

PROGRAM

Registration.....2:30-4:30

Founders Lounge, Frick Center

Opening Ceremony.....3:15-4:35

Irion Hall, Buik Recital Hall

Oral Presentations

Circle Hall.....4:45-6:00

Daniels Hall.....4:45-6:00

Irion Hall.....4:45-6:30

Frick Center, Bryan Room.....6:15

Poster Session.....6:00-7:00

Founders Lounge, Frick Center

Art Exhibition.....6:00-7:00

Barbara A. Kieft Accelerator ArtSpace

Reception.....6:00-7:00

Founders Lounge, Frick Center

PROGRAM

Opening Ceremony

Buik Recital Hall, Irion Hall
3:15 – 4:35 PM

Welcoming Remarks and

Moderated by:

Dr. Alzada Tipton

Vice President, Academic Affairs
Dean of the Faculty

Jessica G. DeMaio

Aberrant DNMT3B mRNA Transcripts in Cancer Cells
Faculty Sponsor: Dr. Stacey Raimondi, Biology

Alex Sundahl

Increasing Company-wide Innovation at a Manufacturing Plant – A Case Study
Faculty Sponsor: Dr. Bruce Fischer, Center for Business and Economics

Nathan Dunlap

What Do Our Students Know About Knowing?
Faculty Sponsor: Mr. Tom Nachtrab, English

Meaghan Figg

When a Minority Becomes a Majority
Faculty Sponsor: Dr. Gurram Gopal, Center for Business and Economics

Joy Alberti

Using Sociolinguistic Methods to Examine Discussions of Race
in Secondary Classroom Settings
Faculty Sponsor: Dr. Ayanna F. Brown, Education

Eric Morong, Percussion

Inspirations Diabolique – Rick Tagawa

Chris Prohaska, Clarinet

Sonata for Clarinet and Piano – Francis Poulenc
Accompanied by Dan Hennel

Nick Martin, Alto Saxophone

Divertimento – Roger Boutry
Accompanied by Dan Hennel

Oral Presentations

Popular Music – 200 Irion Hall

- 4:45 A Formal Analysis of Van Halen’s “Jump”
Daniel Klein and Andrew White
- 4:55 RENT: Take It or Leave It
Colleen Mary Maney and Sarah Marker
- 5:10 Dark Side of the Moon: Enlightenment Into a Timeless Prism of Discovery
Liam Biner and Ray McCormick
- 5:25 Diary of a Madman: Complete Analysis
Adam Skidmore and Tyler White
- 5:40 Analysis of Joe Pass’ “Rosetta”
Tyler Matz and Pete Puczkowskyj
- 5:50 The Science of Queen
Kimber Davison and Jake Whitecar
- 6:10 Writing and Producing a New Musical
Philip W. Riegle

Classical Music – 103 Irion Hall

- 4:45 Piano Sonata: Reflections of a Dark Light
Ian Kells and Jordan Armond
- 5:00 Fountain in the Rain
Grecia D. Landin and Kelly Partyka
- 5:10 A Theoretical Analysis of Eric Ewazen’s Sonata for Piano and Trumpet
Steven D. Terradista
- 5:20 Musical Deconstruction of Samuel Barber’s “The Crucifixion”
Dino Lanzo and Gianna Capra
- 5:30 A Historical and Analytical Study of George Gershwin’s “Summertime”
from Porgy and Bess
Tim Clishem and Maddy Ludwig
- 5:40 An Analysis of Carl Orff’s Carmina Burana: O Fortuna
Alexandra Wojciechowski and Lee Sundstrom

Industrial/Organizational Psychology – 104 Circle Hall

- 4:45 DialAmerica Marketing Employee Selection Testing Internship
 Angela Ligue
- 4:55 Turning with the Tide: The Alignment of Selection, Training,
 and Appraisal Strategies with Aspirations of Progress
 Thomas Romeo
- 5:10 What Top Performing Leaders Should Stop, Start and Continue Doing
 Brian Di Bartolomeo
- 5:25 Competency Model/Assessment Tool Development for Elmhurst College's
 I/O Graduate Program
 Meghan Anderson

Political Science - 131 Circle Hall

- 4:45 Avoiding War: Neo-realism and the 1996 Taiwan Strait Crisis
 Emily Nagle
- 4:55 American Foreign Policy in Afghanistan
 Ammar Haq
- 5:10 The Injustice of Migrant Domestic Workers in Saudi Arabia
 Nicholas Parrish
- 5:20 Balkan Crisis: A Cultural and Historical Analysis of the Yugoslav Wars
 Ljiljana Milojevic

Industrial/Organizational Psychology - 133 Circle Hall

- 4:45 Nursing Students' Perceptions of the National Council Licensure
 Examination at Elmhurst College
 Laurie M. Spiegel
- 5:00 Job Descriptions and Performance Appraisals: The Process of Creating
 Organizational Tools
 Valerie Williamson
- 5:15 Internship with the Community Associations Institute, Illinois Chapter
 Kelsey Kuebler
- 5:30 Utah Retirement Systems Salary Survey
 Ryan L. Richards

20th Century Latin America and Beyond: From the Cristero Rebellion to the 2012 Maya Calendar – 203 Circle Hall

- 4:45 Panel Introduction
David C. Johnson, Ph.D.
- 4:50 God or Country? State Formation, Plutarco Elias Calles,
and the Cristero Rebellion
Matt D'Angelo
- 5:05 Making the Economy Scream: The Nixon Administration and the Downfall
of Socialism in Chile, 1970-1973
Alyssa Kramer
- 5:20 The Impact of Urbanization on Post WWII Mexico
Brandon Violette
- 5:35 The Maya Calendar: A Correlation Problem
Emily Timko

Sociology - 204 Circle Hall

- 4:45 Communication of Culture through Gospel and Lutheran Hymns
Mark Anderson
- 5:00 Through the Eyes of the African American: Literature of the Harlem
Renaissance
Monique M. Hickman
- 5:15 Racial Depictions and Stereotypes in Disney Princess Movies
Katie Young
- 5:25 Putting a Face on Undocumented Immigration in Chicago
Mira Ham
- 5:35 LGBTQ Unawareness at Elmhurst College
Stacey Constantine, Alyssa Hewes, Jenn Kosciw, Amanda Nagy

Prophets – 213 Daniels Hall

- 4:45 Muhammad: Prophet and Politician
Amber Gratz
- 4:55 The 'Normal' Prophet: A Biography and Analysis of the Prophetic Voice of
William Stringfellow
Kyle A. Tade

- 5:10 **Jane Addams and Vida Scudder: Results of Religious
and Secular Motivations**
 Jennifer K. Stopka
- 5:20 **Susan B. Anthony: Prophetic Methods to Bring About Social Justice**
 Jessica Hulesch
- 5:35 **Prophetic Voice in South Africa**
 Nikol Bakka
- 5:50 **These Ain't Your Average Protest Songs: Hip Hop Codifying Social
Justice Via Prophetic Songs**
 Sean M. Proctor

Science – 309 Daniels Hall

- 4:45 **The Loyola Medical Center Surgical Database Project**
 Matthew Casali, Brian Firek, Kevin Hlava, Alex Kowalczyk,
 Nathan Rold, George Stoyanov, Jelena Sudar
- 4:55 **Capstone Development Project: Project Management**
 Deeana Goets, Terri Vu, John-Paul Scheckel, David Schierl,
 James Ortiz, Scott Hubacek
- 5:10 **Genetics of Speech and Language Disorders**
 Danielle Littrell
- 5:25 **Logical Reasoning with Moral Premises**
 Andrew Hartley, Lauren Scimeca, Eiliana Silva
- 5:40 **The Effect of a Preceding Task on Creativity**
 Drew Farr and John Johnson
- 5:50 **Parent-Adolescent Conflict**
 Elizabeth Flood

Computer Information Systems – Bryan Room, Frick Center

- 6:15 **Capstone Development Project: Reducing Energy Consumption
Through Technology**
 Charles Gidcumb, Frank Sparano, Mark Larsen, Steven Stanley,
 James Polous, Eugene Wabomnor, Robert Schall

Abstracts

Oral Presentations

Opening Ceremony

Buik Recital Hall, Irion Hall

Aberrant *DNMT3B* mRNA Transcripts in Cancer Cells

Jessica G. DeMaio

Faculty Sponsor: Dr. Stacey Raimondi, Biology

In Eukaryotes, the pre-mRNA product of transcription must undergo a series of modifications before it can be used in translation, including splicing. In cancer cells, aberrant splicing may occur, leading to aberrant mRNA transcripts, and non-functional or dysfunctional proteins. The Godley laboratory is interested in determining the role of aberrantly splicing of *DNMT3B* in cancer. Recently, the Godley lab has shown that various cancer cells contain *DNMT3B7*, an aberrant transcript of *DNMT3B*, which leads to altered DNA methylation in these cells. Other aberrant transcripts of *DNMT3B* have also been described, such as *ΔDNMT3B 1-7*, which were identified in non-small cell lung cancer but have not been observed in other cancer cell lines.

To further our understanding of the makeup of cancer cells, this project focused on determining how many *DNMT3B* transcripts are present in cancer cells. We were able to identify and clone three delta transcripts, *ΔDNMT3B 5-7* in six different cancer cell lines. We also identified *DNMT3B19* in one of these cell lines, which had not been previously observed in non-small cell lung cancer. Furthermore, we analyzed *DNMT3B* transcripts in neuroblastoma, and demonstrated a correlation between the progression of the disease with the number of *DNMT3B* transcripts present. These findings highlight role of *DNMT3B* transcripts in neuroblastoma progression as well as the prevalence of *DNMT3B* transcripts across several cancer cell types.

Increasing Company-wide Innovation at a Manufacturing Plant – A Case Study

Alex Sundahl

Faculty Sponsor: Dr. Bruce Fischer, Center for Business and Economics

The case study describes the start of an innovation research effort that will measure several variables that are expected to be critical to the level of innovation in an organization. We present our initial findings from the surveys and interviews and describe the effort to increase innovation throughout the organization by changing the organizational culture to one that is more encouraging and supportive of innovation.

What Do Our Students Know About Knowing?

Nathan Dunlap

Faculty Sponsor: Mr. Thomas Nachtrab, English

Through ongoing research we are building a qualitative description of the worldview assumptions about “knowing” that prevail among Elmhurst College

first-year undergraduate students. We will present our first set of findings, which include a description of students’ “epistemic” conceptions and the conceptual world wherein these conceptions operate.

When a Minority Becomes a Majority

Meaghan Figg

Faculty Sponsor: Dr. Gurram Gopal, Center for Business and Economics

The main point of the research was to study the changing demographics of college students and seeing how these changes will affect the workplace. Studies have shown an increase in females and decrease in males attending and graduating from college. Therefore, more women are entering the workforce and the workplace is forced to change. By conducting company surveys, company interviews, and a student survey, conclusions were drawn regarding what students were looking for and what companies were offering and how they compared. The biggest question confronted was if the companies are willing to respond to the call for change due to more women in the business world.

