



6th Annual  
**Undergraduate  
Research  
Conference** **11**  
at Southwest Minnesota State University

**Wednesday  
November 30, 2011**

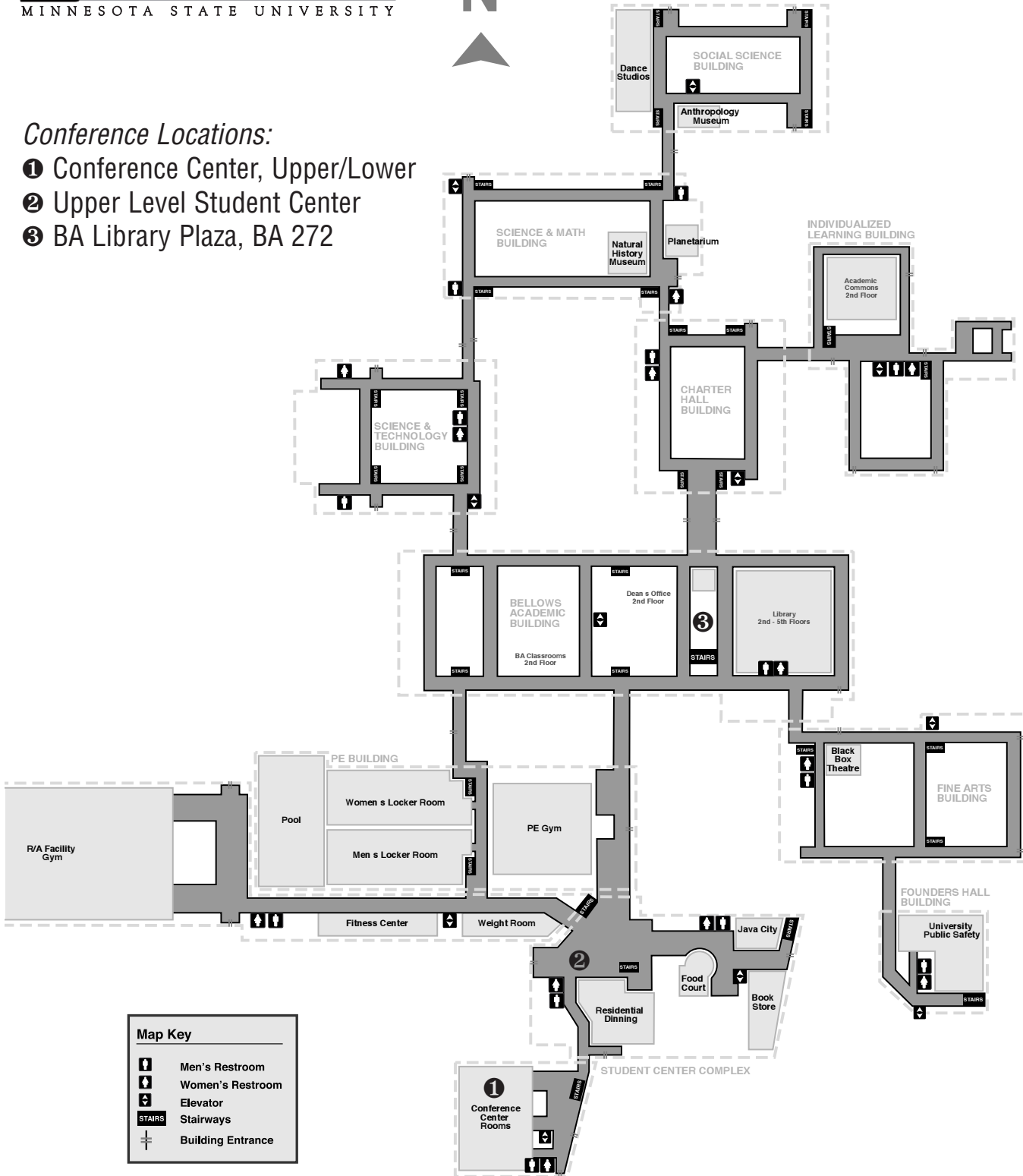
Starting at 8:30 a.m. in the SMSU Conference Center

**ABSTRACT BOOKLET**



*Conference Locations:*

- ❶ Conference Center, Upper/Lower
- ❷ Upper Level Student Center
- ❸ BA Library Plaza, BA 272



## Table of Contents

Purpose.....	1
How the Conference Started.....	1
Conference Schedule.....	2
Keynote Speaker.....	6
Abstracts.....	7

### Purpose

The purpose of the Annual SMSU Undergraduate Research Conference is to highlight the original work done by SMSU undergraduate students at a one-day conference to be held annually at the SMSU campus. The public, including the university and Marshall community, friends, parents, alumni, prospective students and employers are all encouraged to attend and enjoy the excitement of intellectual accomplishments of our students.

### How the Conference Started

The conference was initiated fall of 2006 by Dr. Emily Deaver, Associate Professor of Environmental Science. After she and Dr. Thomas Dilley conducted an Environmental Science program review in 2005-2006, it was clear that our science students needed more experience conducting research and communicating the results of that research to the broader community. The 1st Annual SMSU Undergraduate Research Conference was designed as a mechanism for SMSU science students to engage in a professional exchange of scientific ideas, as well as a means to showcase and celebrate their hard work and accomplishments. The first year program included 21 oral and 27 poster presentations from science students in Environmental Science, Biology, Physics and Chemistry. Because of the positive feedback from the campus, fall 2007 the conference was expanded to include all disciplines across campus. The 2<sup>nd</sup> Annual SMSU Undergraduate Research Conference doubled the number of presenters with 13 different programs across campus participating. The hope is that the conference will continue to grow each year as we celebrate the intellectual achievements of SMSU undergraduates.

### Conference Highlights

2006	21 orals, 27 posters	67 presenters
2007	27 orals, 56 posters, 15 original art	143 presenters
2008	40 orals, 73 posters, 20 original art	178 presenters
2009	25 orals, 77 posters, 18 original art	158 presenters
2010	29 orals, 68 posters, 16 original art	161 presenters
2011	45 orals, 73 posters, 20 original art	184 presenters

**Welcome and Keynote**

(upper level of the SMSU Conference Center)

8:30 a.m. Dr. Ronald A. Wood, Interim President of SMSU

8:45 a.m. Dr. James M. Gentile, **Keynote Address**  
**“The Integration of Research & Education to Address Complex Science Questions”**

