women deeply and saw them as an integral part of his ministry, which advanced the kingdom of God.

He Calls Us to Love: Toward a Proper Treatment of Homosexuals

Presenter: Drew Zimmer

Faculty Advisor: David Gushee

Evangelical Christians have often been at the forefront of anti-gay/lesbian activism. Christians have consistently been on the serving end of cold jokes, slander, and hateful propaganda against the gay and lesbian movement. The mandate given in Scripture by Jesus Christ is to love our enemies and pray for those who persecute us. I believe that it may be difficult to make a case that all gay and lesbians are our enemies, I do however find a consistent theme that we are to love our neighbor. How then can we interpret and put into practice the discipline of love in our culture and embrace the gay and lesbian community as creatures created in the image of God and therefore call for an end for the mistreatment of these people who are simply afflicted with a different sin than we are and build a relationship that is grounded in God's love.

COMMUNICATION ARTS

Diggs Road: A Story of Times Gone By in the Old South

Presenter: Matthew Rory Diggs

Faculty Advisor: Jim Veneman

Pinson, TN is a small town just south of Jackson, TN. In the 1870's the Diggs family moved to Pinson, TN and laid their roots there as farmers. Through the generations a large close-knit family worked together to farm the land and survive. My goal is to document the farmer lifestyle of the old South through photography, film, and excerpts from discussions with surviving farmers and eyewitnesses. I will focus in on the Diggs family and their old abandoned farm, on what was once Diggs Road. Many structures and tools still survive on a land that has not been farmed in decades. I will document the items, structures, and surviving people and their stories for future generations. I will capture the images of the past in an artistic and compelling matter to communicate the lifestyle that the person in the American South once commonly lived.

Ethiopian Evangelicals: in Film and Photograph

Presenter: Nic Pfost

Faculty Advisor: Chris Blair

This film comprises footage and photographs from a two-week trip to Addis Abeba in Ethiopia. It highlights some of the culture and customs of the Ethiopian, gives some account of the need for and creation of Indigenous Outreach International (IOI), and documents some of the effect the mission organization has had in the country. This is accomplished through journalistic footage of the citizens and IOI members, as well as interviews with certain English-speaking IOI missionaries and administrators about the nature and effect of the ministry.

The presentation will be further substantiated by Ethiopian decoration, dress of the presenters, large print photographs, and take-home souvenirs for all attendees.

COMPUTER SCIENCE

Building a MindStorms Robot to Solve the Rubik's Cube

Presenter: Kendal Hershberger

Faculty Advisor: G. Jan Wilms

This research project is an attempt to use robotics to solve the Rubik's Cube puzzle. Using Lego Mindstorms, the goal is to build a robot that uses a camera to identify the color squares, run a computer program producing a sequence of moves to solve the puzzle, and send these to the robotic arms to implement. The hardware design is based on the work of JP Brown, as are the color recognition and block move programs that run on the PC. However, rather than using Lego's native RIS firmware OS and the C language, a Java virtual machine was chosen to implement the API.

A Study on Computer Ethics

Presenter: Robert Jacks

Faculty Advisor: Haifei Li

The Union University Computer Science Department views computer ethics as necessary for a well rounded computer science degree. This research is intended to see how other schools across America view computer ethics. Do they offer a course on it? If they don't, what are some reasons for not offering it?

The research so far has consisted of actually developing a questionnaire and sending it to 400 computer science departments across America. There have been about 40 responses so far. Preliminary studies of this data shows that most schools do not offer a computer ethics course, rather they hit on topics of computer ethics in the courses that they do offer such as data structures and senior project design.

Web-Based Radiology

Presenter: Kevin Jett

Faculty Advisor: Jim Kirk

Why are so many companies still using emails and fax machines to run their business? Many companies that have to connect with outside clients and exchange data are using methods that are out of date. However, it is possible for a company to use a single program to access real-time data and input from multiple locations. This project describes a web-based program that is used in the everyday work of a radiology department. The radiologists at a central location receive patient information, including medical images, from surrounding clinics. In turn, the radiology specialists interpret each patient's information and communicate their findings to the clinics. This provides expertise to the

various clinics without the expense of keeping a radiologist on staff. The software uses ASP.NET and SQL Server. It demonstrates how a web-based program can be used to serve the needs of clients across the globe.