Using Sociolinguistic Methods to Examine Discussions of Race in Secondary Classroom Settings

Joy Alberti

Faculty Sponsor: Dr. Ayanna F. Brown, Education

The purpose of this research project was to examine discussions of race in secondary classroom settings. In an attempt to begin thinking about social context and construction, the project first examined how race has been constituted in the United States. The project then examined current research methods for coding discussions of race. Specifically, it reviewed existing data collected from a 2001 research project to see if similar discursive patterns were present in other classroom discussions.

Audio and video materials were transcribed and coded into four different categories including “terminology, grammatical performance, language in use, and content of lesson”. A frequency count and content analysis were completed. In the process of transcribing classroom events and audio tape interviews, a new domain that describes discussions of race was identified and labeled “racializing objects”.

Popular Music

200 Irion Hall

A Formal Analysis of Van Halen’s “Jump”

Daniel Klein and Andrew White

Faculty Sponsor: Dr. Kevin Olson, Music

“Jump” is an iconic Rock song that helped define a generation. It combined the key aspects of pop and rock to create a new and unique sound that would go on to help shape the sound for the popular music

throughout the rest of the 1980's and beyond. Our presentation will include an in-depth historical and musical analysis of Van Halen's Quintessential 1980's piece "Jump". The structure of the presentation will include a discussion of the historical background of the piece, followed by a harmonic analysis. We will discuss the various melodic motives and harmonic devices used. In addition we will touch on the use of the synthesizer and the role it played in bridging the two different styles of popular music at the time when the piece was composed.

The Science of Queen

Kimber Davison and Jake Whitecar

Faculty Sponsor: Dr. Kevin Olson, Music

As one of the most influential and popular groups of all time, Queen stands at the axis of a multitude of different genres. This presentation will examine the group's complex structural and harmonic elements by looking at three compositions by their legendary lead singer, Freddie Mercury. "Bicycle Race," "Somebody to Love," and the quintessential "Bohemian Rhapsody" reveal the depth of Mercury's musical experimentation while showcasing his love of the popular song. Slipping in and out and through Pop, Opera, Vaudeville, Gospel, Hard Rock, and Disco, the group's music reaches across boundaries. Looking at the harmonic constructions Mercury uses to unify these sounds as well as the rhythmic and motivic elements he uses to define them helps the listener to understand how such seemingly juxtaposed musical forces can create such classic songs.

Dark Side of the Moon: Enlightenment Into a Timeless Prism of Discovery

Liam Biner and Ray McCormick

Faculty Sponsor: Dr. Kevin Olson, Music

Pioneers in the innovation of experimental rock music, Pink Floyd took the genre to new heights with powerful lyricism and tremendous musicality. Nowhere is this more evident than in their concept album, "Dark Side of the Moon", released in 1973. This presentation will analyze the components of "Dark Side of the Moon", from the implementation of cutting-edge technology, to the sophisticated counterpoint between instruments, as well as the vision of creating an album with a cohesive, powerful message. There will be a song-by-song analysis of harmonic, melodic, and rhythmic motives, as well as an in-depth perspective on the historical background of the album during production & after its release. This presentation hopes to begin answering the question: Why has this album become so immortal, unbreakable, and inspiring?

Diary of a Madman: Complete Analysis

Adam Skidmore and Tyler White

Faculty Sponsor: Dr. Kevin Olson, Music

Many associate the 1981 album "Diary of a Madman" with the infamous Ozzy Osbourne, but the true genius behind the song is that of guitarist Randy Rhoads. Rhoads is considered by many to be one of the most influential guitarists and composers of his time in the Metal and Rock genres. One thing that made him unique was the way he was able to combine traditional classical guitar techniques with the newly rising genre

of metal. We will be looking at the history of Rhoads' life and his influences along with a sampling of his other pieces. We will also be taking an analytical approach to his composition "Diary of a Madman," and discuss what makes it sound so different from many of his other pieces in aspects of harmony, melody, and form.

Analysis of Joe Pass' "Rosetta"

Tyler Matz and Pete Puczkowskyj

Faculty Sponsor: Dr. Kevin Olson, Music

Using a harmonic analysis of the song "Rosetta," it is apparent that Joe Pass had a major influence on the shaping of jazz guitar and jazz improvising. The song Rosetta is one of Pass' more popular tunes from his 1964 studio album For Django. His style is unique, developed since the age of 9, but finely tuned while he was incarcerated. With the use of melodic counterpoint, walking bass lines, chord substitutions, and chord melodies Joe Pass reinvented the solo jazz guitar during the 1960's and 70's. Looking in depth on the melodic and harmonic progressions will help understand how Joe Pass opened a new style of jazz guitar.

RENT: Take It or Leave It

Colleen Mary Maney and Sarah Marker

Faculty Sponsor: Dr. Kevin Olson, Music

RENT is a hit Broadway musical by Jonathan Larson that took the world by storm in the 1990's. It is loosely based off of Giacomo Puccini's La Boheme. It is seen as controversial and uses some graphic content in the lyrics to give an honest, un-censored view of life as a struggling twenty-something in New York City. We will take one of the more modest pieces, "Take Me or Leave Me," and analyze the form, chords, the piece as a whole, and how it fits into the show. We will also compare the thematic elements of this piece to those in the musical and those in Puccini's La Boheme.

Writing and Producing a New Musical

Philip W. Riegler

Faculty Sponsor: Dr. Kevin Olson, Music

This past January Far From Freud, an original musical I composed, premiered at The Village Players Performing Arts Center in Oak Park. The musical follows four merging story lines of six people all seeing the same therapist. I will present an in-depth look at the process of composing and producing a new musical in a professional setting. Sample aspects of this endeavor included creating the book, lyrics, music, character and plot development, as well as the act of bringing the show to the stage. I will chronicle my experience from its conception nearly two years ago to the finished product this past January, and present some samples of the show itself.

Classical Music

011 Circle Hall

Piano Sonata: Reflections of a Dark Light

Ian Kells and Jordan Armond

Faculty Sponsor: Dr. Kevin Olson, Music

Highly acclaimed and awarded composer Richard Wernick is one of the greatest artists on the modern music front today. His piano sonata, *Reflections of a Dark Light*, is a great example of his unique compositional techniques. "Reflections" demonstrates a modern expressionistic style, adapting older influences into newer composing tendencies. The atonal qualities, asymmetrical rhythms, long held out notes, and bursting, nearly violent dissonances that are constant throughout this piece clearly illustrate an entirely free and often eerie form of musical expression. Our analysis will show that dissonance, especially in modern music, is often misunderstood and under-appreciated.

Fountain in the Rain

Grecia D. Landin and Kelly Partyka

Faculty Sponsor: Dr. Kevin Olson, Music

William Gillock, considered "the Schubert of children's composers", was a music educator and an artistic piano composer. Later in life, Gillock retired from his usual teaching and devoted himself completely to composing, conducting and teaching workshops. Renowned for his originality in harmony, texture, and melodic beauty, Gillock composed music for students of all levels and ensemble music for students and teachers to play together. His "Fountain in the Rain" explores constant hand crossing, leaps, and impressionistic influences. This presentation will cover a historical overview about Gillock, and examine this structural and harmonic elements found in "Fountain in The Rain", as well as an analysis of its musical text and style.

A Theoretical Analysis of Eric Ewazen's Sonata for Piano and Trumpet

Steven D. Terradista

Faculty Sponsor: Dr. Kevin Olson, Music

Eric Ewazen is a composer currently working at the Julliard School. I will present a critical analysis of his composition "Sonata for Piano and Trumpet" from both a theoretical standpoint, emphasizing important contemporary techniques utilized within the piece, and a historical standpoint, giving a brief background of Eric Ewazen.

Musical Deconstruction of Samuel Barber's "The Crucifixion"

Dino Lanzo and Gianna Capra

Faculty Sponsor: Dr. Kevin Olson, Music

Our presentation will be a structural and historical analysis of "The Crucifixion" by Samuel Barber. This piece is a part of a series called "Hermit Songs." Barber was crucial to music because of how he fought for artist rights and introduced several pieces that are incredibly popular today. We will deconstruct the harmonic intricacies and melodic ideas used by Barber to create this song. We will also research the life of the composer around the time this piece was

created. We will establish patterns, key areas, and other ideas in the vocal line as well as the accompaniment. Our presentation will close with a hearing of this work.

A Historical and Analytical Study of George Gershwin's "Summertime" from Porgy and Bess

Tim Clishem and Maddy Ludwig

Faculty Sponsor: Dr. Kevin Olson, Music

"Summertime", George Gershwin's iconic song, is the first number from his opera *Porgy and Bess*. Set in the style of a lullaby, the song is an enduring classic that has been interpreted countless times by jazz, classical, and pop musicians. What role does this song play in *Porgy and Bess*? How does it achieve its musical effects? Why is it so conducive to jazz interpretations? This presentation will answer these questions by focusing on the historical background and musical features of the song. Specifically, research will be presented on the composer during the time of the composition of *Porgy and Bess* as well as analysis on the work itself. This will include the origins of the work, its premiere, critical reactions, and its impact. The analysis of "Summertime" will explain its structure and overall shape, as well as its motivic, rhythmic, and harmonic features.

An Analysis of Carl Orff's Carmina Burana: O Fortuna

Alexandra Wojciechowski and Lee Sundstrom

Faculty Sponsor: Dr. Kevin Olson, Music

This presentation investigates Carl Orff's renowned work, *Carmina Burana*, and its significance through historical, structural, motivic, and harmonic analysis. Carl Orff, a 20th century composer made significant contributions to the field of music education with his unique musical instruction approach known as Orff Schulwerk: the Orff Approach. His large-scale choral compositions are renowned, as well. Written between 1935 and 1936, *Carmina Burana* was part of the *Trifoni*, or the *Trilogy of Cantatas*. The three parts of the trilogy include *Carmina Burana*, *Catulli Carmina*, and *Trionfo di Afrodite*. *Carmina Burana* is ever recognizable for the movement entitled *O Fortuna*, which precludes and postcludes the piece. This presentation will focus on the structural organization of this choral work, Orff's use of text painting, as well as innovative, modern compositional techniques.

Industrial/Organizational Psychology

104 Circle Hall

DialAmerica Marketing Employee Selection Testing Internship

Angela Ligue

Faculty Sponsor: Dr. Thomas Sawyer, Psychology

For my internship with DialAmerica, a national marketing firm with 35 branches nationwide, I was involved in the research and implementation of an employee selection process for the telephone sales representative position. I conducted a job analysis, created a job description and a structured interview, and researched possible selection tests. Through this experience I was able to observe first hand how organizations handle these processes. I will be

discussing what I did in the internship as well as the lessons that I learned from doing the internship.

Turning with the Tide: The Alignment of Selection, Training, and Appraisal Strategies with Aspirations of Progress

Thomas Romeo

Faculty Sponsor: Dr. Thomas Sawyer, Psychology

An updated personnel management system was developed and implemented for both cashier and sales associate incumbents of a local Elmhurst Ace Hardware. My internship involved implementing programs of hiring, training and evaluation, unique to the individual store, but in line with systems sponsored by Ace Hardware Corporate offices. My goals for this internship were to (1) update the pre-existing job descriptions for both cashiers and sales associates according to current job demands; (2) develop learning plans for new-hire associates by revisiting old plans and incorporating more thorough means of on-the-job training; (3) incorporate online training modules available through the LMS; (4) review the present structured interviews and update them with pertinent criteria derived from the updated job descriptions; (5) develop performance appraisals for each position to assess both KSAs deemed necessary through the job descriptions and the training program itself; and (6) introduce a goal-setting initiative into the training and performance appraisal processes.