**Platform Session A**

SMSU Conference Center Upper Ballroom

- 9:45.....Chris DiSanto and Steve Kaas, Biology, Frequency of Wildlife Mortality Associated with Habitats Adjacent to Roads in Lyon County, MN
- 10:00.....Kaela Wiese, Leah Riley and Stephanie Tulibaski, Biology, Change in Frequency of Specific Photosynthetic Pigments in Black Maple (*Acer nigrum*) Leaves Through Fall in Southwest Minnesota
- 10:15.....Jordan Austin, Environmental Science, Chemical Changes in Water Quality Due to Floating Leaved and Submerged Aquatic Vegetation
- 10:30.....**COFFEE BREAK**
- 10:45.....Chris Green, Environmental Science, Quaternary Stratigraphy and Geomorphology of Glacial Units in Camden State Park, Southwest Minnesota
- 11:00.....Jake Beckstrom, Environmental Science, Excavation and Interpretation of an Oligocene *Oreodont Merycoiododon* Fossil
- 11:15.....Tatsuro Shindoh, Environmental Science, Characterization of Sands Along the Redwood River
- 11:30.....(Presentation Withdrawn)
- 11:45.....Erin Weller, Environmental Science, Precipitation Changes and Lake Level Changes in Southwestern Minnesota
- 12:00.....Creative Writing Senior Readings: Cheyenne Marco, Patrick VanNevel, Joshua Straub and Jerry A. Schaefer (*Feel free to bring your lunch*)
- 1:15.....Crystal Boit, Environmental Science, Habitat Change Due to Urbanization in Bloomington, Minnesota
- 1:30.....Anja Lee Hogan, Environmental Science, Oxygen Isotope Ratios and Snowflake Crystallization in Snowfalls in Marshall, Minnesota
- 1:45.....Amanda Meine, Environmental Science, Effects of Flooding on Canola (*Brassica napus*) and Barley (*Hordeum vulgare*) Plants of Different Ages
- 2:00.....Leah Riley, Environmental Science, A Comparison of Vegetation Profiles from Ecoregions Along the Redwood River, Southwest Minnesota
- 2:15.....Christopher Eichten and Klayton VanOverbeke, Biology, Earthworm Population Density in Three Different Habitats: Cropland, Grassland and Forestland
- 2:30.....Drew Hultquist and Ruth Jepkosgei, Biology, The Effects of Quadrat Shape on Population Density Sampling of Prairie Plants
- 2:45.....Maxon Keating, Environmental Science, Survey Analysis for Marshall, MN – Environmental Attitudes and Knowledge
- 3:00.....Rachel Graupmann and Katelyne Christensen, Biology, Comparing Two Separate Populations of Canada Goldenrod (*Solidago canadensis*) in Midwest MN
- 3:15.....**BREAK**
- 3:30.....Jessica Slater, Kimberly Watkins, Kathryn Stromme, English (Scientific/Tech Writing) Digital or Print? Saving Money for SMSU Spur
- 3:45.....Elina Bajracharya, Abbey Finken and Brian Nordby, English (Scientific/Tech Writing) Rain Gardens: Implementing a Natural Filtration System in Marshall, Minnesota
- 4:00.....Tyler Nielsen, Toni Harms, Michael Johnson and Savanna Schwartz, English (Scientific/Tech Writing) A Greener SMSU: Implementing a Recycling Management System at Southwest Minnesota State University

**Platform Session B**

Charter Hall 201

- 9:45.....Jeff Boehne, History, Shifting Sands: Commemoration of the Normandy Invasion

- 10:00.....Mason Hammerlund, History, Temperance and Prohibition in Lyon County  
10:15.....Philip M. Haas, History, Oil in Foreign Policy: Fueling U.S. Diplomacy with France During the Algerian War 1954-1962  
10:30.....**COFFEE BREAK**  
11:00.....Stephanie Vorvick, Psychology, Suicide: The Myths and Misconceptions  
11:15.....Lorien Downing, Philosophy, The Road to a Robot Ethic: Some Considerations  
11:30.....Virginia Almquist, English, Translation in the Classroom—Helpful or Hurtful?  
11:40.....Brittany Kuck, English, Technology and Writing in the Classroom  
11:50.....Angie Wiegmann, English, Writing Workshops  
12:00.....Adrienne Kletscher, English, Cognitive Development and the Writing Process  
12:10.....Kelly Fitzgerald, English, Collaborative Learning Throughout the Writing Process  
12:20.....**LUNCH BREAK**  
1:15.....Alex Kobs, Art History, Alnwick Castle  
1:30.....Samantha Seys, Art History, The Goddess Hestia in Greek Art  
1:45.....Lady Brianna Johnson, Art History, The Dome of the Rock  
2:00.....Katie Grebinoski, Art History, The Stained Glass of Canterbury Cathedral  
2:15.....Marissa Ritter, Art History, Medieval Map Making  
2:30.....Kelsey Kingery, Art History, Greek Mosaic  
2:45.....Jason Hocum, History, The Historical Implications of Citizenship in South Africa  
3:00.....Joshua Straub, History, Saints, Sinners, and Suffering: An Analysis of the Medieval Church's Attitude Towards the Disabled

**Demonstrations**

*Black Box Theatre, FA 112*

- 11:00-11:30..... Heather Lorensen, Theatre  
11:30-12:00 ..... Emma Davis, Theatre, Bruises and Abrasions  
12:00-12:30 ..... Jacob Forstein, Theatre, Up In the Air With Cirque du Soleil

**Poster Presentations Session A**

*SMSU Conference Center Lower Ballroom. Posters displayed 8:30 am-5:00 pm*

*Authors available at time listed after title*

**ACCOUNTING**

- 2A .....Zach Kubesh and Kelly Baxter, Deductibility of Work Related Education Expenses, 1:00-2:00  
3A .....Tiffany Zins, IFRS vs U.S. GAAP Convergence Timeline, 11:30-12:30  
6A .....Brad Holland and Brad Veit, Ireland's Financial Crisis, 1:00-2:00  
7A .....Mai Yang, IFRS's Impact on Auditors, 11:00-12:00  
8A .....Amanda Larsen, The Increased Need for Forensic Accounting, 11:00-12:00  
9A .....Annette Magnus, The Hire Act Impact, 1:00-2:00  
11A.....Laurie Boerboom, 2010 Tax Relief Act, 10:00-11:00  
19A .....Justin Gruenwald, IFRS Convergence and Education,11:00-12:00  
21A .....Amber Burns, Community Banks Suffering from the Dodd-Frank Act? 10:00-11:00  
22A .....Kendall Jensen and Rebecca Towne, Accounting for the Convergence, 1:00-2:00  
23A .....Brandi Full and Sharon Johnson, How Our Economy Drives the Stock Market, 2:30-3:30  
32A .....Jason C. Buchert, Income Tax (History and Reform),1:30-2:30  
34A .....Terry Goodmund, Sustainable Agriculture, 10:00-11:00  
35A .....Samantha Swart and Megan McFarland, Fair Market Valuation is Not Reliable in a Corrupt Business Environment: International Financial Reporting Standards May Be Compromised by Bribery & Fraud, 1:00-2:00  
36A .....Ananda Sapkota, Downgrade of USA's Credit Rating by S&P: Commendation and Criticism, 2:00-3:00  
40A .....Lacey Wintz and Rosany Platt, Balanced Budget Amendment, 2:00-3:00  
43A .....Jordan Rettmann, IFRS and the CPA exam,1:30-2:30

**BIOLOGY**

- 1A .....Lisa Baidya, The Therapeutic Use of the Plant Alkaloid Berberine for Antibacterial Purposes, 10:45-11:15, 2:30-3:30