Optimizing Delivery Times

Presenter: Kevin McDaniel

Faculty Advisor: Jim Kirk

The goal of this project is to design a Geographical Information System of Jackson for Papa John's delivery. The GIS maps the location of an order allowing for quicker decisions to be made on where to send a delivery driver. A marker appears automatically for the location of delivery once an order has been taken and is removed once a driver leaves the store for delivery. An algorithm calculating distances traveled between deliveries highlights suggested deliveries to be taken together for neighboring streets, decreasing overall delivering times. A complication is that a new store will open in North Jackson bringing problems for overlapping delivery areas and calling for a boundary line to be in effect separating each store. Delivery times are important for Papa John's customer satisfaction and with this system will minimize delivery times and miles driven.

Going Mobile: Creating a Web-Based Database

Presenter: Tasheena Richmond

Faculty Advisor: Jim Kirk

The intent of this study is to help a remodeling business go from a completely paper based filing system to an electronic filing system. The needs of the business require that this database eventually be accessed from anywhere, giving employees the ability to be mobile. Therefore, this study focuses on what it takes to create an online web database. The database will use the scripting language PHP, the database language SQL, and Apache server. Also, this study focuses on creating a system that will keep track of the customers that the business has, their employees, and the projects that they have done or are doing. The steps taken to put this business a step closer to their goals will be discussed.

Altered Belvedere: A Computing Kiosk

Presenter: Paul Simer

Faculty Advisor: Jim Kirk

The intention is to build a belvedere (or "fair view") of Computer Science for those new to the major and those considering Computer Science for the first time. By converting a broken arcade cabinet into a public Computer Science display, we will create an attractive and engaging interactive demonstration that simultaneously entertains and educates the user about the exciting possibilities that exist when Computer Science is applied from a fresh perspective. A standard PC, embedded into the cabinet, will power the display, accepting inputs from standard arcade-style

controls. The emphasis is the construction of thoughtful and intuitive interfaces that provide powerful options to a new user without an overpowering learning curve.

DIGITAL MEDIA STUDIES

DMS Resume

Presenter: Kristen Chute

Faculty Advisor: Chris Blair

The main goal of this project is to make my resume available to employers online. The website will have three different parts to it. The parts will include an "About Me" section, the actual resume and a "Portfolio" section. Employers will essentially be able to print out my resume and see the work that I have done in several of my classes.

Personal Digital Portfolio and Web Application

Presenter: Bill Dixon

Faculty Advisor: Chris Blair

The internet has allowed anyone the ability to communicate to the world. The challenge is to create a tool that will allow one to clearly and effectively communicate the intended message. With the development of this project, it has been my goal to create a Coldfusion based web application that can be seen by anyone in every browser by writing an application that is standards compliant. In addition, the project reflects my professional work through the development of a portfolio and also my personal thoughts through the development of a blog. I have also designed the application so that navigation is simple and elements are placed logically to allow an enjoyable user experience.

The Digital Media Studies Com Arts Website

Presenter: Bobby Johnson

Faculty Advisor: Chris Blair

This site will incorporate the best that our program has to offer. We will have an opening area for the introduction of some content and description of what the program is about. It will include a section for the alumni and a section for the current DMS students. Both of these can include a portfolio style page for a sample of each student's work and a bio area as well. Students will be able (faculty permitting) to update their own area and change out their own images. The curriculum and program layout will also have a page, which will be designed to focus on the many different paths that a DMS student can take while at Union and after graduation.

The site will be a fluid design with an emphasis on the details and ease of maintenance for those who must update the site in time. Keeping this in mind I have decided to use Actionscript and Flash to build the engine and allow a php/xml file to feed the flash all of the objects named in the flash movie. I will use a form emailed to the current

students for their bio and it will also allow them to upload a file for their portfolio page. This same form will be on the back end of the site and will allow either the faculty or the students themselves to update at their leisure.

DMS Senior Seminar Final Project

Presenter: Deidre Jonas

Faculty Advisor: Chris Blair

This presentation will include my personal portfolio designed in Macromedia Flash. It will contain some of my graphics work, photography work and my personal resume. In order to do my project, I will have to learn how to use Flash. I will also have to learn how to use action scripts within Flash. I am learning through books and websites that teach action scripts.

Photography and Design Portfolio Website

Presenter: Brad Moore

Faculty Advisor: Chris Blair

By implementing web design tools such as Macromedia Flash, ActionScript, and XML, I will create an easy-to-navigate portfolio website. I will also use photo and design tools such as Adobe Photoshop and Illustrator to prepare the primary content of the website. This website will showcase the best of my photography and design work from my college career for potential employers to view my work. By learning the aforementioned programs and languages, not only will I be able to create a website which showcases my own work, but I will also have the knowledge and ability needed to create websites for other entities in the future.