What Top Performing Leaders Should Stop, Start and Continue Doing

Brian Di Bartolomeo

Faculty Sponsor: Dr. Thomas Sawyer, Psychology

For decades researchers have investigated the behaviors of successful leaders. The author examined the narrative comments from a 360 degree feedback instrument on top and bottom performing leaders from Fortune 500 organizations. The 217 leaders in the sample spanned across 60 organizations. Comments were categorized into 9 predetermined categories and themes were identified that differentiated top and bottom leaders. The author found that successful leaders involve employees in decision making and focus on communication. Leaders that are less successful tend to micromanage and do not allow their employees to have a voice within their organization.

Competency Model/Assessment Tool Development for Elmhurst College's I/O Graduate Program

Meghan Anderson

Faculty Sponsor: Dr. Thomas Sawyer, Psychology

To complete the internship component of the Industrial/Organizational Psychology graduate program, I developed a competency model and pilot tested measures for the Industrial/Organizational Psychology graduate program at Elmhurst College. A competency model is a collection of competencies and standards of performance establishing qualifications for a specific job position. The job position for this particular competency model was the graduate student of the I/O Psychology program. The program intends to use the competency model as a measure for incoming students, as well as the program itself, noting strengths and room for

improvement. The development included an internet literature search, an online survey completed by alumni, development of an assessment center, and the administration of a pilot study. I will discuss my experiences with the development of the competency model and its measuring tools, challenges I encountered, as well as suggestions for the future.

133 Circle Hall

Nursing Students' Perceptions of the National Council Licensure Examination at Elmhurst College

Laurie M. Spiegel

Faculty Sponsor: Dr. Jane Jegerski, Psychology

This study evaluated nursing students' perceptions of the National Council Licensure Examination (NCLEX-RN) at Elmhurst College in the fall of 2007. The study both evaluated student perspectives and sought suggestions for future improvement. Two focus groups consisting of twenty-four volunteer nursing students from Elmhurst College were given a series of questions regarding hearsay of the NCLEX-RN, perceptions of the exam and recommendations for the Nursing Department. The data from the two focus groups were aggregated to form four major themes. Since this study, a yearly survey has been developed and the first-time pass rate of EC Nursing students has increased significantly.

Job Descriptions and Performance Appraisals: The Process of Creating Organizational Tools

Valerie Williamson

Faculty Sponsor: Dr. Jane Jegerski, Psychology

Job descriptions and performance appraisals are basic building blocks of organizations. Job descriptions organize work tasks and identify basic skills, knowledge and abilities needed to perform a specific position successfully. Performance appraisals provide an opportunity to identify areas that are in need of improvement, as well as areas that the employee excels in. It is also a crucial time to create goals and provide feedback in which both the Supervisor and incumbent can be involved.

Associated Pension Services, Inc was in need of these critical tools in their organization. Therefore, this project outlines the step by step procedures and implementation of job descriptions and performance appraisal in a growing organization of 12 people. This project outlines the development of these tools through interview, observation, research and feedback from subject matter experts (SME). The projects were successful in providing the organization with tools for future hiring and training practices.

Internship with the Community Associations Institute, Illinois Chapter

Kelsey Kuebler

Faculty Sponsor: Dr. Jane Jegerski, Psychology

The Community Associations Institute, Illinois Chapter (CAI) was in need of an employee handbook to outline relevant laws and policies in a document to which all employees have access within their organization. This project summarizes the steps taken to effectively compile a legally defensible employee handbook.

The CAI was also in need of a survey tool to determine use of their services by their members. The CAI was interested in determining reasons for membership renewal. Developing an instrument with quality questions that will produce valid results is of great concern within the field of Industrial/Organizational Psychology. Outlined within this project are the steps taken to successfully develop a quality survey instrument.

Utah Retirement Systems Salary Survey

Ryan L. Richards

Faculty Sponsor: Dr. Jane Jegerski, Psychology

This project was part of the internship requirement for the Industrial Organizational Psychology Masters program at Elmhurst College. The project was conducted at Utah Retirement Systems (URS) in Salt Lake City, Utah, an independent state agency or quasi-governmental entity that employs a total of 323 employees and has appointed board members by the Governor of the state of Utah. The focus of the project was on the development of a salary survey, data collection, analysis, and further outside salary survey research in the conducting of a compensation analysis. The salary survey was developed for use in a compensation analysis of roughly 290 positions at URS. The goal of the compensation analysis was to provide data and information to help URS make informed decisions in the structuring of a new compensation system. The results of this internship experience will be provided.

Political Science

131 Circle Hall

Avoiding War: Neo-realism and the 1996 Taiwan Strait Crisis

Emily Nagle

Faculty Sponsor: Dr. Jennifer Boyle, Political Science

In an effort to apply a political theory to an international event, I examined the 1996 Taiwan Strait Crisis through the lens of neo-realism. This then was applied to the causes and resolution of the surmounting tension in cross-strait relations that affected both the East and West. My goal was to make a critical analysis of the individual, national, and international levels of the major contributors to the conflict: Taiwan, China and the United States. By looking at aspects of each state (such as zero-sum, balance of power, and the security dilemma) their actions can be explained throughout the development of the conflict by neo-realism. An explanation can also be extracted regarding how the crisis escaped becoming an all out war.

American Foreign Policy in Afghanistan

Ammar Haq

Faculty Sponsor: Dr. Jennifer Boyle, Political Science

In this paper, I analyze American foreign policy with regard to Afghanistan and Pakistan through the neo-realist paradigm, which has, for the most part, defined that policy. This is done through a very brief analysis of American policy in the aftermath of the 1979 Soviet invasion of Afghanistan, as well as a more comprehensive review of our policy in the region post-

9/11. Furthermore, I evaluate the effectiveness of our neo-realist approach, and prescribe a more nuanced policy for the region in the years ahead.

The Injustice of Migrant Domestic Workers in Saudi Arabia

Nicholas Parrish

Faculty Sponsor: Dr. Teri Bengston, Political Science

There are currently 1.5 million migrant domestic workers in Saudi Arabia, mainly originating from Indonesia, Nepal, Sri Lanka, and the Philippines. To fully understand the complete process of migration, the analysis will shift between three competing perspectives, the individual level, the state level, and the international and transnational level. Finally, the author will recommend ways the process can become more transparent. These prescriptions will include the creation of an international monitoring agency, revising Saudi Law, and by increasing the education and poverty reduction programs in sending states.

Balkan Crisis: A Cultural and Historical Analysis of the Yugoslav Wars

Ljiljana Milojevic

Faculty Sponsor: Dr. Brenda Forster, Sociology

Inspired by HON 404: Senior Capstone Seminar, as well as my history major, I've created a semester long course about the Balkan wars of the 1990s. This course looks into the culture, history and religion of the Balkan regions of ex-Yugoslavia, and the role of those three factors in the war itself. In addition the politics, military advances, battles, key events, and key figures will be thoroughly discussed as well. The material for this project will be presented by Power Point as well as a binder of all the course requirements, schedules and materials.

20th Century Latin America and Beyond: From the Cristero Rebellion to the 2012

Maya Calendar

203 Circle Hall

God or Country? State Formation, Plutarco Elias Calles, and the Cristero Rebellion

Matt D'Angelo

Faculty Sponsor: Dr. David Conrad Johnson, History

Since Mexico achieved independence in 1821, there has been a constant source of tension in the church-state relationship, which ultimately culminated in the Cristero Rebellion (1926-1929). The question that this paper seeks to explore is which side, the Church or the Mexican state, was more responsible for instigating the Cristero Rebellion. First, I will examine the ideology of revolutionaries and the ideology of Plutarco Elias Calles along with the role the government of Mexico played in the Cristero Rebellion. Next, I will present the ideology of the Catholic Church and its contributions to the outbreak of war. My research leads me to argue that the Mexican revolutionary government was more responsible for the outbreak of the Cristero Rebellion.

Making the Economy Scream: The Nixon Administration and the Downfall of Socialism in Chile, 1970-1973

Alyssa Kramer

Faculty Sponsor: Dr. David Conrad Johnson, History
Salvador Isabelino Allende Gossens, elected President of Chile in 1970, was overthrown and replaced by a military-led government on September 11th, 1973. Allende faced many difficulties as the United States tried to destabilize his regime, and while Allende tried to unite three ideologies, he remained largely unaware of the growing opposition to the government. My discussion will examine the intense pressure that the intense pressure from the United States to bring economic ruin to the Socialist government of Allende.

The Impact of Urbanization on Post WWII Mexico

Brandon Violette

Faculty Sponsor: Dr. David Conrad Johnson, History
This paper aims to provide a detailed analysis of the urbanization of Mexico after WWII, specifically how urbanization affects the working class. Additionally, this paper will examine the structure of health care and health care access when it comes to treating and diagnosing alcoholism, which is one of the most prominent health issues in Mexico. Discussing these topics will provide insight into the relationship between Mexico's history of urbanization and health care and dealing with the country's struggle with alcoholism.

The Maya Calendar: A Correlation Problem

Emily Timko

Faculty Sponsor: Dr. David Conrad Johnson, History
In recent years there has been an increasing hype over the date 12/21/2012; the supposed end of the Mayan calendar. This date comes from the Goodman-Martinez-Thompson correlation (GMT), only one of many hypothesized end dates. However, the GMT correlation presents only a "best guess" scenario and should not be taken as fact, which many current works have done. Although the true end date has yet to be found, astronomical and mathematical evidence suggest that 12/21/2012 does not represent the end of the Mayan calendar.

Sociology **204 Circle Hall**

Communication of Culture through Gospel and Lutheran Hymns

Mark Anderson

Faculty Sponsors: Dr. Brenda Forster, Sociology
Ms. Sondra Simpson, Center for Business and Economics

Music is one medium through which a culture can be examined. This research project aims to discern some of the differences between the two 20th Century cultures out of which Gospel and Lutheran hymns came. This will be done by way of observing differences in the content of the hymns and imagining the cultural context that may have given rise to their development. A comparison will be presented using

Power Point and including both musical and lyrical content.

Through the Eyes of the African American: Literature of the Harlem Renaissance

Monique M. Hickman

Faculty Sponsors: Dr. Brenda Forster, Sociology
Ms. Sondra Simpson, Center for Business and Economics

The late 1920s and early 1930s was a period where in which the "New Negro" emerged, but more commonly referred to as the Harlem Renaissance. The Harlem Renaissance gave African Americans something to be proud of, to learn from, and to build upon. Therefore I have developed a course that focuses on the literature produced during the Harlem Renaissance. The presentation will be presented in power point format along with a poster board and a binder that will include introduction of the author and the pieces of literature as well as the lesson plan for that particular topic.