- 4A .....Brittney Hallahan, Amy Dressen, and Christopher Eichten, The Effects of Sunflower Extract on the Height and Dry Biomass of Zinnia Plants, Amy/Christopher 10:15-11:00, Brittney 3:15-4:00
- 5A .....Alexis Peters, Gabrielle Dufour, Jessamy Busman, Jessica Sheehan, and Ucheoma Kate Nwaozuru, The Responses of Zinnia and Barley Growth to Root Heating, Alexis/Gabrielle 9:30-10:15, Jessamy 1:00-1:45; Jessica/Kate 2:30-3:15
- 10A .....Soua Vue,  $\alpha$ -Synuclein Distribution in Parkinson's Disease and Multiple System Atrophy, 9:30-10:30, 3:00-3:30
- 12A .....Larissa Rott, The Downfall of Matrix Metalloproteinase Inhibitors as a Potential Cancer Treatment 11:15-11:45, 1:00-2:00
- 13A .....Priya Budhathoki, Nephrotoxic Effects of Gentamicin and Aztreonam Antibiotics, 9:30-10:30, 1:00-1:30
- 14A .....Tripti Joshi, Role of Dendritic Cells in the Immune Response to HIV Virus, 11:15-11:45, 2:00-3:30
- 15A .....Sunav Shrestha, Effect of Menstrual Cycle Pattern, Luteinizing Hormone, Androgen and Insulin in Adolescent Females with Polycystic Ovary Syndrome, 10:45-11:15, 1:00-1:30, 4:30-5:00
- 16A .....Neha Dalvi, Role of Enterovirus in Triggering Type-1 Diabetes, 11:30-12:00, 3:30-4:30
- 17A .....Tyler Brinka, Seifemichael Kenea, Michael Wenk, and Matthew Zager, The Effects of Ammonium Nitrate on Water Stressed Corn Plants, Matt/Michael 9:30-10:15, Tyler/Seifemichael 2:45-3:30
- 18A .....Bethany Hultgren, John Callaghan, Tatsuro Shindoh, Sujeeta Maskey, and Noble Ekuban, Zinc May Alleviate the Negative Effects of Salt Stress on Growth of Tomato Plants, John/Sujeeta 10:15-11:00, Bethany 1:00-1:45, Noble/Tatsuro 3:15-4:00
- 20A .....Brooke Burmeister, Trista Hacker, Mary Groth, and Stephanie Lienemann, The Allelopathic Effects of Lettuce on Barley Growth, Trista/Stephanie 11:00-11:45, Brooke/Mary 1:45-2:30
- 26A .....Arthur Hyzer, Chandan Gupta, and Melissa Finke, The Effects of Norway Spruce Needles on the Growth of Common Beans, Art 1:30-2:15, Chandan/Melissa 3:30-4:15
- 30A .....Joe Christensen, John Craig, and Maxon Keating, Early Life Salt Stress of Tomato Plants Increases Water Stress Tolerance Later in Life, Maxon 11:00-11:45, Joe/John 2:00-2:45
- 33A .....Jacob Brockpahler, Craig Gartner, Patrick Oliver, and Klayton VanOverbeke, Allelopathic Effects of Common Lambsquarters (*Chenopodium album*) on Early Growth of Field Corn (*Zea mays*), Jacob/Craig 10:00-10:45, Klayton/Patrick 11:15-12:00

**CULINOLOGY**

- 24A .....Ashley Moore, Project Tosh, 3:00-4:00
- 37A .....Kendra Olchefske, Developing Kosher Microwavable Dinners, 3:00-4:00
- 44A .....Subash Yadav, Retort Processing, 3:00-4:00

**INTERDISCIPLINARY STUDIES**

- 41A .....Lacey Wintz, Does Wal-Mart Hurt Local Businesses? 2:00-3:00
- 42A .....Atul Karki, Effects of America and Iraq Wars on the American Economy 11:00-12:00

**PSYCHOLOGY**

- 25A .....Rachel Fuerstenberg, Cassandra Barber, and Jamie Swanson, Inferring Causal Connections, 10:00-11:00
- 27A .....Chelsey Ryer, Nicole Prellwitz, Nathan Krekelberg, and Sean Connolly, Illusion of Knowledge and State Capitol Recognition, Sean 10:00-11:00, Nicole 12:00-1:00, Chelsey/Nathan 3:30-4:30
- 29A .....Caitlin Lemmen, Katelyn Thiner, and Andie Whitcomb, Really Paying Attention, or Just Think You Are? Lemmen & Thiner 1:00-2:00, Whitcomb 2:00-3:00
- 31A .....Christopher Ehlers, Lindsey Parlow, and Jennifer Johnson, Mozart Effect: Reality or Illusion? Ehlers & Parlow 10:00-11:00, Johnson 11:00-12:00
- 38A .....Arielle L. Tellinghuisen and Karissa Fiegen, Influences on Confidence and Accuracy: Estimates Among Elementary School Student Individuals and Groups, 1:00-2:00
- 39A .....Natalie Avey, Desi Besemer, and Megan Wilgenbusch, False Memories in the Checkout Line, 10:00-11:00

**Poster Presentation Session B**

*Library Plaza (Bellows Academic 272) Posters displayed 8:30 am- 5:00 pm*

*Authors available at time listed after title*

**HISTORY**

- 1B .....Hilary Groothuis, The Women of Maynard & Wang Lutheran Churches, 11:00-12:00
- 2B .....Ryan Welle, The Dam Fight For Control of the Mississippi River, 11:00-12:00
- 4B .....Megan Lewis, School Consolidation of Murray County, 1:00-2:00
- 9B .....Wesley Jepsen, Containment, Revolution, and the Cold War, 1:00-2:00

17B .....Jason Deling, American Holocaust Commemoration, 10:00-11:00

**INTERDISCIPLINARY STUDIES**

3B .....Cheri Fjermestad, Should Student Loans Be Forgivable in Bankruptcy? 10:00-11:00

5B .....Cheyenne Marco, Ending Corn-Based Ethanol Subsidization, 10:00-11:00

6B .....Jeremiah Brown, How Does the Automotive Industries in Smaller Markets? 10:00-11:00

7B .....Megan Samyn, How to End Sex Trafficking in the United States, 1:00-2:00

13B .....Zach Waterston, Should Companies Be Ruled Too Big To Fail, 11:30-12:30/1:00-2:00

16B .....Haoua Kombeogo, Should NAFTA be Repealed? 10:00-11:00

18B .....Cassandra Sanow, Deceitful Marketing and Greenwashing Our Brains 11:00-12:00

19B .....Ryley Richards, End the Fed? 11:00-12:00

20B .....Rupesh Kasat, What Can Government and Non-government Agencies Do To End Human Trafficking? 3:00-4:00

21B .....Stacy Biwott, For Sale: One Used Kidney—The Market for Human Organs 3:00-4:00

22B .....Siddhant Mahajan, Why Should Prostitution Be Legalized? 11:00-12:00

23B .....Kelsey Hood, Are Blood Diamonds Still an Issue in 2011? 3:00-4:00

**SOCIOLOGY**

8B .....Lauren Haase, Facebook: Managing Our Impressions, 1:00-2:00

**THEATRE**

10B .....Katherine Fitzpatrick, The Transformations Make-Up Can Do, 2:00-3:00

11B .....Joshua R. Johnson, Creating a Character, 2:00-3:00

12B .....Andrew O. Kompelien, Cover Those Tats, 2:00-3:00

14B .....Megan Wilgenbusch, Beyond Imagination (Fantasy Make-Up), 2:00-3:00

15B .....Lisa Loots, Theatre Stage Make-Up: Fairies, 2:00-3:00

24B .....Haley Jacobsen, All Black and Blue, 1:30-2:30

25B .....Sia Lor, Before and After: Eye Highlight and Contour, 10:00-11:00

26B .....Sara Marie Mills, Chemicals in Cosmetics: Toxicity Through the Ages, 10:00-11:00