ENGINEERING

Using Video Evidence to Determine Velocity and Acceleration

Presenters: Dou Dou Jasmine Huang, Blake Waggoner, Justin Montgomery, David Foster

Faculty Advisor: Don Van

As requested by the Jackson Police Department, we conducted an investigation of a fatal vehicular accident at Wal-Mart south parking lot. Specifically, we studied the site and video tape to compute the speed of the vehicle at the instant of the accident. We verified the result by conducting alternate methods of solution and compared the results. We also contemplated using Working Model for possible simulation.

A Study of Wave Motion in Water

Presenters: Andy Robinette, Ginger Allen, Jeremy Sullivan

Faculty Advisor: Walt Winterbottom

A disturbance created in a stationary pond of water creates a transverse wave that carries the dissipated energy to the outer edges of the pond. This phenomenon occurs with

only the vertical motion of the water. In order to study the properties of wave formation and propagation, a shaker table has been designed and built to simulate the process of wave formation in a horizontal open-channel flow. The shaker table was designed and built with simulation models of the table motion, motor and transmission, and motor controller. From the overall electromechanical model of the shaker table, a dynamic analysis has been developed. With the model it is possible to predict the forces, velocities, displacements, and accelerations responsible for generating waves with different characteristics. Designed experiments in terms of the parameters (water depth, channel width, channel length, force exerted, bottom friction surfaces, etc.) are to be used in developing regression equations for observable wave properties (wave height, wave velocity, stationary states). Recommendations will be made regarding various practical applications.

Solar Water Distillation Feasibility: A Study for Missionaries in Northwestern Africa

Presenters: Andy Robinette, Ginger Allen, Jon Brasher, Joshua Brooks, Jeremy Sullivan

Faculty Advisor: Randy Schwindt

After research and observation in Northwest Africa, the research team has concluded that of the many needs presented to us by the IDRB (International Relief and Development Board), water distillation is the most urgent.

More than 20 years ago, a well was drilled and the result was a continuously flowing artesian spring. However, because the water is contaminated by metals and minerals, it is not being used for any productive purpose. Our team is investigating the feasibility of purifying the water via solar water distillation.

We plan to make recommendations for optimizing the output of a currently available system. Research will be done to determine the purity and volume of water needed in different local (Northwest Africa) applications, including drinking, irrigation and livestock watering. While solar water distillation initially appears to be the most feasible for this desert region, alternatives to water purification will also be evaluated.

The Hidden Power of Excel

Presenter: Josh Shrewsberry

Faculty Advisor: Jeannette Russ

Excel is one of the most powerful software tools available to the general public, even when used only as a spreadsheet and graphing program. However, most people do not realize the tremendous hidden power of Excel that provides a vast amount of additional control and capability. Excel is built on a programming language, Visual Basic, which allows the user to automate spreadsheet applications, increase their efficiency, or even add user interfaces. Best

of all, you do not need to be a computer science major to take advantage of this extra level of Excel capability. Come see several examples of Visual Basic programming in Excel, including applications for the Boys and Girls Club of Jackson and the Union Engineering Department.

FedEx's Call for Autonomous Robots

Presenters: Josh Shrewsberry, Zack Jackson, David Foster
Faculty Advisor: Jeannette Russ

The Union University Engineering Department entered its first-ever robotics competition this spring! Three engineering students participated in an IEEE competition in Memphis, with contest rules designed to highlight Memphis-based FedEx. The robot autonomously picks up packages from a chute, scans their barcodes, and delivers them to three "planes" at different locations on the board. There are twelve packages that must be delivered in only five minutes! Combining the powers of electrical, mechanical, and software engineering, an extraordinary robot has emerged. Come hear how the students did in their competition and see a demonstration of the robot completing its task.

ENGLISH

Necessary Evils: The Gods and the Glorification of the Epic Hero

Presenter: Megan Parrish
Faculty Advisor: Gavin Richardson

Largely, this paper focuses on the inherent flaws of the gods in the Iliad. The argument stems from each god's likeness to mortal man; similarly, it asserts that the epic hero exhibits nobility typically associated with immortals. Accordingly, the piece moves to define the purpose of Homer's anthropomorphism. Apparently, the juxtaposition of gods and men advances the glorification of the latter, insuring the epic hero's elevation to a god-like status. Observations of heroic nobility defend this position; textual examples of the individual imperfections of each god offer further support. Finally, through the Iliad's conclusion, the author pairs the hero's transformation with the continued self-obsession of immortals, highlighting the epic hero's superiority.