Racial Depictions and Stereotypes in Disney Princess Movies

Katie Young

Faculty Sponsors: Dr. Brenda Forster, Sociology
Ms. Sondra Simpson, Center for Business and Economics

This paper examines the racial messages in Disney Princess movies. Disney Princess movies are important agents in the racial development of young girls. These popular movies are targeted to girls who are at the age when race and ethnicity first become apparent. The older Princess movies have virtually no depiction of races other than Caucasian. Color symbolism in these movies associated white with good and black with evil and fear. Later Caucasian Disney Princesses had some non-Caucasian characters. Disney Princess movies that feature minority Princesses have negative racial stereotypes. However, these stereotypes became less overtime. The presentation will be by Power Point to show the various racial images and present analyses.

Putting a Face on Undocumented Immigration in Chicago

Mira Ham

Faculty Sponsor: Dr. Beatriz Gomez-Acuna, Foreign Languages and Literatures
Inspired by involvement in the Gandhi Internship for International Justice, this project was developed as an effort to gather personal narratives of people who came to the USA as undocumented immigrants. This project will present some of the experiences shared by documented and undocumented immigrants living in the Chicago area in order to shed light on the challenges, hopes, expectations and realities faced by these people.

LGBTQ Unawareness at Elmhurst College

Stacey Constantine, Alyssa Hewes, Jenn Kosciw, Amanda Nagy

Faculty Sponsor: Dr. Kathleen Rust, Center for Business and Economics and Intercultural Studies

According to its website's Campus Profile, Elmhurst College prides itself in providing an educational experience for people in "all their glorious variety." With an emphasis on providing a diverse, welcoming, and open community, Elmhurst did not live up to its own promise when it received a grade of "F" from the Illinois Safe Schools Alliance. The ISSA study, conducted between January 2007 and January 2008, was a web-based assessment of LGBTQ presence within the College's marketing literature, campus policies, and student life. In order to address this issue and improve upon the current state of our community, our research centered on a more in-depth view of the College and its recognition of LGBTQ concerns. This was achieved through interviews, surveys, personal testimony, and reviews of the institution's documents. Upon reviewing our collected data, we offer suggestions for areas in which LGBTQ concerns can be addressed and improved upon.

Prophets **213 Daniels Hall**

Muhammad: Prophet and Politician

Amber Gratz

Faculty Sponsor: Dr. Nancy Lee, Religious Studies

My research undertook the question if a prophet can be a politician, and if a politician can be a prophet. I defined what needs to happen to be a prophet and to be a politician. One such person that is claimed to be both is Muhammad. Has he the qualities that both a prophet and a politician have? What influences and events have taken place that make people believe that he is both. After examining the differences in the culture Muhammad grew up in, and comparing with the culture of the United States, I will discuss whether I believe that a person can be both a prophet and a politician in the United States in today's world.

The 'Normal' Prophet: A Biography and Analysis of the Prophetic Voice of William Stringfellow

Kyle A. Tade

Faculty Sponsor: Dr. Nancy Lee, Religious Studies

William Stringfellow provides an interesting, honest and raw critique of poverty, race, class, and the problems associated. An Episcopalian, a lay person, a lawyer, an author and theologian, he also critiques the Protestant movement in America throughout the 1960's and 1970's. Though his body of work still remains unknown to many, he is arguably one of the most prophetic voices of his and our time. It is through analysis of his biography and specific examples of his work that William Stringfellow comes to light and life as a prophet of and for the 20th Century.

Jane Addams and Vida Scudder: Results of Religious and Secular Motivations

Jennifer K. Stopka

Faculty Sponsor: Dr. Nancy Lee, Religious Studies

Compared with Jane Addams legacy, social reformer and intellectual Vida Scudder's contributions remain virtually unknown to the general public. Scudder was a contemporary of Addams. She also founded her own settlement house in Boston (it was called the Denison House). As well as being a professor of English at Wellesley College she also found time to organize the Women's Trade Union League. Unlike Addams, Scudder possessed definite religious leanings. She was a member of the semi-monastic group called the Companions of the Holy Cross.

The question that I hope to explore is what motivated these two women to undertake their fight against social injustice? Did faith, or lack thereof, have a significant effect on the motivations of these two women? What implications did this have?

Susan B. Anthony: Prophetic Methods to Bring About Social Justice

Jessica Hulesch

Faculty Sponsor: Dr. Oliver Lawrence, Honors Program

Susan B. Anthony played a major role in the nineteenth century women's suffrage movement and gave many major speeches on the subject for over forty-five years. Her various activities, speeches and writings, motivations, and obstacles have much in common with many prophetic leaders. Characteristics of prophetic leaders are explored, and it's analyzed how Susan B. Anthony had much in common with other prophetic figures who caused social changes. Through her and her movement's efforts, changes regarding women's rights were successful. To tie into my personal focus of biology, the Women's Suffrage Movement's contributions to science today are explored by looking at how the advances in women's rights have affected women working in the scientific field.

Prophetic Voice in South Africa

Nikol Bakka

Faculty Sponsor: Dr. Oliver Lawrence, Religious Studies

Tracing South Africa's history through a feminist perspective sheds new light on the power of South African women today. Women have taken on roles as prophets "as seers, religious mouthpieces, or social justice activists" to assume a more powerful role in society. This presentation will touch on prophetic women's responsibilities against colonial abuses, their position in the apartheid movement and resistance, and, more recently, women activism in areas such as education, microfinancing opportunities, healthcare, and the HIV/AIDS crisis. It attempts to answer the question of what causes women's persistent, subservient status in such a patriarchal society, as well as identifying women leaders and activists throughout South Africa's history.

These Ain't Your Average Protest Songs: Hip Hop Codifying Social Justice Via Prophetic Songs

Sean M. Proctor

Faculty Sponsor: Dr. Oliver Lawrence, Religious Studies

The ancient biblical prophets (Isaiah, Amos, Jeremiah, among others) were agents of social change. Oftentimes isolated from their contemporaries, they stood against the trends of sin and injustice as they foresaw the respective consequences. They indeed spoke truth to power offering a daring message of tremendous vision, of courageous rebuke, and of necessary justice. The biblical prophets, however, brought their message thousands of years ago. Is there room for their vision, their rebuke, and their justice today in the twenty-first century? And if so, then who is brave enough to carry that burden? And to whom do they speak? I argue that several rappers have heard the call of the prophet. Isolated from their contemporaries, mainstream millionaire rappers, these prophetic rappers (Mos Def, Talib Kweli, Common, among others) stand against the trends that lead to destructive consequences - akin to the biblical prophets of the past. They speak truth to power as they offer a stern message of tremendous vision, of courageous rebuke, and of necessary justice. They are indeed agents of social change. They are, it will be determined, modern day prophets.

Science **309 Daniels Hall**

The Loyola Medical Center Surgical Database Project

Matthew Casali, Brian Firek, Kevin Hlava, Alex Kowalczyk, Nathan Rold, George Stoyanov, Jelena Sudar

Faculty Sponsor: Ms. Linda M. Krause, Computer Science and Information Systems

The goal of the IS200 Spring 2009 group project was to create a database so that the Loyola Medical Center can enter patient, pre-operative, surgical, pathological, post-operative and follow-up data into one computerized system, providing ease of storage and the ability to extract specific data easily and in an organized fashion. The first step was to normalize the data to reduce redundancies, enforce data integrity, create data relationships and enable a more organized interface for viewing and storing the data. This involved carefully reading and understanding the medical information provided by Drs. Eberhardt and Yong from the Loyola Medical Group. Table creation, specifying field types, setting field constraints, identifying table relationships and input form creation was then split amongst the group members. The program used to create the database was Microsoft Access 2007. The production of this database will allow surgical patient information to be stored efficiently with effortless data input. In addition, it provides the physician the capability to straightforwardly query data for research purposes.

Capstone Development Project: Project Management Deeana Goets, Terri Vu, John-Paul Scheckel, David Schierl, James Ortiz, Scott Hubacek

Faculty Sponsor: Ms. Kathleen L. Rossi, Computer Science and Information Systems

In the Spring of 2009, the undergraduate cohort of the Information Technology Accelerated Bachelor's Program was given a project to plan, analyze, design and develop a video rental a web-based application based on the popular Netflix video rental model for use by the general public. The solution developed was a fully functional client/server database application utilizing HTML, Javascript, Java, Tomcat, and MS Access that was designed, developed and tested within a five-week time period by the six members of the cohort. Given the reduced development time frame and the size of the development team, particular attention was paid to controlling scope, teamwork, communication and managing the various components being developed. This capstone project integrates the teaching and learning from all courses within this curriculum: logic and design, Java programming, web design, database technology, networking, and application servers.

Genetics of Speech and Language Disorders

Danielle Littrell

Faculty Sponsor: Dr. Jacqueline Wittke-Thompson, Biology

Recent genetic studies have identified numerous chromosomal regions across the human genome that increase susceptibility to several speech and language disorders, including stuttering, specific language impairment (SLI), and autism with phrase speech delay (PSD). The genetic regions identified in each of these studies show overlap between the three phenotypes of stuttering, SLI, and autism with PSD. Hoping to conduct a meta-analysis of these speech disorders, we identified published genome-wide linkage analyses for these disorders through PubMed. Information was compiled on the genetic regions of overlap and we identified possible candidate genes through bioinformatic analyses. Our results show one region (13q21) was identified in several linkage studies for stuttering, SLI, and autism with PSD. Regions on chromosome 2 also show evidence for at least one genetic locus increasing susceptibility to stuttering and autism with PSD. Other regions around the genome show additional overlap, particularly chromosomes 5, 7, and 13. Future studies will include conducting a statistical analysis to determine the significance of overlap between these studies and possible genotyping in DNA samples collected from individuals affected by stuttering, SLI, and/or autism with PSD.

Logical Reasoning with Moral Premises

Andrew Hartley, Lauren Scimeca, Eiliana Silva

Faculty Sponsor: Dr. Kathleen Sexton Radek, Psychology

The present investigation seeks to develop a problem stimulus that assesses logical reasoning ability with moral premises. A single problem stimulus with seven pairs of moral premises that are agreed or disagreed with by a subject was created. These items are

logically connected such that there are three ways to answer each of the pairs of moral statements without a contradiction in logic. The problem stimulus attempts to measure the constructs of recognition of assumptions, deduction, and evaluation of arguments from the Watson Glaser Critical Thinking Appraisal Form A. Reliability analysis will be discussed, and direction for future validity analysis suggested.

The Effect of a Preceding Task on Creativity

Drew Farr and John Johnson

Faculty Sponsor: Dr. Helga Noice, Psychology

A body of existing research has demonstrated the beneficial effect of a happy mood on creativity. Usually that mood was induced by listening to cheerful music or watching cheerful videos. The purpose of this study was to find out if the type of preceding task also has an effect on creativity. Students enrolled in Introduction to Psychology at Elmhurst College participated in the study. They were randomly assigned to two groups. The first group was given LEGO blocks that they could use in any way they wished, while the second group was given a structured task of doing simple math problems. Both groups were then asked to write a short story using at least 15 of 30 words from a word bank. Stories that used more abstract words were considered more creative. The creativity level of the essay was measured on an interval scale based on the number of abstract words that were used. It was expected that the group that manipulated the LEGO blocks will use more abstract words when writing the story, suggesting that a creative preceding task can exert a similar influence to mood in inducing creativity.