27B .....Jalisa Ross, The Art of Egyptian Make-Up, 2:00-3:00

28B .....Courtney Watkins, Dracula from Myth to Make-Up, 10:00-11:00

**Original Works Session A**

*Student Center Upper Level, Artists next to work 9:00-10:00 am*

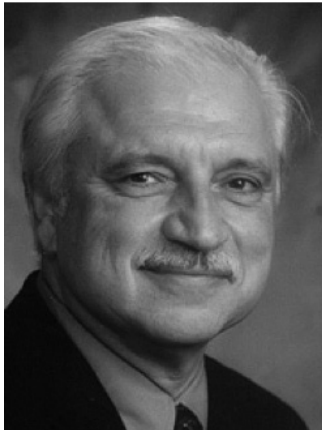
*Displayed Monday, Nov. 28 through Monday, Dec. 5, 2011*

**ART**

- 1 .....Tara Borman, Masterwork Project, Drawing
- 2 .....Jaclyn Boyd, Masterwork Project, Drawing
- 3 .....Amber Casperson, Masterwork Project, Drawing
- 4 .....Jimmy Crespin, Masterwork Project, Drawing
- 5 .....Ashley Dehncke, Masterwork Project, Drawing
- 6 .....Suzannah Gau, Masterwork Project, Drawing
- 7 .....Katie Grebinoski, Masterwork Project, Drawing
- 8 .....Kristin Guggisberg, Masterwork Project, Drawing
- 9 .....Sarah Hall, Masterwork Project, Drawing
- 10 .....Sherren Hill-Pulcher, Masterwork Project, Drawing
- 11 .....Josephine Jobgen, Masterwork Project, Drawing
- 12 .....Cheyenne Jones, Masterwork Project, Drawing
- 13 .....Kao Yang, Masterwork Project, Drawing
- 14 .....Katie Kiffmeyer, Masterwork Project, Drawing
- 15 .....Mai Yang, Masterwork Project, Drawing
- 16 .....Ross Pyka, Masterwork Project, Drawing
- 17 .....Marissa Ritter, Masterwork Project, Drawing
- 18 .....Nicole Robinson, Masterwork Project, Drawing
- 19 .....Crystal Severance, Masterwork Project, Drawing
- 20 .....Matthew Stark, Masterwork Project, Drawing

**Keynote Address:** “The Integration of Research & Education to Address Complex Science Questions”

**Keynote Speaker:** James M. Gentile, PhD  
President, Research Corporation for Science Advancement  
Tucson, Arizona



James M. Gentile, PhD., is president of *Research Corporation for Science Advancement*, a foundation dedicated to science since 1912 and the second-oldest foundation in the United States (after the Carnegie Corporation). *Research Corporation for Science Advancement* is a leading advocate for the sciences and a major funder of scientific innovation and of research in America’s colleges and universities.

A geneticist by training, Dr. Gentile previously served as dean for the natural sciences at Hope College in Holland, MI, where he held an endowed professorship. He has conducted extensive research on the role of metabolism in the conversion of natural and xenobiotic agents into mutagens and carcinogens, with funding from the National Institutes of Health, the National Science Foundation, and the World Health Organization, among many other institutions.

He received his doctorate from Illinois State University and spent two years in postdoctoral studies in the Department of Human Genetics at the Yale University School of Medicine. He is the author of more than 100 research articles, book chapters, book reviews and special reports in areas of scientific research and higher education, and he is a frequent speaker on issues involving the integration of scientific research and higher education.



# Abstracts

## Platform Session A- Biology, Environmental Science, and English

### 1A

**Title:** Frequency of Wildlife Mortality Associated with Habitats Adjacent to Roads in Lyon County, MN

**Presenter(s):** Chris DiSanto and Steve Kaas

**Advisor:** Dr. Betsy Desy, Biology

**Abstract:** In this study, we surveyed road-killed animals to investigate landscape features associated with the presence of a variety of animals in southwestern Minnesota. We traveled sixteen miles of road bi-weekly following a predetermined path on predetermined dates noting roadkill frequency, topography and vegetation type adjacent to our path on either side of the road from 9/19/11 through 11/3/11. The majority of the land along our route (~13 miles) was tillable farmland (soybean and corn fields) with occasional farm sites (woodland cover), a river crossing, and approximately 2 miles of wetland marsh. We used geographic information systems (GIS) to characterize topography adjacent to our study area and calculated the percentage of animals killed by class. The majority of roadkill found were mammals. Roadkill casualties were most frequent in lower elevations with less woodland cover and close to water. We concluded that road networks thereby inhibit normal patterns of movement.

### 2A

**Title:** Change in Frequency of Specific Photosynthetic Pigments in Black Maple (*Acer nigrum*) Leaves Through Fall in Southwest Minnesota

**Presenter(s):** Kaela Wiese, Leah Riley and Stephanie Tulibaski

**Advisor:** Dr. Betsy Desy, Biology

**Abstract:** Pigments in black maple (*Acer nigrum*) leaves change through the autumn going from green to brown. From September 15, 2011 to October 11, 2011, leaves were sampled from three locations on the SMSU campus. Thin layer chromatography was used to separate the photosynthetic pigments for each sample location. We compared the rates of change in pigmentation between sample sites and found that the greener the leaf, the more pigments were present. Chlorophylls and pheophytins were the most prominent pigments at the beginning of the

study however they decreased in prominence as time progressed. Carotene and xanthophylls were present throughout the study. These results indicate photosynthetic pigments of black maple leaves decompose at different rates and the rates vary slightly between locations.

### 3A

**Title:** Chemical Changes in Water Quality Due to Floating Leaved and Submerged Aquatic Vegetation

**Presenter(s):** Jordan Austin

**Advisor:** Dr. Emily Deaver, Environmental Science

**Abstract:** Excess nutrients in water may cause reduced water quality in lakes and rivers. Submerged and floating leaved aquatic plants were used to evaluate nutrient uptake over time. It was expected that the floating leaved plants would remove more nutrients than the submerged plants. Floating leaved plants Water Hyacinth (*Eichhornia crassipes*) and Water Lettuce (*Pistia stratiotes*) and submerged plants Hornwort (*Ceratophyllum demersum*), and Anacharis (*Egeria densa*) were exposed to nutrient-rich water and monitored in a greenhouse for 8 weeks. Water quality (temperature, nitrate, pH and ammonia) was measured weekly and average plant biomass was measured at the beginning and end of the study. No clear relationship was seen between plant type and nutrient uptake although floating leaved plants removed nitrate at a higher rate than submerged plants. Of the floating leaved plants, Water Hyacinth removed more nitrate than the Water Lettuce.

### 4A

**Title:** Quaternary Stratigraphy and Geomorphology of Glacial Units in Camden State Park, Southwest Minnesota

**Presenter(s):** Chris Green

**Advisor:** Dr. Thomas Dille, Environmental Science

**Abstract:** Geomorphic and surficial geologic features exposed along river cutbanks were studied in Camden State Park, southwest Minnesota. Three distinct stratigraphic layers were observed. The uppermost layer (Unit 3) was a 4.5 meters thick tan till layer that is loosely compacted, poorly-sorted, calcareous silty clay loam. The middle layer (Unit 2) was a 0.8 – 1.5 meter thick glacial outwash deposit that was loosely compacted, poorly-sorted with sand with pebbles and boulders. The lowest layer (Unit 1) is a blue-gray lightly compacted till. All layers had abrupt contacts. The geomorphology was consistent of glacial deposition and stream erosion. Altamont moraine is present on the uplands of the park with colluvial slopes along the river. The till units studied are a result of multiple glacial advances during the most recent Wisconsin

Glaciation. The area was glaciated approximately 12,000 years ago, with slope and fluvial processes being the dominant factors during the Holocene.