In Defense of the Femme Fatale

Presenter: Matthew Turner
Faculty Advisor: Hadley Mozer

Although John Keats's portrayal of the femme fatale changes over time in his poetry, Endymion, "La Belle Dame sans Merci," and Lamia can all be interpreted to present the daemonic lover as a basically good character. Contrary to what many scholars assert, the femme fatale is not the villain of any of these three poems. She appears as the ultimate goal of the pieces and does not stand for the primary culprit of the protagonists' demise. In accordance

with much scholarly interpretation, the femme fatale can represent the poetic imagination and the ideal. The positive portrayal of supernatural lover affects the way one may interpret the symbols of imagination and the ideal.

Creative Writing Reading

Presenters: ENG 312 Students
Faculty Advisors: Gene Fant and Bobby Rogers

This will be a "roundtable reading," where current creative writing students share one or two poems or a short work of prose in an oral setting.

HISTORY & POLITICAL SCIENCE

Legislative Leadership: A Qualitative Study of the Tennessee State Senate

Presenter: Jenny Buffington
Faculty Advisor: Sean Evans

The Tennessee State Senate received two new committee chairs during the first session of the 104th General Assembly. Now that the dust surrounding the 2005 F.B.I. sting entitled "Operation Tennessee Waltz" has settled, there is a good possibility there will be one more new committee chair appointed. With all of these new legislative leaders in the Tennessee State Senate, what affects legislative leadership? How do these new leaders learn what it takes to become leaders in the legislature? What characteristics do members of the legislature associate with successful legislative leaders? Much research exists on what defines leadership, but little research exists on how legislators learn to become leaders. Through the use of participant observation and elite phone interviews, this research project tries to answer three research questions by looking at a purposive sampling of senators of the Tennessee State Senate to examine legislative leadership using qualitative research methodology.

Women's Modesty in the South: 1850s-1930s

Presenter: Jessica Gertig
Faculty Advisor: David Thomas

This paper analyzes the status of modesty before the Civil War and how that changed following the war as the women of the South worked through and with modesty to achieve their goals. The white women of the South continually pushed the bounds of modesty for greater and greater freedoms. Yet rarely did Southern women resort to radical reform, but rather executed a subtle, graceful, and thoroughly ladylike reworking of the standards of modesty to suit their own purposes. While white women reconstructed modesty to allow greater freedom, black women reconstructed modesty to impose greater restraints. Black women had to fight the negative image forced on them by the Southern slave culture, therefore, black women

worked to create good reputations to protect themselves from harassment and create stability for their family and race.

Colorblind Gospel

Presenter: Cassaundra Harris

Faculty Advisor: David Thomas

Slave religion in the American South; what more could a college junior really add to the pervasive scholarship already done on such an issue? At first glance it might seem pointless even to attempt to scratch its surface in just one semester; yet, I was drawn to dig further because of one word, "Why?" Why would an enslaved people accept the God of their masters? The purpose of this paper is to discuss the contrasting reasons for the initial conversion of African slaves, though varied and controversial. Not only how whites approached proselytizing, but why blacks would accept their message.

Lottie Moon, Lodestone for Foreign Missions

Presenter: Jennifer May

Faculty Advisor: David Thomas

Southern Baptists have few icons; perhaps the best known is Lottie Moon, a missionary to China at the end of the nineteenth century and the beginning of the twentieth. Moon lived and died for the gospel, and she has left to future generations a legacy unlike any other missionary, but as interest in missions on a personal level has waned in recent years, so has interest in missionaries like Moon, until few people know more about her than her name and that she made cookies for Chinese children. She is a standalone hero and a relic of a forgotten past. This paper intends to reveal her relevance to today as well as to explore the system of support that allowed her to become who she was.

Independent Commissions and Redistricting in Tennessee

Presenter: Clayton Sanderson

Faculty Advisor: Sean Evans

How should states draw legislative districts? The two most common methods are legislatures themselves and independent commissions. When legislatures draw lines, they draw lines to protect incumbents or to promote one party which leads to uncompetitive elections. Will independent commissions result in different results? This paper will use neutral criteria to attempt to draw competitive districts. Based on the criteria, I expect several results. First, independent commissions cannot create more competitive districts. Second, lines drawn by an independent commission will not alter the partisan balance in the Tennessee State Senate. Third, creating additional majority-minority districts will not alter the partisan balance in the Tennessee State Senate. Fourth, creating geographical compact districts will not create more competitive districts.

Cane Ridge: America's Pentacost

Presenter: Natalie Treece

Faculty Advisor: Stephen Carls

In 1835, Alexis de Tocqueville wrote, "that there is no country in the world where the Christian religion retains a greater role over the souls of men than in America." The America he wrote about in 1835 was not the same America fifty years earlier in 1789. Events in the country had taken their toll on all aspects of American life. In the 1800's, the environment of the country was right for change to occur to the structure of American Christianity. The camp meeting at Cane Ridge occurred at the right place and at the right time. The camp meeting began on August 6, 1801 and lasted six days around the clock. This camp meeting changed not only the religious development of Kentucky in general, but on the western frontier in particular.