Parent-Adolescent Conflict

Elizabeth Flood

Faculty Sponsor: Dr. Rachel Reznik, Communication Arts and Sciences

This study examined serial arguing in parent-adolescent relationships. Serial arguments are a set of arguments that occur at least twice over the same topic and can be very damaging to relationships. Participants in this study were given a survey asking them to evaluate one serial argument that either occurred or was still in occurrence with one parental figure. We expected to find negative relationships between hostility and perceived resolvability of the argument and between hostility and relational satisfaction. Conversely, we hypothesized that hostility during the argument will be positively related to mental and physical health problems. Finally, we expected a positive relationship between perceived resolvability and relational satisfaction, as well as a negative relationship between perceived resolvability and experiencing mental and physical health problems. These findings would support the notion that serial arguments not only damage relationships, but these arguments pose both mental and physical health issues for the parents and children that engage in serial arguing.

Computer Information Systems

Bryan Room, Frick Center

Capstone Development Project: Reducing Energy Consumption Through Technology

Charles Gidcumb, Frank Sparano, Mark Larsen, Steven Stanley, James Polous, Eugene Wabomnor, Robert Schall

Faculty Sponsors: Mr. Dean Jensen and
Ms. Linda Krause, Computer
Science and Information Systems

By better understanding our energy consumption, we should be able to reduce it. Studies have shown that access to home energy information can result in savings between 5-15% on monthly electric bills, and if half of American households cut their energy usage by 10%, it would be the equivalent of taking eight million cars off the road. During the Spring 2009 semester, Elmhurst College's Masters in Computer Information Systems students set out to design and develop both an energy consumption simulation and tracking application.

The Energy Consumption Simulator was designed to allow individuals to better understand the impact of their energy consumption through simulation. This application was developed as a Web-based application to allow individuals to simulate their Carbon Footprint. The Energy Consumption Tracker was designed to allow individuals to track and calculate their actual energy consumption. This application was developed as a Desktop-based application to allow individuals to input and store their actual energy consumption information. This information is then aggregated into a Dashboard, and different data visualization options allow individuals the ability to see the impact of their energy consumption. By utilizing state and national data, the students were able to construct an application that accepts generalized energy consumption information and provides a simulated output.

This presentation will include an overview of the topics learned in the Master's of Computer Information Systems program that contributed to the design and development of the Energy Consumption Simulator and Tracker applications, and their supporting networking infrastructure.

Art Exhibits

Barbara A. Kieft Accelerator ArtSpace

Artist Statement

Alyse Dawid

Faculty Sponsors: Mr. John Weber, Art

Ms. MaryLou Stewart, Art

The idea of being expressive is something that has had a major influence on my current work. In the past I have typically been tight-handed with my brush because of my interest in photorealism and capturing a moment exactly as it looks in real life. Recently I have become more open to the ideas of abstraction and stylization, and as a result I have started to venture from the idea that my art has to look real.

Although this has been a challenge, it is the direction that my art has been heading. I cannot deny its evolution.

Lately I have been using flowing, organic shapes within my paintings and sculptures in an attempt to free my mind. By using a bold fauvist color palette of richly saturated hues, I have tried to capture the expressive qualities of the movement and interaction of the human figure in my paintings. With my sculptures, however, I have tried to keep color almost obsolete so as not to distract from the figures. This is necessary because in my paintings, color draws the viewer, while my sculptures are already in the viewer's three dimensional space and therefore need no lure. When my pieces come together they create a dichotomy between the idea of balance and the struggle to find it.

My paintings represent the idea of balance while my sculptures represent the idea of chaos, known as the concept of yin and yang, or opposing forces. Harmony occurs when yin and yang are together to form a whole and chaos occurs when there is one without the other. My paintings contain three couples, and amongst the three, one sole female appears in the bottom center painting. These figures represent balance and peace. In contrast, my sculptures contain four female figures, distorted and deteriorating. These show the chaos and imbalance that occur when something is missing. There is a direct relationship between my paintings and sculptures in the way that they are placed. Each sculpture is the "chaotic" version of one of the "harmonic" couples in the paintings, and the sculpture that lies in pieces on the floor is the broken version of the sole female in the paintings. Therefore my pieces convey the balance between opposing forces in nature, the harmonization of chaos, and the beauty of the movement of the human figure.

Artist Statement

Megan Hertko

Faculty Sponsor: Ms. Mary Lou Stewart, Art

Throughout history women have been told what they are expected to wear. Ancient societies, as well as contemporary norms have dictated what is appropriate fashion for women. Times have changed. Women now get to break away from a "June Cleaver" look and wear what they want. Shoes have become a way for women to express who they are. Society no longer tells women that they should look a certain way. Women are breaking the societal mold, and use shoes as a way to liberate themselves. I want people to see that it has taken a long time for women to gain social and political rights and these shoes express this long turbulent fight for power over oneself.

The size and degree of decoration of the shoes correspond to the amount of empowerment and liberation afforded to women during particular time periods. Now women don't wear certain shoes to be acceptable to society. Instead their shoes are a statement of their own individuality.

Artist Statement

Vanessa Pavelka

Faculty Sponsor: Mr. John Weber, Art

My work reflects the struggle between restraint and progression. I wanted to take traditional acrylic painting to a different level by having the supports to be organically shaped and layered on top of one another to reveal a third dimension (depth). Having previously studied painting on a square canvas that is hung on a wall, I now want to approach painting from a different perspective by having it suspended from the ceiling. I want the figures to appear in action, and hanging them on the wall wouldn't satisfy that goal. Each frame represents a wall that the figures are interacting with by physically breaking through it. The four figures as a unit exhibit the inevitable interaction of personal space. The back side of the figures suggests anticipation of the uncertainty of moving forward. The emotion of this piece was inspired by the action painting of Jackson Pollock as shown by the use of action painting inspired by Jackson Pollock.

The Four Elements

Jessica Renaghan

Faculty Sponsors: Ms. Mary Lou Stewart, Art

Mr. John Nester

I have always been interested in the four elements, earth, water, fire, and air. These themes appear in my work often, sometimes unintentionally. I decided to dedicate an entire exhibit to the exploration of various media as well as symbols pertaining to the elements. The elements show through the window because all of them originate in nature, and I wanted the viewer to get the sense of looking outside. The fabric and ceramic pieces represent only one aspect of the element and are a more literal interpretation while the window sculptures are purely symbolic. Earth is put first because it symbolizes mother earth. Water is next as it symbolizes purifying and cleansing much like baptism. Fire is third because it symbolizes transformation, destruction and rebirth. Air is last because it represents freedom and purity of the soul. My pieces are purely expressionistic. They are not intended to be a realistic portrayal of nature, but are simply my way of honoring it.

Discover Your Inner Super Hero

Chris Rosado

Faculty Sponsor: Mr. Geoff Sciacca, Art

My work is influenced by the high energy and intense dynamics found in today's graphic novels inspired by Jim Lee and Akira Toriyama. Lee is known for his work done on the Marvel and DC universes, and Toriyama is the creator of Dragon Ball Z. I apply Toriyama's angular line-work to Lee's gritty, heavy shadows, grungy yet defined anatomy work to my own characters. Combining the two, I have come up with my own style of character that is a cross between Japanese Anime and American Comic Book style. My end goal is that the viewer sees these characters as symbols of hope and inspiration in the same way they would view Superman or Batman. I am taking these characters, bringing them to life, then applying them to a magazine ad or a billboard using a series of images and text to entice the consumer. The

challenge of promoting the company I created, Graphic Gears, and encouraging consumers to buy the product, is what Graphic Gears is all about!

I am trying to become legendary and inspire millions with stories of characters and how they have overcome their own life challenges, whether they be fighting the forces of evil or simply dealing with a bully at school.

Artist Statement

Amber Skelnik

Faculty Sponsor: Ms. Mary Lou Stewart, Art

I crave the process of creating art. For me, the unknown outcome of each undertaking is what drives me to create art. My obsessive nature gives the artistic process a quality that challenges and motivates me. Each new idea and inspiration that occurs during the artistic process is very troubling. Since idea generation occurs continually throughout the artistic process, deciding to follow the original vision or to go in a new direction is my biggest challenge.

When it comes to materials, anything goes. I especially enjoy finding different ways to reinvent the function of discarded items. I prefer to work with a variety of different materials to create interesting contrasts, textures, and forms. Everything I encounter guides my artwork in one way or another. Either I find something intriguing and worth exploring, or my dislike moves me in an opposite direction.

This collection is my exploration of humanity. Moreover, the collection is an inquiry into the complexities we, as a species, possess. The sculptures are a personal reflection of my many layers, as well as a collective reflection on human beings in general. I chose to use faces because of their inherent expressive nature. I felt it was a straightforward way to convey many different human characteristics and emotions. I added light sources to the sculptures as a means to represent the inner, non-physical qualities of a person. I generally prefer the fluidity of organic forms, yet I have used geometric forms to create an element of contrast in some of the sculptures. The sculptures are my method of celebrating everyone's unique qualities.

Posters

Founders Lounge, Frick Center

Business

Sustainable Business in Today's Society

Erika Mogan

Faculty Sponsor: Dr. Ronald Romba, Center for Business and Economics

Developing and running a sustainable business in today's world is a challenging task. Sustainability means meeting the current needs of our society in ways that enable future generations to meet their own needs. It is detrimental that the striving businesses in the US learn from other countries that are currently striving for sustainable living.

Chemistry

Analysis of Nitrate Contamination in Natural and Potable Water Sources

Emily Brislawn

Faculty Sponsor: Dr. Michelle Applebee, Chemistry
Ultraviolet spectrophotometry and nitrate electrode methods were used to determine the concentration of nitrate in water from Salt Creek and Cricket Creek, well water, and tap water. The two methods selected allowed for comparison of interferences caused by organic matter. The spectroscopy method is susceptible to organic matter, whereas the electrode method is not. Data and results will be discussed.

The Heck Reaction

Kristi Lee

Faculty Sponsor: Dr. Eugene Losey, Chemistry

My research was done on the Heck reaction and how the reaction could be incorporated into the organic labs. The Heck reaction is the allylation of an aromatic halide. The Heck reaction consists of three important mechanisms: oxidative addition, alkene insertion, and beta hydride elimination. In this reaction, o-bromiodobenzene is mixed with a palladium catalyst to synthesize o-bromocinnamic acid. Through my research, I discovered how each mechanism worked, and was successful in creating o-bromocinnamic acid. I was also able to think of new products that could be used at Elmhurst College to give organic chemistry students more experience with catalytic reactions.

Amino Acid Analysis

Michael A. Rudoff

Faculty Sponsor: Dr. Joshua Rausch, Chemistry

The purpose of this research is to establish an amino acid analysis protocol to can be used as part of a biochemistry teaching lab. Labeling pure amino acids with phenylisothiocyanate (PITC) in solution enables UV/absorbance detection with chemical separation methods. Running the sample solution through reverse phase high performance liquid chromatography (HPLC) to separate the various amino acids allows for qualitative and quantitative analysis. This method allows the detection of sub-micromole quantities of amino acids, enabling characterization of the amino acid composition of a protein. This project will permit students to quantify amino acids that were obtained through the hydrolysis of proteins.