#### 5A

**Title:** Excavation and Interpretation of an Oligocene *Oreodont Merycoiododon* Fossil

**Presenter(s):** Jake Beckstrom

**Advisor:** Drs. Thomas Dilley and Emily Deaver, Environmental Science

**Abstract:** The most numerous Oligocene mammal fossil found in the White River Formation of the Badlands is of the herbivore *Oreodont Merycoiododon*. A donated, field-encased fossil of a *Merycoiododon* from near Lusk, Wyoming was excavated and prepared to learn more about its ecology. Approximately 30% of the animal was recovered including the complete skull, both shoulder blades and forearms, vertebrae, hips, a hind leg, toes, and other bones. *Merycoiododon* had the proportions of pigs and sheep and is distantly related to pigs, sheep, and hippopotamus. The main climate of the *Merycoiododon* was subtropical to warm-temperate and seasonally dry and the main vegetation was riparian woodland and open woodland. Other common fossils in that formation are land tortoises (*Stylomys nebrascensis*), squirrel-like rodents (*Ischyromys typus*), sabertooth cats (*Hoplophoneus primaevus*), three-toed horses (*Meshippus bairdi*), and amphibious rhinoceros (*Metamynodon planifrons*). The prepared fossil will be displayed in the Natural History Museum at SMSU.

#### 6A

**Title:** Characterization of Sands Along the Redwood River

**Presenter(s):** Tatsuro Shindoh

**Advisor:** Dr. Thomas Dilley, Environmental Science

**Abstract:** The Redwood River formed during deglaciation of the Des Moines Lobe of Laurentide Ice Sheet during the Quaternary period. The Des Moines Lobe formed various moraines, which the Redwood River crosses. To characterize the modern river sand derived from these moraines, around 400g of sand was sampled from the modern river channel at 5 locations in accordance with 3 different moraines and 2 outwash channels. The sand was sieved into the medium sand-size (0.5mm-0.25mm), and then was point counted through a binocular microscope. With a minimum of 400 grains counted per samples, 5 common minerals were found in all of the samples with slight variations in mineral compositions, but overall pattern was very similar. Quartz was the most abundant mineral, followed by feldspar, hornblende, biotite and muscovite. This

result indicates that sand compositions do not dramatically change as the river crosses.

#### 7A

**Title:** The Diversity of Plankton in Ponds in Marshall, Minnesota

**Presenter(s):** Neal Maurer and John Hammonds

**Advisor:** Dr. Betsy Desy, Biology

**Abstract:** *Talk withdrawn*

#### 8A

**Title:** Precipitation Changes and Lake Level Changes in Southwestern Minnesota

**Presenter(s):** Erin Weller

**Advisor:** Dr. Thomas Dilley, Environmental Science

**Abstract:** Precipitation fluctuations and lake level changes in Southwestern Minnesota seem as though they should go hand in hand. The average precipitation that falls in Minnesota can be very inconsistent from month to month and even from year to year. This statement may also be true when comparing lake levels. The lake levels should be consistent with the precipitation amounts that fall in the given area. If there is ample rainfall in a certain area, the lake levels should rise in correlation to that precipitation. Yearly precipitation records were researched and compiled from the Marshall, Minnesota area from years 1930-2010. These totals were compared to multiple aerial photos of Gislason Lake, East Twin and West Twin Lakes located near Marshall. Results confirmed that the more yearly precipitation there was, the higher the lake levels were with an exception of year 2010. With that said, more often than not, lake levels will be consistent with the precipitation values.

#### 9A -12A

**Title:** Creative Writing Senior Readings

**Presenter(s):** Cheyenne Marco, Patrick VanNevel, Joshua Straub and Jerry A. Schaefer

**Advisor:** Dr. Neil Smith, Creative Writing

**Abstract:** Students will read their original works.

#### 13A

**Title:** Habitat Change Due to Urbanization in Bloomington, Minnesota

**Presenter(s):** Crystal Boit

**Advisor:** Dr. Thomas Dilley, Environmental Science; Charles Kost, GIS Center Director

**Abstract:** Urbanization is one of the most homogenizing of all human activities. It is responsible for fundamental changes to the ecosystem. Library research was used to find a correlation between the increase in population and the increase in urban development. In Bloomington,

MN, population increased by 64% in the past 50 years. In addition, land dedicated to roadways, office uses and residential areas is expected to increase, while vacant and agriculture land is expected to decrease for new urban development. Most of the urban development occurred along Interstates 35W and 494 corridors. Results were less than expected due to Bloomington having legislation in place early to protect conservation areas. The impacts of land use on plant diversity will have extreme ramifications on other taxa and human society if proper land use techniques are not implemented.

#### 14A

**Title:** Oxygen Isotope Ratios and Snowflake Crystallization in Snowfalls in Marshall, Minnesota

**Presenter(s):** Anja Lee Hogan

**Advisor:** Drs. Emily Deaver and Thomas Dilley, Environmental Science

**Abstract:** Snow can vary in both its crystal structures and oxygen isotope content due to temperature and humidity changes. Oxygen isotope ratios and snowflake crystallization were studied in snowfalls in Marshall, Minnesota from January 31<sup>st</sup> to March 23<sup>rd</sup>, 2011. It was expected that oxygen isotope ratios and snow crystal structure would differ slightly from snowfall to snowfall, and that snow crystals would have a similar crystal structure to those predicted by previous studies, according to temperature and humidity variation. Snow samples were analyzed using a gas chromatographer- mass spectrometer to determine <sup>16</sup>O/<sup>18</sup>O isotopic content. There were no statistically significant differences in oxygen isotope ratios in the snow collected, perhaps due to the air masses originating over the same body of water. Crystalline structures of snowflakes from the snowfalls were consistent with predicted shapes based on temperature and humidity graphs.

#### 15A

**Title:** Effects of Flooding on Canola (*Brassica napus*) and Barley (*Hordeum vulgare*) Plants of Different Ages

**Presenter(s):** Amanda Meine

**Advisor:** Dr. Emily Deaver, Environmental Science

**Abstract:** Flooding of agricultural land can be devastating to the growth of plants and to those relying on food and income from the crops. Two species, barley and canola, at two different starting ages (3 weeks and 5 weeks) were grown in flooded conditions to evaluate growth and survival compared to non-flooded controls. Shoot height was measured weekly for 4 weeks with root and shoot dry weights measured at the end of the study. Shoot heights for all submerged groups were statistically significantly shorter compared to the control, except for 3-week

old barley. Dry weights of shoots for all submerged groups were statistically significantly less than the control but dry weights of roots were not different from the controls, except for 3-week old canola which had significantly smaller roots. Understanding how plants of different ages react to flooding will help us to understand the damage due to flooding of agricultural fields.

#### 16A

**Title:** A Comparison of Vegetation Profiles from Ecoregions along the Redwood River, Southwest Minnesota

**Presenter(s):** Leah Riley

**Advisor:** Drs. Emily Deaver and Thomas Dilley, Environmental Science

**Abstract:** Streams are the most important dynamic geomorphic tool on the earth's surface. Different vegetation types along a river vary depending on river dynamics and geomorphology, and result in diverse riparian ecosystems. Five distinct ecoregions were chosen from nine previously identified geomorphic reaches along the Redwood River, Southwest Minnesota. At each sample site, two line transects containing four 1m<sup>2</sup> quadrats each were made to determine vegetation species and relative abundance. Relative and exact locations were recorded for each quadrat. Tall grass prairie vegetation from Buffalo Ridge and Shelburne Wetlands were different in plant species abundance and variety. Forest vegetation from Camden State Park, Vesta Wildlife Area, and Ramsey Park were similar in abundance and type, but specific plant species varied. Collectively, seven vegetation types and forty-two plant species were found across the five ecoregions. This data provides information about riparian ecosystems and the relationship between geomorphology and vegetation types along different ecoregions of the Redwood River, Southwest Minnesota.