INTERNATIONAL & INTERCULTURAL STUDIES

Encountering Tradition-Former Yugoslavian Falling Apart

Presenter Nikola Djordjevic

Faculty Advisor: Jean Marie Walls

This research focuses on the ideological construction of SFRY (Social Federative Republic of Yugoslavia). The starting point of this project will be the foundation of SFRY and its organizational structure (government, economy, education). Further development will be an analysis in terms of how the whole system of the country functioned under the communist party and Yugoslavian president Josip Broz Tito.

The turning point of the research would be Tito's death and how the nationalistic hatred reached the level of mutual extermination on the territory of SFRJ. The concepts of tradition including religion, language and culture accompanied by economical and political challenges would be analyzed at this point again as something that functioned well under communism but caused the most disastrous war in Yugoslavia after communist failure. Finally, the question of whether SFRY was just a myth or was a concept that could survive will be addressed.

Glocal English: World Englishes Provide Local Cultural Identity for Non-Native English Speakers

Presenter: Jared Lawrence

Faculty Advisor: Jean Marie Walls

Globalization has spread the English language around the world. English is seen as an essential for economic success in the global market. While the teaching of English as a foreign language is often seen as linguistic imperialism, many cultures around the world have learned English from their own cultural perspective. The English

language varieties that form are known as world Englishes or global English. I will explore what generated the spread of English and its rise as a global language, as well as why varieties that form are known as world Englishes or global English. I will explore what generated the spread of English and its rise as a global language, as well as why and how world Englishes develop. I will also discuss how they can resist the notions of linguistic imperialism, neocolonialism, and hegemony and possible futures for world Englishes.

The Intercultural Aspect of Young Life

Presenter: Rachel Melton

Faculty Advisor: Jean Marie Walls

Young Life is an organization that is dedicated to sharing the Gospel of Jesus Christ with teenagers through relational ministry and a weekly “club” which involves the presentation of the Gospel. Camp is also a valuable tool in the Young Life ministry. In recent years there has been an intentional move toward the formation of “urban” Young Life clubs and camps that are specifically focused on mentoring inner-city teenagers, which is a particularly more multi-cultural group of students. These urban clubs are fundamentally the same as their suburban counterparts, however, there are several distinct cultural differences in the ways that these different clubs are run. For my intercultural studies capstone, I wish to research this move toward separate “urban” camps and Young Life clubs. I will also research the history of Young Life and how the changing times have affected ministry and the need for this move toward an urban ministry. I will research how different Young Life clubs are run in both urban and suburban settings and the intercultural implications of separating these groups.

Kosovo-History of Albanian Nationalism

Presenter: Marko Pavlovic

Faculty Advisor: Jean Marie Walls

The focus of this research is on the question of Kosovo and Metohija- the potential spark for the next future war in the Balkans. The history of Kosovo-Metohija, Serbia’s southern province was marked by the centuries-old ethnic rivalry between the Serbs and the Albanians. Kosovo has become a general term which symbolizes a complicated problem in which history is being faced with reality. Two Balkan nations, the Serbs and Albanians, are prejudiced with resentment which has been accumulating over the past three hundred years. Today, the basis of the Kosovo crisis is separatism and secession. Albanian minority riots in Kosovo in the late 1980’s showed that the Albanian nationalism, with the goal of creating a Greater Albania, is basis for the Kosovo crisis. This separatist nationalism was instituted on a racist policy to ethnically cleanse all non-Albanians from Kosovo and to create an ethnically pure Kosovo, or Kosova. As part of this Albanian nationalist

policy, Kosovo Serbs were driven from the province and those that chose to remain were discriminated against and had no security from nationalist attacks. This policy of ethnic cleansing against Kosovo Serbs led to the changes in the status of Kosovo and Metohija province in 1989 to safeguard and to protect the minority and human rights of Kosovo Serbs. The Serbian government responded to riots, which arose in terrorist attacks on civilians, by activating police and army in order to protect its citizens in Kosovo. In 1999 NATO, stimulated by an enormous media campaign against Serbs, stayed on the side of Albanians and bombed Serbia. And instead of bringing peace, Kosovo became a time bomb and Balkan powder barrel, an accident waiting to happen.

LANGUAGE

Benefits of Being Bilingual: Why Should I Study Another Language?