Quantification of Capsaicin in Hot Sauces

Robert Runnels

Faculty Sponsor: Dr. Michelle Applebee, Chemistry

While countless producers claim to have the hottest hot sauces or pepper, most of these measurements are purely subjective, a rating known as the Scoville unit. The pungent taste of peppers and hot sauces is caused by the chemical capsaicin. In order to obtain a better quantification of the 'hotness' of hot sauces, capsaicin was analyzed by high performance liquid chromatography. Reported Scoville units will be compared to capsaicin concentrations to determine the hottest of the sauces studied.

Determination of Tannin in Wine

Kaitlin Ryan

Faculty Sponsor: Dr. Eugene Losey, Chemistry

Tannins are compounds that contribute to the complexity and balance of wines. By analyzing the tannin content in grapes and wines, a winemaker can determine the optimal harvesting time of grapes in order to produce wine with a desired tannin content. In this experiment, tannin contents in wine samples were analyzed by performing a protein assay to isolate a primary tannin in wine, catechin. The isolated catechin/protein complex was then treated with ferric chloride, resulting in a yellow solution. The absorbance of the colored solution was measured using UV/Vis spectroscopy. The concentration of tannin in each wine sample was then calculated based on a standard curve of known concentrations of catechin.

Digestion of Proteins: Condition Experimentation for Future Biochemistry Labs

Catherine Topor

Faculty Sponsor: Dr. Joshua Rausch, Chemistry

My research explored possible proteins and enzymes to use in protein digestion, which will be employed in future biochemistry labs. I first utilized Swiss-Prot to identify at least one suitable combination of protein and enzyme, where the enzyme cuts the protein in manageable fragments for SDS-PAGE purification. The experiments included the digestion of proteins using appropriate enzymatic or chemical methods, separation of fragments by chromatography and electrophoresis, and then purification of proteins for further analysis. Separation of the protein fragments by SDS-PAGE was used to determine the efficiency of protein digestion. Protein fragments were then prepared for amino acid analysis, performed by fellow classmate Mike Rudoff.

Examining the Adsorption of Methylene Blue to Activated Carbon

Anthony Vandeburg

Faculty Sponsor: Dr. Kimberly Lawler-Sagarin, Chemistry

The Langmuir Adsorption Isotherm is a theoretical model used to describe the adsorption of molecules onto a solid surface. Some theoretical considerations are that the molecules form a layer one molecule deep on the surface, the system is in a state of equilibrium with the rates of adsorption and desorption being equal, and the occupation of neighboring sites has no influence on adsorption. The adsorption is proportional to the concentration and the amount of the surface that is still unoccupied, and the converse is also true with the rate of desorption being proportional to the amount of the surface that is already occupied. Because the rate of adsorption and desorption are equal, the surface coverage at equilibrium can be related to the concentration of the absorbing species. In this presentation this model will be used to describe how temperature affects the rate and amount of adsorption. Competitive adsorption of two different dyes will also be discussed.

Solving for Heat Capacity Using the Sound Velocity Method

Rembrandt Villarreal

Faculty Sponsor: Dr. Kimberly Lawler-Sagarin, Chemistry

Heat capacity is the measure of heat energy absorbed by gas in order to raise its temperature. Absorbed heat energy causes a gas's translational, rotational, and vibrational energies to increase and this is different for every gas. Thus, heat capacity helps us in identifying and understanding different gaseous molecules. The heat capacity ratio $\gamma=C_p/C_v$ for an ideal gas can be determined with good accuracy by measuring the speed of sound, S , through a gas, where $\gamma=MS^2/RT$ (M =molar mass). I have constructed a modified version of Kundt's tube, in which the wavelength of a given frequency is determined electronically helping solve for S . The construction of the apparatus and results of the experiment will be discussed.

Education

Holocaust Initiatives within Fifth Grade Curriculum

Megan Pendergast

Faculty Sponsor: Dr. Brian Kahn, Education

The State of Illinois mandates Holocaust and genocide education within all elementary and secondary schools. Specifically, this mandate strives to work towards the prevention of such atrocities here in the United States of America and abroad. The following curriculum unit examines how this mandate may be met within the classroom. In particular, the unit strives to outline lesson plans that delve into the nature of the Holocaust. To illustrate this nature, special attention is paid to the history of anti-Semitism within European and American society. Additionally, plans focus on various roles played by people during the Holocaust, including those of perpetrator, rescuer, resister, bystander, and victim. The development and nature of the Nazi concentration camp system is examined in order to develop an understanding of how genocide is perpetrated within society. Finally, students are given an opportunity to make meaning out of the atrocities of the Holocaust as they work to create personal memorials to its victims.

Geography and Geosciences

Spatial and Temporal Distribution of Tornadoes Size F3 and Larger in the "Tornado Alley States" from January 1990 to March 2007

Brian Firek

Faculty Sponsor: Dr. Richard Schultz, Geography and Geosciences

This project illustrates the number of F3 tornadoes and stronger as they occurred per county from the 1990's to March of 2007. The focus of the project was to study the spatial distribution of strong tornado outbreaks to determine if they occur more often in certain areas and to see how often they occurred. Data was gathered and a table was created listing each tornado. The statistics were summarized to

determine the spatial distribution of tornadic events in each county.

Spatial Analysis of TCF Bank

George Stoyanov

Faculty Sponsor: Dr. Richard Schultz, Geography and Geosciences

This research focuses on TCF Bank locations in Illinois. A spatial analysis was completed of all TCF branches and ATM stations in Illinois. The project uses spatial analysis methodology to depict how TCF locations compare with their competitors. Using a Central Business Districting (CBD) approach, a spatial analysis indicated where potential new locations of banks and ATM could be located to ensure productivity. Information about where TCF banks are located was compared to population density, income data, and other competitor data. Data was further analyzed to propose where TCF might place additional branches or ATM's to maximize profit and succeed in the financial world. A descriptive flowchart of the analysis steps is presented.

Pro Poor Tourism: A Look at Potential Solutions for Small Island Developing States (SIDS)

Allison Westfall

Faculty Sponsor: Dr. Michael Lindberg, Geography and Geosciences

This study examines the harmful effects of tourism on Small Island Developing States (SIDS), particularly in the Caribbean. It analyzed Pro Poor Tourism (PPT) as a possible solution to decreasing some of these effects. Tourism is a flourishing industry that with its growth in the last decade has sometimes become detrimental to the well being of many SIDS. While SIDS experience a disproportionate economic share in tourism, they have development challenges, often lack resources, and have an overall dependence on international assistance. The disadvantages that these SIDS face make them more vulnerable to exploitation by tourism developers. Pro Poor tourism is a policy that was developed to offer viable solutions to enhance the tourism-poverty linkage and contribute to poverty reduction. Over the last 10 years, several organizations have joined together in seeing what the real potentials are for PPT. Throughout this paper, the positive and negative effects that PPT has on Caribbean SIDS was discussed.

Nursing

Nurse Promotion of Breastfeeding for Preterm Infants

Bernie Aguilar and Talia Simon

Faculty Sponsor: Dr. Penny Reiss, Nursing

The objective of this poster is to investigate specific nursing interventions that promote breastfeeding in preterm infants. Breastfeeding is widely recognized as the optimal form of infant feeding because breast milk provides infants with immediate immune protection, decreases the rate of infectious disease, and offers long-term protection from chronic conditions such as diabetes mellitus and asthma. These benefits are even more valuable for preterm infants who have an increased risk of infection. Parents need information, instruction, and

encouragement to initiate and continue the practice of breastfeeding. Nurses can play a key role in promoting this healthy practice.

Perinatal Bereavement

Lisa Magundayao

Faculty Sponsor: Dr. Penny Reiss, Nursing

Perinatal loss is defined as "stillbirth beyond 20 weeks gestation plus [neonatal] death in the first 28 days of life." Perinatal loss is a traumatic event in the lives of families, and it can have a major influence on the development of emotional distress, and also the survival of the family unit. Families who experience perinatal loss, often suffer in silence and isolation because other family members, friends and even health care professionals provide little support or understanding of the loss. The objective of this poster was to investigate the support bereaved parents receive immediately after their loss. The clinical issue for health care professionals is how to care for and offer adequate support for parents suffering from perinatal loss. Three studies were reviewed and the results showed a need for improved implementation of perinatal bereavement care and education.

Nursing Interventions to Prevent Relapse in Patients with Schizophrenia

Jeeyoon Shim

Faculty Sponsor: Dr. Penny Reiss, Nursing

Prevention of relapse is important in reducing re-hospitalization and improving the quality of life for patients with schizophrenia. The objective of this poster is to investigate several ways to prevent relapse or reduce recidivism that will not only benefit the patients but their social networks as well. Literature review was done on three research articles retrieved from the CINAHL database. Articles were chosen based on their availability of online full text, type of research conducted (quantitative), and significance of the effectiveness of the intervention. The review concluded that the use of relapse prevention plans, motivational interviews and cognitive therapy to improve medication adherence further reduces the chance of psychotic relapse. However, support and guidance must be implemented even after the patient is discharged from the hospital. Overall, relapse prevention is a cycle and a continuum of collaborative effort provided by all of the members of the treatment team.

Physics

3D Camera Calibration

Dennis Barak and Michael Meaden

Faculty Sponsor: Dr. Venkatesh Gopal, Physics

Using projective geometry, the images taken from two cameras viewing the same scene can be calibrated to extract three-dimensional spatial information from the images. That is, a pair of two-dimensional camera views can be combined to extract three-dimensional information about the scene. We have implemented a camera calibration routine with the capability of extracting spatial measurements of three-dimensional objects to an accuracy of within 0.5mm using images taken with cameras placed over two meters away from

the objects. A live demonstration of camera calibration will also be displayed.

Distributed Computing Using X-Grid

Mathew Folz

Faculty Sponsor: Dr. Venkatesh Gopal, Physics

We have configured a network of Macintosh computers in the Schaible science center to form an X-Grid cluster. X-Grid is a free software package for the Apple Macintosh OSX operating system that allows a number of Macs to be connected together to form a parallel computing cluster. It is the first distributed computing architecture to be built into a desktop computation system. We have configured a network of Macintosh computers in the Schaible science center to form an X-Grid cluster. We will discuss the parameters of our system and present performance statistics. We will also discuss how we aim to turn this system into a computational resource for Elmhurst College.

Development of a Software-based Schlieren Imaging System

Alexander Grabenhofer and Matthew Graff

Faculty Sponsor: Dr. Venkatesh Gopal, Physics

Schlieren imaging is a technique by which changes in the refractive index of a medium can be visualized. For example, using Schlieren imaging, one can visualize the mixing of a stream of hot water in a bath of cold water, a process that is otherwise invisible to the unaided eye. Until the availability of fast and cheap computers, Schlieren imaging required expensive optical instrumentation. We demonstrate the implementation of a software based Schlieren imaging technique called "Synthetic Schlieren" or "Background Oriented Schlieren (BOS)." A live demonstration of this technique will also be displayed.

Psychology

Sleep Deprivation

Ashley Armato and Jessica Sanchez

Faculty Sponsor: Dr. Kathleen Sexton-Radek, Psychology

This study investigated the sleep habits of undergraduate students and how the amount of time they slept affected their daily tiredness levels. Undergraduate students were asked what kind of sleep habits they followed on an average basis. They were also questioned about the sleep they had gotten the night before and how tired they were feeling at the time of the study were included. Each student was given a questionnaire of 10 questions, 5 questions that were created specifically for this project and another 5 that came from a standardized test. The students who got the least amount of sleep on average were expected to be the most tired feeling. The following study investigated what kinds of sleep habits were found most often in undergraduate students and how it affected their tiredness levels on a daily basis.