#### 17A

**Title:** Earthworm Population Density in Three Different Habitats: Cropland, Grassland and Forestland

**Presenter(s):** Christopher Eichten and Klayton VanOverbeke

**Advisor:** Dr. Betsy Desy, Biology

**Abstract:** Earthworm populations are important in replenishing nutrients in the soils they inhabit. Understanding how soil disturbances in specific habitats affect earthworm populations can help agricultural industries implement better soil management practices. We assessed earthworm abundance in nine 0.5m<sup>2</sup> sample plots across three different habitat types. The three experimental

habitats include: rowed cropland receiving conventional tillage management, biannually mowed grassland, and deciduous forest. We found shallow dwelling juvenile *Apporectodea* species to be the most dominant earthworms in this experiment. Our analysis of plots indicated the forested habitat had the greatest density at (48.3/0.5m<sup>2</sup>), while grassland had a similar density of (48/0.5m<sup>2</sup>) and cropland had a major decrease in density at (30/0.5m<sup>2</sup>). Our results showed that habitat type as well as land management practices have an effect on earthworm abundance. Further research is needed to indicate precise factors that lead to the decreased density of earthworms in the cropland habitat.

#### 18A

**Title:** The Effects of Quadrat Shape on Population Density Sampling of Prairie Plants

**Presenter(s):** Drew Hultquist and Ruth Jepkosgei

**Advisor:** Dr. Betsy Desy, Biology

**Abstract:** Obtaining accurate population densities is critical for field studies. Since a census of every organism in the study area is typically impractical, sampling is used to estimate population densities efficiently and accurately. Several sampling methods are accepted and used for estimating population density. The quadrat method is one of the most frequently used by ecologists to determine population density of vegetation. We conducted an experiment to determine if the shape of a quadrat will affect estimates of vegetation density. We used four different shapes: a square, rectangle, triangle and a circle each with an area of 1.13m<sup>2</sup>. We conducted our study in the SMSU Wildlife Area from September to November 2011. We found that estimates of density are similar for all quadrat shapes tested. Our study does not support the idea that quadrat shape affects population density estimates.

#### 19A

**Title:** Survey Analysis for Marshall, MN – Environmental Attitudes and Knowledge

**Presenter(s):** Maxon Keating

**Advisor:** Drs. Thomas Dilley and Emily Deaver, Environmental Science

**Abstract:** Global health is a growing concern among people in the scientific community and general public. Greater environmental knowledge in individuals has been shown to create more favorable attitudes toward the environment, increasing their sustainable lifestyle efforts. Marshall Middle School students, Southwest Minnesota State University students, and residents over forty years of age living in Marshall, MN participated in an environmental

attitudes and knowledge survey assessment. The survey consisted of 20 questions. All questions were of two answer types, an agreement rating scale and multiple choice options. The statistical analysis confirmed a greater need for environmental education among all three test groups. Knowing there is a need for greater environmental knowledge among the residents of Marshall will help in developing environmental education plans that promote an increase in positive environmental attitudes.

#### 20A

**Title:** Comparing Two Separate Populations of Canada Goldenrod (*Solidago canadensis*) in Midwest MN

**Presenter(s):** Rachel Graupmann and Katelyne Christensen

**Advisor:** Dr. Betsy Desy, Biology

**Abstract:** In this study we examined the differences between two populations of Canada Goldenrod (*Solidago canadensis*). The purpose of our study was to compare and contrast two different populations of Canada goldenrod. One population was from the SMSU wildlife area and the other was from the Lynd golf course. We collected the following data 1) total number of Canada goldenrod plants, 2) number of gall formations, 3) average height range, 4) average biomass range, 5) soil texture, and 6) description of the surroundings. Canada goldenrod from the Lynd golf course had a greater height, biomass, and density than the wildlife area plants. Soil texture was the most drastic difference found in the habitat of the two populations. The wildlife area had sandy loam and the golf course was silt soil. We suggest that soil texture may be a major factor in determining *S. canadensis* growth, although we need to further our study to confirm any findings.

#### 21A

**Title:** Digital or Print? Saving Money for SMSU Spur

**Presenter(s):** Jessica Slater, Kimberly Watkins, and Kathryn Stromme

**Advisor:** Dr. Amanda Bemer, English

**Abstract:** The University, the English Department, and the SMSU Spur will save money and promote sustainability by reducing the number of printed copies of the newspaper to subscribers-only and primarily maintaining content online. Research from online articles and journals, interviews with Spur staff and SMSU faculty, and a student poll show that our plan will not cause a decline in Spur readership. This idea is financially beneficial to the organization and to the university because of reduced printing costs. Eliminating unnecessary printed copies of the



Spur contributes to awareness of sustainability on campus and reduces overall excess waste produced by the school. By shifting to predominantly web-based content, Spur staff will expand their experience into web journalism and readers will have easier access to up-to-date campus news.

#### 22A

**Title:** Rain Gardens- Implementing a Natural Filtration System in Marshall, Minnesota

**Presenter(s):** Elina Bajracharya, Abbey Finken and Brian Nordby

**Advisor:** Dr. Amanda Bemer, English

**Abstract:** We are recommending implementing the natural filtration system of rain gardens in Marshall, Minnesota to reduce industrial runoff into the Redwood River. Rain Garden plants filter industrial runoff by trapping solids and consuming pollutants. Our research focuses on three areas: (1) Collected information from Western Community Action including maintenance, plant choice, and garden size, (2) assessed Marshall to locate high need areas, and (3) gained information about the planting costs and savings on waste water disposal. Our results show that the installation of rain gardens in Marshall will benefit the town in several ways including a cleaner Redwood River, lesser waste water disposal costs, and a more aesthetically pleasing town. We recommend placing rain gardens surrounding the following bridges: 5083, 91352, and 6568.

#### 23A

**Title:** A Greener SMSU: Implementing a Recycling Management System at Southwest Minnesota State University

**Presenter(s):** Michael Johnson, Toni Harms, Tyler Nielsen, Savanna Schwartz

**Advisor:** Dr. Amanda Bemer, English

**Abstract:** "A Greener SMSU" seeks to develop a more efficient and sustainable recycling management system on the campus of Southwest Minnesota State University through the addition of more recycling bins on campus and the implementation of an efficient recycling management system. In order to understand the current recycling system, several individuals from the SMSU campus and the Lyon County Environmental office were interviewed. In addition to the interviews, background research was conducted to gain insight on campus initiatives nationwide. After reviewing this research, the conclusion was reached that SMSU students need to take action to create a more sustainable recycling management system on campus. To accomplish this, it is recommended that additional bins be placed around campus. These

bins are to be managed by the student organizations on the campus of SMSU.

## Platform Session B- Art History, English, History, Philosophy and Psychology

#### 1B

**Title:** Shifting Sands: Commemoration of the Normandy Invasion

**Presenter(s):** Jeff Boehne

**Advisor:** Dr. Jeff Kolnick, History

**Abstract:** As the generation that experienced the Normandy Invasion first-hand is rapidly declining, much work is being devoted to recording as many of their stories as possible. We must be aware of how events have been portrayed in the past so that we can be aware of the ways current events may be coloring our interpretation of past events. To this end, analysis of past commemorations as reported in The New York Times and The Times (London) serve as a baseline for this analysis. To expand upon the news reporting, film documentaries and books covering the invasion were analyzed for a greater understanding of the pressing events. While the overall tone of the commemorations consistently highlighted the courage and sacrifice of those who fought, the speeches and tone of the articles varied due to the influence of prevailing world events. These undertones were utilized to affect political and social changes.