Presenter: Ashley Bradford

Faculty Advisor: Karen Martin

I made the decision to major in Spanish four years ago after going on a mission trip to an orphanage in Ensenada, Mexico. While on the trip I made many friends with the children at the orphanage but I was not able to carry on a conversation with any of them because of my language barrier. Upon returning home I decided that I was not going to be a member of the majority in our country who cannot speak a language other than English. After deciding on my major four years ago I have had countless people come to me asking what I planned to do with a major in Spanish. This goes to show the ignorance many people in the United States have when it comes to our changing and fast paced world. Many do not realize that our country is quickly becoming a diverse place to live and knowing a second language will soon be a requirement in order to live and work day today.

The importance of foreign languages in our country will only continue to grow with time. I believe it is important to begin looking at how we can stay on top of the language phenomenon in our country so that we do not fall even farther behind than we already are. If we are better able to educate our students today in the use of foreign language then the United States will only prosper in the coming years.

Joan of Arc in Art and Film

Presenter: Joanna Causey

Faculty Advisor: Jean Marie Walls

The image of Joan of Arc is a national French icon, invoking feelings of strong patriotism. Her actions, which she claimed were inspired by God, gave her a prominent place in the history of France and the hearts of its people

ever since. She was burned at the stake for being a sorceress, heretic and cross-dresser. However her name was cleared twenty years later and she was canonized in 1920. Since her death many artists have been inspired by her story and have used it in numerous works of art, plays, songs and films. This presentation will be an in-depth look at the pictorial depiction of Joan in film and in juvenile literature in the twentieth century. Aesthetic aspects such as color, symbols, clothing, and facial expressions will be explored. Also, it will look at the message the work of art is conveying concerning Joan's validity, motivation, and supposed inspiration.

The Life and Legacy of Eva Peron

Presenter: Nathan Michael

Faculty Advisor: Karen Martin

In 1946 Juan Domingo Perón rose to power in Argentina with a wife by his side who had an interesting past and a passion for the oppressed. Never before had a first lady been so integral to the success of a presidency and been so involved in the politics of her husband. The effects of Eva Perón's influence can still be felt today in Argentine politics and all over South America. Fighting against the aristocracy and for the rights of the poor, Eva raised money to build hospitals, schools and homes, but also destroyed political careers, closed newspapers, and imprisoned those who opposed her. This presentation will explore the controversial, but powerful actions of the woman's life that inspired a major motion picture, *Eva Perón*.

Malinche: La madre olvidada

Presenter: Tiffany Ramirez

Faculty Advisor: Karen Martin

Perhaps the most important woman of the Spanish Conquest of Mexico, Malintzin has been called several different names (la Malinche, Malinalli, and Doña Marina) and has various myths associated with her. She remains as one of history's controversial figures and there has been much debate over whether she was indeed a traitor or heroine.

The controversy that comes with her name, along with all the mythology and emotions that it brings for various people, will be investigated. How a woman who was apparently loved during her life became the scapegoat for the fall of the Aztecs, only to later be adored by the feminist Chicana writers of the present day, will be explored.

Crossing Borders: Immigration into the U.S. and Spain

Presenter: Wendy Wilson

Faculty Advisor: Phillip Ryan

The United States and Spain are both faced with an increasing number of immigrants, creating the nationalistic perception among some that traditional national identities are being threatened. Interestingly, in both the U.S. and

Spain many immigrants are coming from countries to the south: Mexico and Morocco, respectively. Parallels also exist with regard to past migration trends and ongoing culture clashes. The current crises in both the U.S. and Spain reflect that of other prosperous Western nations that have become a refuge for those from less developed countries with weak economies. The U.S. and Spain are wrestling with how to patrol their borders and how to address immigrants – legal and illegal – who have set down roots. Among the chief concerns is language. In the U.S., Spanish is becoming a more commonly spoken language, as evidenced, among other things, by numerous Spanish media outlets and the need for special English instruction in public schools. In Spain, many are concerned with helping native Arabic speakers from Morocco adapt to life in a land of Spanish speakers. In some cases, Spaniards have looked to U.S. models for help in developing educational programs to best integrate young immigrants. Many immigrants in both countries tend to strongly identify with their native culture and language, which some fear is making it harder for them to assimilate into the broader society.

MATHEMATICS

Gender Differences in Mathematics and Logic

Presenter: Denise Baughman

Faculty Advisor: Chris Hail

In chapter 3 of Genesis, God gives distinct and separate roles to man and woman. Although the differences between men and women can seem small, gender differences appear in many areas of life, including cognitive abilities. In most cases, a female's cognitive strengths are in verbal abilities while a male's cognitive strengths are in spatial and mathematical abilities. For my project, I investigated gender differences in mathematical abilities and specifically in logic. I presented logic questions to over 100 high school students in two Jackson-Madison County high schools. This presentation focuses on the conclusions from my research.