Transient Affective Influences on Moral Judgments of Self and Others

Mike Bixter and Nicole Peterson

Faculty Sponsor: Dr. Helga Noice, Psychology

Recent studies have shown that emotion greatly influences the judgment process (e.g., Clore & Huntsinger, 2007; Forgas, 1995; Haidt, 2001). The present study investigated the effect of happiness and sadness on moral judgements. Undergraduate students viewed happy or sad film clips and were then asked to rate specific human actions in morally ambiguous vignettes. Participants rated vignettes containing actions hypothetically committed by them or the same actions hypothetically committed by other people. The results of this study will be useful in understanding the importance such effects have concerning moral judgments and can be applied to theories of the influence of emotion on trial juries and other such situations.

Do Demographic Variables Predict Philosophical Beliefs?

Melissa Brown

Faculty Sponsor: Dr. Kathleen Sexton-Radek, Psychology

This study examined the relationship between philosophical beliefs and gender, year in school, GPA, religious orientation, and academic major. Participants were given ten thought experiments about metaphysical, epistemological, and ethical concepts, aesthetics, politics, and logic. 3-4 responses were provided for each experiment and participants were instructed to select the response that most closely matched their belief. Each response corresponded to a philosophical position. Some experiments were classic paradoxes created by philosophers, and others were taken from popular culture. Philosophical positions were categorized as internally-focused or externally-focused to determine which subject variables corresponded with which beliefs.

The Relationship Between Attachment Pattern and Anxiety in Preschoolers

Melissa Brown

Faculty Sponsor: Dr. Catherine Gaze, Psychology

This study investigated the link between insecure-resistant attachment and anxiety disorders by examining the correlation between anxious behavior and parent-child relationship characteristics consistent with insecure-resistant attachment. Parents of 21 children aged 3 and 4 years completed a measure of behavior and a measure of parent-child relationship characteristics. Relationship characteristics were used to approximate attachment pattern. A significant positive correlation was found between symptoms of anxious behavior and relationship characteristics consistent with insecure-resistant attachment. Conversely, a significant negative correlation was found between relationship characteristics consistent with secure attachment and symptoms of anxious behavior. Though the small sample size and lack of variability in parent responses weakens the generalizability of these findings, they are consistent with attachment theory and previous

studies supporting this pathway in the etiology of anxiety disorders. The appearance of this link in young children demonstrates the need for further exploration, especially during the preschool years when language skills develop rapidly and children spend an increasing amount of time away from primary caregivers.

Stress Levels in Elmhurst College Students

Melissa Bunag, Kate Feifar, Cassie Roviso

Faculty Sponsor: Dr. Kathleen Sexton Radek, Psychology

The aim of our study is to assess stress levels in college students. We developed a survey to evaluate the range of stress levels college students endure. Our hypothesis was that college students taking the survey would have high stress levels. We administered our test to Elmhurst College Introductory Psychology students. It consisted of 10 statements about various stressful situations that students may have encountered within the past month. Students rated each statement on a Likert scale giving them a total score placing them in high, medium, or low stress groups.

Gender Stereotype Preferences in Preschool-aged Children

Victor Donchenko, Ryan Bingheim, Melissa Brown

Faculty Sponsor: Dr. Catherine Gaze, Psychology

Research has shown that children as young as 18 months demonstrate gender-stereotyped preferences and behavior (Berk, 2006). The present study investigated gender stereotype preferences in preschool aged children. Based on previous research, we expected children's preferences to be consistent with gender stereotypes. More boys were expected to demonstrate this preference than girls. Nineteen children aged 3 and 4 years old (9 males and 10 females) participated in the study. Gender stereotype preference was defined as a child's choice of stickers offered as a reward for completion of a task. Sticker choices were coded as masculine (e.g. trucks), feminine (e.g. Disney princesses) or neutral (e.g. Sesame Street characters). Results showed 68% of our sample chose stickers consistent with gender stereotypes. Additional analyses will examine differences between boys and girls. These results will add to our understanding of gender stereotypes in preschool-aged children.

Change Detection of Visual Stimuli in Relation to Object Location or Removal of the Object

Diane Edelstein

Faculty Sponsor: Dr. Patrick Ackles, Psychology

Change blindness is the failure to notice a change between two scenes. This study examined whether individuals can more accurately detect changes in images depending on whether an object was moved from left to right or vice versa or if an object was no longer present in the image. Participants were presented with multiple sets of visual images. Each image was displayed for five seconds followed by a white screen for 80 milliseconds and then by a changed or unchanged version of the first images. Participants were asked whether or not they detected

a change in the image. If the participants indicated there was a change they were asked to identify what object had changed and how it had changed. The results are expected show that individuals are more likely to identify objects that change location over objects that are no longer present in the image.

Inside the Criminal Mind

Cindy Hittleman

Faculty Sponsor: Dr. Patrick Ackles, Psychology

This paper explores the relationship between brain dysfunction and criminal behavior. Specific regions of the brain were examined to understand their roles and also to discover how structural or functional impairments in these regions could lead to personality disorders such as antisocial personality disorder and psychopathy. Symptoms from traumatic brain injuries were also explored to understand how they might influence an individual's personality. Other factors, such as an individual's environment, were examined to better understand how they influence an individual. Research included in this paper suggests that brain dysfunction, in addition to other personal factors, can negatively impact an individual's personality and behavior, consequentially predisposing the individual to criminal behavior.

Analyzing Present and Future Impact on Students and Elmhurst College from the New Residence Life Policy

Blaire Hufford, Megan Rust, Amanda Nagy

Faculty Sponsor: Dr. Kathleen Sexton-Radek, Psychology

Recently, the Residence Life policy at Elmhurst College underwent a number of changes. This study set out to examine present and future repercussions of these changes. We wish to see how this has presently impacted students as well as possible future repercussions. A twelve question survey was designed to examine the effect on students' housing situations, their opinions of the administration's approach to the changes, and the students' future promotion of the school to the community. Expected results are a general dissatisfaction with the changes and their implementation. This negative view will likely be expressed by the reluctance to promote the college and donate as alumni. This in turn will have a much greater negative impact on the school than anyone in the administration realizes.

Subliminal Messaging and Background Priming Effects on Word Recall

Blaire Hufford, Patrick Saylor, Julianne Nelson

Faculty Sponsor: Dr. Patrick Ackles, Psychology

Subliminally masked primes can both inhibit and facilitate detection of a target. The purpose of this study was to investigate whether backward mask priming affects the recall of a target word with the presence or absence of a prompt containing a subliminal message. The backward mask was a picture of the word flashed immediately following the word. Participants were divided into four groups: the presence of a picture, the absence of a picture, pictures with a prompt, and no pictures with a prompt. Expected results were that groups with the pictures and prompt present would have the highest word

recall. These results would suggest that heightened awareness of a subliminal prime will increase the recall of a target word.

Study Habits of Undergraduate College Students

Nora Hughes, Deanna Pozesky, Becky Wright

Faculty Sponsor: Dr. Kathleen Sexton-Radek, Psychology

The purpose of our study was to evaluate a measure called the Study Habits Survey. This measure of nine Likert Scale and seven open ended questions allowed the students to comment on their study habits. This survey was administered to the general psychology students at Elmhurst College in exchange for class credit. Results from the analysis were examined in terms of item analysis, reliability and validity indices. The responses were categorized into four areas of study habit. Results were compared with other studies of this type in other psychology literature.

Gender and Multi-Tasking

Christine Loos and Allison Korbel

Faculty Sponsor: Dr. Helga Noice, Psychology

For years, there has been substantial anecdotal evidence which has suggested that women multi-task more efficiently than men. The purpose of this study was to examine the relationship between gender and multi-tasking. Participants of this study were Elmhurst College students enrolled in an introductory psychology course. The men and women read a four page article published in the Elmhurst College newspaper. While reading, they simultaneously proofread for grammar errors (primary task) and circled the word "housing" (secondary task) whenever it appeared in the text. We predicted that women would perform significantly better than men on this task measured by the number of errors on the primary task and the number of misses on the secondary task. The results can be applied to various aspects of real world situations, especially in understanding how men and women accomplish tasks, and how they can work together more effectively.

Music and Memory

Amanda Nagy, Shauna Potrawski, Kristopher Saylor, Patrick Saylor

Faculty Sponsor: Dr. Catherine Gaze, Psychology

For many years, researchers have studied the Mozart Effect and the role music might have on one's memory. To continue this investigation, 36 psychology students at Elmhurst College, the majority of whom were white freshmen students between the ages of 18-19 years old were asked to listen to classical music, rock music, and silence for one minute each while they memorized a word list. They were then asked to recall as many words as they could. Contrary to the hypothesis that participants listening to classical music would perform the best on word recall, no significant difference was found between the three different trials. This suggests that different types of music do not affect short-term memory.

Using Academic Performance to Evaluate Locus of Control

Marion Neal, Flavia Pocari, Ashley Snick

Faculty Sponsor: Dr. Kathleen Sexton-Radek, Psychology

The current form of this test used self-reported ratings of academic performance to determine individuals' locus of control. The test consisted of 16 continuous-scale questions and took approximately five minutes to complete. The study consisted of 30 undergraduate students who received course credit for participation. The results of the test were expressed as a single globalized score on a range, whereas the positive pole reflected an internal locus of control and the negative reflects an external locus of control. The globalized score as well as individual answers can be utilized by guidance counselors to analyze personality factors behind grade performance of students.

Appearance vs. Knowledge of Athletic Involvement

Jerilyn Novak, Robin Schoepf, Tyler Manske

Faculty Sponsor: Dr. Helga Noice, Psychology

People frequently subscribe to negative stereotypes of athletic characteristics. In order to determine whether athletes are stereotyped based upon their appearance or simply the knowledge of one's being an athlete, a between-subjects experiment was devised. Fifty students, men and women, from Elmhurst College volunteered to participate in this study. Participants were divided into two groups-- descriptive and non-descriptive. The descriptive group viewed photos of a casually dressed male and female with short descriptions of their athletic involvement. The non-descriptive group viewed photos of a male and female dressed in athletic attire with no description attached. Participants rated their perceptions of each photograph on a five-point Likert Scale measuring various personality traits. The aim of this study was to explore whether stereotypes are evoked by typical athletic clothing or knowledge about an individual's athletic involvement. It was predicted that the non-descriptive group would evoke athletic stereotypes more than the descriptive group.

The Effect of Bias on Mental Illness

Cassia Onken, Marilena Toritto, Sarah Kiehl

Faculty Sponsor: Dr. Kathleen Sexton-Radek, Psychology

The current study consists of a questionnaire to determine whether participants show bias towards those who are mentally ill. The questionnaire gives 6 different scenarios that look at various psychological disorders. Each of the situations can happen in real life. The questionnaire was distributed to an Introduction to Psychology course. The students mark an X on the line where they personally feel comfortable. The range starts at the left with anxious/afraid and goes to accepting/calm on the right. The location of the mark was used to measure if the respondent has a biased, neutral, or accepting opinion of the person in the situation.