#### 2B

**Title:** Temperance and Prohibition in Lyon County

**Presenter(s):** Mason Hammerlund

**Advisor:** Dr. Jeff Kolnick, History

**Abstract:** The effects of prohibition are well known in major cities, such as New York with its speakeasies, and Chicago with its gang wars. But the effects on rural areas less so, so I looked into the ideas that brought about prohibition and their effect on Lyon County Minnesota. I did this by looking at the Newspaper of Lyon County and other records of those times. I have found that the people who proposed prohibition thought that it would make their community a much more wholesome place, the results were the opposite. Crime rose and the public opinion about temperance, and prohibition especially changed dramatically. This seems to say that prohibitive legislature is no more effective in ending the breaking of the law in rural areas than it is in urban ones.

### 3B

**Title:** Oil in Foreign Policy: Fueling U.S Diplomacy with France During the Algerian War 1954-1962

**Presenter(s):** Philip M. Haas

**Advisor:** Dr. Jeff Kolnick, History

**Abstract:** The Algerian War for independence occurred at a critical time in world history. Concern for global security had the United States of America ever vigilant about the threat of International Communism in these Cold War years. France, a good ally of the U.S. since World War II, was completely involved in fighting rebels to regain its oldest colony, Algeria. This became frustrating for the United States as they were let down repeatedly by France's instability. The Algerian War became a complex situation for the United States. The rebellion was a case of Third World Nationalism; a growing trend of once suppressed nations that began seeking independence. Not wishing to reject its key ally in the fight against Communism, but needing the support of the Third World in the same battle, the United States was charged with taking a dualistic policy towards the Algerian War, at once backing the French while lending support to the rebel cause.

### 4B

**Title:** Suicide: The Myths and Misconceptions

**Presenter(s):** Stephanie Vorvick

**Advisor:** Dr. Scott Peterson, Psychology

**Abstract:** Nearly 30,000 Americans die each year due to suicide. That's about one life every 16.2 minutes. Suicide is a growing concern in today's society and there are many misconceptions about it. Suicide is a result from an illness, not a weakness. Depression is one of the major causes of suicide. By putting warning labels about the dangers of the medication on anti-depressants, the FDA has made many skeptical, but research has proven the use of anti-depressants actually reduces the risk of suicide. Suicide is on its way to becoming one of the leading causes of death in America. If the public better understands who is at risk, why one would commit suicide, and how to help someone with depression, these numbers can start to decrease.

### 5B

**Title:** The Road to a Robot Ethic: Some Considerations

**Presenter(s):** Lorien Downing

**Advisor:** Dr. Stewart Day, Philosophy

**Abstract:** As the machines we build and the tasks they perform become more complex, we face a number of ethical issues. One such issue is that of the moral inclusion of artificial intelligence. To

address this issue, I analyzed works of science fiction; examined existing literature on ethics regarding artificial intelligence; and focused on a few problems encountered within these sources to begin a dialogue about the moral status of artificial intelligence.

### 6B

**Title:** Translation in the Classroom-Helpful or Hurtful?

**Presenter(s):** Virginia Almquist

**Advisor:** Dr. Lori Baker, English

**Abstract:** The United States is becoming increasingly diverse. English is currently the third main language in the world, which means that we can no longer think of it as the dominant language of the world. In order for our students to learn and excel at their full potential, they must be able to incorporate their native tongue alongside English. Translation allows for students from all backgrounds and dialects to connect in one location. For this project I have interviewed three international students that attend Southwest Minnesota State University. I also interviewed Professor Daniloff-Merrill who is a very experienced educator in the field of multi-lingual, international students. The point of this research is to help educators in all stages of development connect with all different types of students, regardless of where they come from.

### 7B

**Title:** Technology and Writing in the Classroom

**Presenter(s):** Brittany Kuck

**Advisor:** Dr. Lori Baker, English

**Abstract:** Technology is always changing and becoming an essential part of our everyday life. Schools are also starting to add technology in their classrooms in order to support student learning. Part of the educational standards is to teach effective writing. Teachers are looking at technology in order to help accomplish this. The research conducted includes sources from peer reviewed journals along with case studies that showed student's learning results once technology was offered and used in different ways. This presentation will show the different types of technology and the programs that it offers and how schools are using it support the writing process; it will also show both the positives and negatives that come with technology in the classroom from a secondary English education teacher or future teacher.

### 8B

**Title:** Writing Workshops

**Presenter(s):** Angie Wiegmann

**Advisor:** Dr. Lori Baker, English



**Abstract:** Writing workshops can be a great way for students to gain experience working independently on their own time as well as provide an opportunity to learn how to work cooperatively with their classmates and instructors. When to incorporate writing workshops and at what age level are just a couple of obstacles that teachers and educators must face in the classroom. I researched many different credible resources and case studies that have analyzed different types of writing workshops and what makes them successful. As a result of my research, I came to find that students who are exposed to writing workshops at a young age are more likely to become successful and proficient writers in years to come.

### 9B

**Title:** Cognitive Development and the Writing Process Renaissance

**Presenter(s):** Adrienne Kletscher

**Advisor:** Dr. Lori Baker, English

**Abstract:** Writing can be a struggle for some students. Writing teachers have a complex task of trying to reach writers of all levels. Researchers have identified different stages of cognitive development that affect the writing process. The cognitive stage of young writers greatly determines the level and types of writing that will benefit them most. Writing skills develop over time, and it is important for writing teachers to understand the developmental stages that affect the writing process for students. This perspective shares the implications cognitive development can play in the role of young writers.

### 10B

**Title:** Collaborative Learning Throughout the Writing Process

**Presenter(s):** Kelly Fitzgerald

**Advisor:** Dr. Lori Baker, English

**Abstract:** The student writing process has been considered as an individual activity for a number of years, and teaching methods have often incorporated feedback as a single transaction between a student and teacher at the end of the writing process; however, there has been a shift in many modern day approaches with the writing process. Research shows that some teachers are moving outside of the individualistic norm, and moving towards a new collaborative learning process, which gives students the opportunity to team up and work together throughout the writing process. Through collaboration and peer feedback thought the entire writing process, start to finish, students are able to experience writing as a social activity. This research encourages teachers to

develop better classroom practices to help improve their students' writing through the power of peer feedback and collaboration throughout the entire writing process.

### 11B

**Title:** Alnwick Castle

**Presenter(s):** Alex Kobs

**Advisor:** Dr. Pat Brace, Art History

**Abstract:** Fans of Harry Potter may recognize the castle in the small town of Alnwick in northern Northumberland, England since it was used as an exterior location for Hogwarts in the first two films. The Alnwick castle was built in the 11th century and was home to the powerful Percy family. This research study will provide an overview of medieval castle construction followed by a short history of Alnwick castle and survey of its structure and decorative features. The presentation will conclude with a short 3-D tour of the outside of the castle.