Infinity in Ancient Greece: A Synthesis of Mathematics and Worldview

Presenter: Tony Winkler

Faculty Advisor: Matt Lunsford

What role does mathematics and science have in defining truth? How does humanity react to evidence which contradicts their pre-existing worldview perspectives? This project seeks, by way of a case study, to shed light on these inquiries as it delves deep into the history of the ancient Greeks, where the earliest attempts to deal with the infinite first began. There, three significant academic societies wrestled with the concept of infinity. One sought to rationalize the concept of infinity as true by redefining it; one rejected the idea of infinite quantities on deductive principles; the other simply panicked when confronted with the mind-boggling infinite. By studying the viewpoints of

the Pythagoreans, the Eleatics, and Aristotle, this project seeks to analyze three different perceptions of the infinite in context of religious beliefs and worldview perspectives in order to gain deeper insight into what relationships exist between mathematics and worldview.

MUSIC

Islamic Influence on Javanese Music

Presenter: Laura Huggins

Faculty Advisor: Joshua Veltman

The music of the Javanese people has a rich and complex history, because of the many cultural influences that have moved across the Indonesian archipelago throughout its history. Beliefs and values from a variety of religious sources are deeply ingrained in the traditional music of Java. Since becoming the main religion of Indonesia around the 15th century, Islam has played a decisive role in the formation of the Javanese music culture. Sacred and secular areas intermingle as Islamic religious music takes on characteristics of Javanese music, and as Javanese music traditions absorb genres, instruments, and practices of Islamic origin. In light of current events and relations among people of major world religions, it becomes important to seek to understand the beliefs and practices of other cultures. This presentation aims to assist cross-cultural understanding by examining the effects of Islam and music in Java.

The Art of the Guitar: A Multi-Genre Study in Composition

Presenter: Nathaniel Webb

Faculty Advisor: Ronald Boud

The classical guitar repertoire is somewhat smaller than that of other instruments due to the fact that it has only been recognized as a concert instrument for the last one hundred years. Maestro Andres Segovia was the leading virtuoso and advocate for the guitar's legitimacy in the first half of the 20th century and the instrument's repertoire is largely influenced by his transcriptions and collaborations with composers of the time. The goal of this project shall be to sharpen personal compositional technique in a variety of styles, while at the same time, broadening the existing repertoire of the classical guitar. This goal will be achieved by composing one multi-movement work in the Spanish style and three individual pieces in the Baroque, Romantic, and Impressionistic traditions. They will be presented in performance, along with a paper, which shall discuss the techniques and ideas used in the creation of the works.

PSYCHOLOGY

How College Students Cope with Life Stress: A Comparison Between a Faith Based Undergraduate University Sample and a Non-Religious Affiliated Community College Sample

Presenters: Joshua Willhite, Stephanie Terrell,

Deidre Gastenveld

Faculty Advisor: Jinni Leigh Blalack

This study examined self-esteem, proactive coping, and religious coping skills in 109 undergraduate students from a private religious affiliated university and 80 undergraduate students from a non religious-affiliated community college. Participant's aged 18-25 were administered the Rosenberg Self-Esteem Scale (SES), Proactive Coping Inventory (PCI), Ways of Religious Coping Skills (WORCS), and a researcher designed inventory of stress coping techniques. No differences were found between the two samples on self-esteem or proactive coping. As hypothesized, the mean scores on the WORCS were significantly higher in the sample from the religious affiliated university than the mean from the community college participants. For both samples, high scores on the WORCS positively correlated with positive coping skills as indicated by the researcher designed inventory of stress coping techniques. The research supported the hypothesis that participants who reported high levels of religious involvement were more likely to use positive coping skills.

Forgiveness and Well-Being: A View of Positive Mental Health

Presenter: Sarah Young, Tyler McMurtry, Alisha Pinner

Faculty Advisor: Jenni Leigh Blalack

This is a preliminary report of ongoing research. This research project seeks to examine the relationship between forgiveness and three other variables of well-being: quality of social relationships, stress/anxiety, and physical health. The hypothesis of this study is that forgiveness will be negatively correlated with stress/anxiety and positively correlated with relationship quality and physical health. Approximately 200 students enrolled in psychology classes at Union University in the spring semester of 2006 are being surveyed March 30, 31, and April 3. Analysis of data is pending the completion of surveys on April 3.