Levels of Anxiety Between Junior and Senior Nursing Students

Vanessa Ortega

Faculty Sponsor: Dr. Kathleen Sexton-Radek, Psychology

The purpose for this study was to develop a test for psychological testing. A survey was developed to rate the levels of anxiety in junior and senior nursing students in the Elmhurst College nursing program. Nursing students experience high levels of anxiety when it comes to tests and clinical experiences. In fact, clinical experience alone has been identified by nursing students to be the most anxiety-producing component in the curriculum. Anxiety can interfere with learning and may also affect a student's confidence level. High levels of anxiety have been linked with decreased learning which can lower the student's grades, affect overall GPA, and in extreme cases cause students to drop out of the program. Although juniors and seniors experience anxiety, studies have shown that juniors experience higher levels of anxiety. Seniors are also faced with a higher demand of professionalism as they transition their role from a student nurse to becoming a professional nurse.

Preferred Learning Styles in Classroom Settings at Elmhurst College

Agnes Plawsiuk, Shannon Murphy, Ryan Bingheim, Morgan Shepherd

Faculty Sponsor: Dr. Kathleen Sexton-Radek, Psychology

The researchers' main objective was to explore which learning style was preferred by students in a classroom setting. It was hypothesized that students would benefit from a variety of teaching styles. A survey test was administered to a college level introductory psychology class. It was found that the majority of participants preferred a variety of teaching styles. The researchers chose careful wording and format to increase the reliability of the survey. Future efforts should be directed at ensuring that teachers are educated on the diverse ways that information can be conveyed to students. They should strive to employ a combination of teaching methods so the learning styles of all students can be addressed.

The Effect Happy, Sad, or Neutral Moods Had on Face Perception and Memory in Undergraduate College Students

Patricia Quesada and Becky Wright

Faculty Sponsor: Dr. Patrick Ackles, Psychology

This study examined the effects of mood on face perception and memory. Three groups of undergraduate students were exposed to different movie clips (happy, sad, and neutral) to affect their mood. Next they completed mood and personality questionnaires followed by a presentation of pictures of faces and a memory task. Recognition memory performance was examined as a function of mood and personality. It was expected they would recognize facial expressions more congruent with their moods than incongruent with their moods.

The Effects of Pictures on Recall Ability of College Texts

Donald Romano and Franklin Bernardo

Faculty Sponsor: Dr Helga Noice, Psychology

Informational diagrams in a textbook help students understand the main ideas as well as the details of the text. The purpose of this study was to determine if a single visual representation of a concept in a textbook that pertains to the topic discussed had an influence on the amount of detail remembered. A sample of 30 Elmhurst College students enrolled in an Introduction to Psychology course were presented with a copy of textbook passages that contained either text alone or text with illustrations pertaining to the subject matter. Upon taking a multiple choice test and a test with several brainstorming questions, the two groups were scored on their ability to accurately recall facts presented in the passage. It was expected that the text plus picture groups will demonstrate a better comprehension than the text-only group.

Distraction by Distraction

Megan Rust, Jennifer Paul, Cindy Hittleman

Faculty Sponsor: Dr. Patrick Ackles, Psychology

Auditory scene analysis and the cocktail party problem are two closely related models which attempt to explain how humans are able to pick up and process essential auditory information and filter extraneous stimuli. This study examined how the auditory scene analysis process works by testing how well participants could recall words in various auditory environments. The concept of selective attention was also examined in this study by testing how well participants could recall words when they were prompted by various categories, as compared to participants without a prompt. Results from this study illustrate the relationship between the auditory scene analysis and selective attention. Findings will also show how selective attention influences an individual's ability to distinguish between various auditory inputs.

Comparison Between Taboo Words vs. Neutral Words and their Effect on Repetition Blindness

Kristopher Saylor and Meredith T. Moore

Faculty Sponsor: Dr. Patrick Ackles, Psychology

When taboo words and neutral words are shown at quick rates, observers tend to recall more taboo words than neutral words. This failure to recognize and recall the second appearance of a repeated stimulus is called repetition blindness. The participants in these experiments were undergraduates. They were presented with a slide show consisting of neutral and taboo words and then were told they would see 12 words projected at a speed of 12 items per second. We expected that results would indicate that repetition blindness occurred in neutral words more frequently than in taboo words.

Visual versus Haptic Modality: Visual Predominance

Morgan Shepherd, Serena Jiwani, Vanessa Martinez

Faculty Sponsor: Dr. Patrick Ackles, Psychology

There has been much interest in the theory of visual predominance, in which visual stimuli receive more

processing than stimuli from other modalities when presented simultaneously. This study, however, examined how well participants could recognize an object when only one modality was available to them. Along with the one modality, there was a time delay between the presentation of the stimuli and the recognition test; time delay presentation may demonstrate an interaction with recognizing an object through a specific modality. Participants were randomly assigned a time delay and modality conditions in order to test their recognition ability with the addition of a time delay. We predicted there would be a greater accuracy score in recognition for visual modality than for haptic modality, and that recognition ability would decrease with an increased delay.

Comfort in Communication: The Effect of Communication Setting on Participation

Ashley Snick and Sarah Decker

Faculty Sponsor: Dr. Helga Noice, Psychology

Group discussions can be a source of anxiety for many people, but internet technology may offer a source of relief. The purpose of the current study was to determine whether individuals would be more comfortable and feel more appreciated in a face-to-face or computer-mediated communication setting. Participants included students from introductory psychology classes at Elmhurst College. The participants were split into two groups and asked to discuss a current event topic with others in the group. One group had this discussion in a normal discussion group setting while the other discussion was held in an online chat room. At the end of the discussion, participants received a questionnaire that assessed their comfort level and feeling of appreciation and group acceptance in the discussion. We expect that those in the computer group will report higher levels of comfort and appreciation than those in the face-to-face group. The study's results can be applied to situations in which group discussion is necessary to provide new options for group interaction and communication.

Level of Question Difficulty Sets Pace for Testing Disappointment

Ashley Warunek, Gail Bos, Merissa Mellish

Faculty Sponsor: Dr. Kathleen Sexton-Radek, Psychology

The current study was designed for testing purposes in a PSY 422 class. The test participants were a class of PSY-210 students who volunteered in exchange for college credit. The participants took a test consisting of nine general psychology questions. The questions were taken from a study guide that accompanied the student's textbook with the permission of the author. Three versions of the test were used. The questions were grouped in sets of three, based on how easy or difficult they appeared. The level of difficulty was determined with the help of a pilot group of PSY 422 students who gave their initial impressions of a set of 16 questions that were then narrowed to the final nine. The three versions of the final test had the question sets rotated so that difficult questions appeared either first, or in the middle, or at the end of the test. After each set of questions the students used a Likert scale

to rate the grouping to determine whether they found the questions easy, medium, or hard. It was hypothesized is hypothesized that the students given the test with the difficult questions first will perform more poorly overall than the other two groups of students.

Commitment to an Exercise Program Among College Women

Casey Wrobel and Alexandra Ziesk

Faculty Sponsor: Dr. Helga Noice, Psychology

According to Healthy Campuses 2010, physical activity is a leading indicator of health among college students (American College Health Association, 2009). Despite the importance of physical activity to good health, very few college students engage in a long-term exercise program. The aim of this present study is to examine the effect that levels of motivation play in the maintenance of an exercise program among college women. Female Elmhurst College students enrolled in an introductory psychology course completed a four-part questionnaire concerning their exercise behaviors, motivators, and commitment. The knowledge of what factors determine college women's adherence to an exercise program can then be applied to creating a healthier student population.

Sleep and Stress

Yun Yang, Cassie Roviso, Julianne Nelson, Lauren Scimeca,

Faculty Sponsor: Dr Catherine Gaze, Psychology

The aim of this study was to find a relationship between sleep and stress in college students. The sleep and stress were assessed in twenty seven students. These participants completed a seven day sleep log in which they rated their quality of sleep, their stress for the day as well as the hours they slept. They also took a perceived stress scale and a demographic questionnaire at the end of the study. It was hypothesized that inadequate sleep would show increased stress levels opposed to those who maintained adequate sleep and experienced low stress levels. Data analysis revealed that there was no overall significance between sleep and stress, although there was significance on certain days of the study. These results suggest that stress is not the sole contribution to insufficient sleep; however it does play a role.

Sociology

Face is Race

Melissa Gadzichowski

Faculty Sponsors: Dr. Brenda Forster, Sociology

Ms. Sondra Simpson, Center for Business and Economics

Previous research has shown that facial expression can be considered the only form of universal language. The present study investigated the relationship between race and the interpretation of facial expression. It was hypothesized that the Caucasians would be more apt at correctly identifying the emotional expressions of the Caucasian photographs and that the African-Americans would be

more apt at correctly identifying the emotional expressions of the African-American photographs.

Back to the Future: How Details from the Past Impact Our Vision of the Future

Agnes Plawsiuk

Faculty Sponsors: Dr. Brenda Forster, Sociology
Ms. Sondra Simpson, Center for
Business and Economics

In this experiment, the researcher hypothesized that the ability to recall past details was related to the ability to imagine future outcomes. It has been predicted that as people age, their ability to forecast a specific scenario that might take place in their life in

the next few years is based on their past experiences. This study tested X participants through a demographic questionnaire as well as an interview based on the questions pertaining to their past. The statistical analysis included descriptive and inferential measures. There was evidence of significant difference presented by the obtained results. The findings can be used to change society's view of the aging from adults who are waiting to die to adults who are capable of setting and achieving goals even in older age.

ACKNOWLEDGEMENTS

To the students presenters and faulty mentors, thank you. Without your strong commitment to education and professional development the showcase would not exist. I know the time commitments required from all parties are great to produce quality scholarly and creative works.

I would like to extend my appreciation to our audience members for spending time supporting our students. Your attendance and encouragement enhances the outcomes our students' experience.

Also, I would like to acknowledge the work of my fellow committee members and the support staff that ensures the showcase runs smoothly. I would like to thank Gurram Gopal (CBE) who notified students and their faculty mentors of their room assignments; Larry Carroll (CBE) for securing funding for a special edition of *Investigations: The Multidisciplinary Journal of Student Scholarship at Elmhurst College* and Pat Ackles (PSY) for organizing the edition; Kimberly Lawler-Sagarin (CHM) for being the web master; Peg Cook (Library) and Jacob Hill (Library) for helping students and faculty with the plotter; Ross Kellan (MUS) for organizing the opening sessions musical performances; Catherine Crawford (MTH) for finding moderators for each of the rooms and Sue Lindberg preparing all of the certificates for the presenters.

A special note of thanks to Janice Fodor (ENG) and Nina Giannangeli, Melissa Greco, Joel Hobbs, Heather Michaels, Dino Lanzo, Emily Odean, and Karen Sander who proofread each of the abstracts submitted. The abstract book was organized by Mary Bezouska (CHM).

Finally, I would also like to thank the following staff members who, I am sure, viewed their involvement as "just doing their job".

- Laura Bjerga for room scheduling
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- Bonnie Torres and Chris Curtain for the setup of the technology required
- Melissa Allen for publicizing the showcase

Please plan to join us at next year's Research and Performance Showcase.

Sincerely,

Michelle S. Applebee

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