SOCIAL WORK

Fallen Through the Cracks: Repairing TennCare for Persons with Mental Illness

Presenters: Emily Hill, Leah Booth, Staci Colson

Faculty Advisor: Theresa Blakley

More than 80,000 Tennesseans have a Severe and Persistent Mental Illness (SPMI). These persons are at high-risk for incarceration, disability, homelessness, suicide, and health

problems. Changes in TennCare have harmed thousands of persons suffering with mental illness in this state.

Dropping persons with SPMI from TennCare rolls has created a crisis for this vulnerable population, denying them medications and proper treatment; this increases their chances for psychiatric distress. We assert that what appears to be a cost-benefit now will result in greater costs to society.

Although a so-called safety net has been established for persons with SPMI, a comprehensive fiscal analysis of services for this population is needed to ensure “the most efficient and effective use of public and private funds and to provide appropriate care to those extremely vulnerable persons . . .” (SJR 0614). Students will present their research and advocacy work on passage of SJR 0614.

Closing the Gap on Sex Offenders” Advocating for Tennessee HB 2605/SB 2594

Presenters: Jennefer Jones, Kasey Nunn, Brittney Stephens, Rachel Cooper, Ashley Spruell
Faculty Advisor: Theresa Blakley

Jessica Lunsford was only nine years old when she was kidnapped, raped, and buried alive on March 16, 2005. She was found dead three days later in a shallow grave, just a short distance from her home. Jessica was brutally murdered by John Couey, a convicted serial sex offender. Though mandated by law to register as a sex offender, Couey slipped through the cracks of Florida’s law enforcement monitoring system.

Jessica’s tragic loss prompted the passage of “Jessica’s Law,” enacted just two months after her murder. This law closes the gap on dangerous sex offenders like Couey in the state of Florida.

This research explores Tennessee legislation on sex offender monitoring, finding current laws inadequate to protect citizens from habitual predators. Students will present their research and advocacy work on HB 2605/SB 2594, including mandatory enrollment in lifetime satellite-based monitoring of habitual sex offenders.

Poverty and Sub-Saharan Africa

Presenter: Kellie Roe
Faculty Advisors: Mary Anne Poe & Patty Hamilton

Poverty in Sub-Saharan Africa is a very serious issue in our world. More than 300 million people in Sub-Saharan Africa are living in the extreme poverty range, which is less than a dollar a day. Even though this problem is very devastating, there is still hope for this region of Africa. In my paper I outline the degrees of poverty, its history in Sub-Saharan Africa, key issues that are keeping this region in a cycle of poverty, and many key factors that are necessary for the

overall solution. Results have shown that while this issue is complex and there are no simple solutions, there is still hope for Sub-Saharan Africa to rise above this cycle of poverty.

TEACHING ENGLISH AS A SECOND LANGUAGE

Speech Pathology and the ESL Student

Presenter: Leigh Ann Gordon
Faculty Advisor: Phillip Ryan

Speech pathologists are experiencing the challenge of providing services to an increasingly diverse population of students. There are many common characteristics between ESL students’ second language acquisition and students with speech/language disorders. Many ESL students are being inappropriately placed in speech pathology. This research project will address the field of speech pathology and find the implications of a speech/language disorder. Furthermore, it will explore how speech pathologists determine if an ESL student has a speech/language disorder. This research project will also address what speech pathologists need to know about ESL students and what is being done in the field of speech pathology to provide appropriate assessment and services to the ESL student.

Teaching English as an International Language: Combating Linguistic Imperialism

Presenter: Jared Lawrence
Faculty Advisor: Phillip Ryan

The English language has become the first worldwide lingua franca. English is used not only in international business and commerce, but also in politics, culture, and technology. The spread of the English language has also increased the need for English language teachers worldwide. These English teachers bring not only the language, but also their own culture. Many believe that the spread of English is resulting in what is called linguistic imperialism. Also, many fear that English will result in the death or extinction of many native languages where the English language is taking over. While addressing these fears, I will present possible solutions for avoiding these aspects of teaching English. As a basis for my research, I will include the origins of the spread of the English language around the world, and the state of the language today. Also, recognizing the rise of Christian missionary language teachers, I will examine these issues from their perspective. Finally, I will discuss the possible future of the English language and how English language teachers must prepare themselves for international careers.

Interpreting as a Profession

Presenter: Christina Schulz

Faculty Advisor: Phillip Ryan

The professional field of translation is in international demand for various sectors of government and business due to globalization. This presentation will explore the professional aspects of interpreting languages, including the processes for becoming certified as an interpreter, training options, and specific employment trends. Through multidisciplinary sources including applied linguistics, intercultural communication, and business this presentation will ultimately examine options translators have in professional fields in which language interpreting can be applied.

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