### 12B

**Title:** The Goddess Hestia in Greek Art

**Presenter(s):** Samantha Seys

**Advisor:** Dr. Pat Brace, Art History

**Abstract:** Greek Goddess of the hearth and home Hestia (Roman Vesta) is found in many different forms of art within the ancient Greco-Roman culture. Depictions of the Goddess were used by people to bless and protect their homes while also keeping the sacrificial flame alive within the hearth for the family to make sacrificial offerings to the gods. This research study will provide a history of Hestia and show her significance to the culture of the Greeks and Romans through analysis of examples of her depiction in pottery, sculpture, and Architecture.

### 13B

**Title:** The Dome of the Rock

**Presenter(s):** Lady Brianna Johnson

**Advisor:** Dr. Pat Brace, Art History

**Abstract:** Commissioned around 690 C.E., the Dome of the Rock stands as one of the oldest surviving monuments of Islamic architecture. The Dome of the Rock displays art and architecture of Byzantine, Jewish, and Muslim cultures while simultaneously upholding religious values of each. It is arguably considered the most holy place on earth by the world's leading monotheistic religions. This presentation will give an insight to the elegant mosaic decoration and apotropaic calligraphy from the Qur'an, the beautiful and mathematically proportionate floral abstracts, and the structure parallels from non-Muslim Culture. Important features such as the history of the Rock itself and its meaning will be discussed.

**14B****Title:** The Stained Glass of Canterbury Cathedral**Presenter(s):** Katie Grebinoski**Advisor:** Dr. Pat Brace, Art History**Abstract:** The vibrant stained glass located in Canterbury Cathedral is collection of some of the earliest and most famous in the world. The jewel-like glass tells stories as it comes to life with the presence of the purest manifestation of light. This particular research study will present a short history of Canterbury Cathedral, located in England, focusing on some of the oldest and most unique windows of the twelfth and thirteen centuries along with the artists that created them. Few elements are more visually striking than the original window of "Adam Delving"; this selected piece will be analyzed to show the style, techniques, and features of stained glass.**15B****Title:** Medieval Map Making**Presenter(s):** Marissa Ritter**Advisor:** Dr. Pat Brace, Art History**Abstract:** For the people of the medieval period, usually considered to be c.1000-1300 CE, map making was not just an aid for travelers, it was an art form. There are two main origins of medieval maps, the Anglo-Norman/ French and the Spanish origin. During the Middle Ages, there were several different types of maps, ranging in styles from the highly detailed to list-like. Medieval map makers were less concerned with being scientifically accurate than they were with the artistic flair of the maps they were creating. This presentation will examine examples of both Anglo-Norman and Spanish maps and analyze their artistic style characteristics.**16B****Title:** Greek Mosaic**Presenter(s):** Kelsey Kingery**Advisor:** Dr. Pat Brace, Art History**Abstract:** Greek art is such a spectacular genre of art that exudes elegance through precise technique and artistic motifs and expression that are still visible to us today. The art of mosaic making was used throughout the ancient world to provide decorative and symbolic coverings for the floors, ceilings and walls of houses and public buildings. Both beautiful and practical, mosaic work uses black and white pebbles or small colored stone, clay or glass tiles called "tesserae," set in a hard drying matrix, to create enduring works of art. This presentation will examine examples from ancient Greek mosaics to discuss their unique style characteristics and iconography.**17B****Title:** The Struggle for Citizenship in Apartheid South Africa**Presenter(s):** Jason Hocum**Advisor:** Dr. Jeff Kolnick, History**Abstract:** No other event in the modern history of South Africa compares in importance to the Apartheid era of 1948-1994. My investigation was of the daily conditions of citizenship of the whites, blacks, coloureds and Asians in this era. And then I elaborate, because of the gross inequity of the society, citizens fought back against the Nationalist regime. My research was that of books and online resources from the library at Southwest State as well as the interlibrary loan. These books include the memoirs of Nelson Mandela and Helen Suzman, Member of Parliament, as well as demographic resource books from the era as well as secondary sources. I found in my research how the various groups worked together as well as independently to remove Apartheid. These accounts can serve as models for future campaigns of civil disobedience and non-violent mass protest to affect reform.**18B****Title:** Saints, Sinners, and Suffering: An Analysis of the Medieval Church's Attitude Towards the Disabled**Presenter(s):** Joshua Straub**Advisor:** Dr. Jeff Kolnick, History**Abstract:** *Saints, Sinners, and Suffering* attempts to concisely state the position of the Catholic Church regarding the issue of disability in the early Medieval age, ending with the Papacy of Gregory IX around 1200. It challenges the view that has become common place that the disabled were always viewed as inherently sinful by the Catholic Church. Using secondary sources, such as Irina Metzler's *Disability in Medieval Europe* and primary sources such as *Jerome's Commentary on Mathew* and the *Homilies of Bede*, we learn that attitudes towards the disabled were not in fact monolithic but oscillated back and forth between multiple views until Gregory IX's Papal bulls which removed many of the prohibitions against disability in the priesthood which in turn gave the Church a cohesive position on the question.

# Demonstrations- Theatre

## 1C

**Title:**

**Presenter(s):** Heather Lorensen

**Advisor:** Sheila Tabaka, Theatre

**Abstract:**

## 2C

**Title:** Bruises and Abrasions

**Presenter(s):** Emma Davis

**Advisor:** Sheila Tabaka, Theatre

**Abstract:** In today's world there are several different uses for the application of bruises and abrasion stage make-up; some of these include theatrical uses, film, crime scene reenactments and also demonstrations. Bruises and abrasion stage make-up can be made to look either theatrical or real depending on the designer and the manner in which it is being presented. This demonstration will show the technique of creating a black eye and a laceration.

## 3C

**Title:** Up in the Air with Cirque du Soleil

**Presenter(s):** Jacob Forstein

**Advisor:** Sheila Tabaka, Theatre

**Abstract:** This demonstration will be about what I have learned about rigging when I went to the USITT Elite Training in Las Vegas, Nevada. I will be demonstrating some of the proper techniques of rigging.

# Abstracts

## Poster Session A – Accounting, Biology, Culinology, Interdisciplinary Studies and Psychology

### 1A

**Title:** The Therapeutic Use of the Plant Alkaloid Berberine for Antibacterial Purposes

**Presenter(s):** Lisa Baidya

**Advisor:** Drs. Sandra Craner and Pamela Sanders, Biology

**Abstract:** Berberine is a plant alkaloid used in traditional medicine for exhibiting antimicrobial properties. Berberine has been tested against various bacteria to determine its effectiveness and to understand the mechanism of antibacterial activity. Sun *et al.* (1988) tested the effect of berberine sulfate on the adhesive properties of *Streptococcus pyogenes* to host cells on four assays. Results showed berberine sulfate to be bacteriostatic to streptococci with minimum inhibitory concentration of 30 µg/ml and directly interfere with the adherence to host cells. Boberek *et al.* (2010) investigated the possible berberine mechanism(s) of action in growing bacteria using genetics tools. Results showed that the antibacterial property of berberine was due to inhibition of the cell division protein FtsZ. These studies help elucidate the mechanism of the antibacterial activity of berberine but further studies need to be done.

### 2A

**Title:** Deductibility of Work Related Education Expenses

**Presenter(s):** Zach Kubesh and Kelly Baxter

**Advisor:** Dr. Will Thomas, Accounting

**Abstract:** Working individuals who go back to school frequently struggle to apply the rules for work related education expenses on their income tax returns. We looked at the rules and what had been allowed to see whether the rules were consistently applied. We researched the rules for work related education expenses and compared them to four cases. We found that the rules were consistently applied across all four cases despite the unique circumstances in each case.

### 3A

**Title:** IFRS vs U.S. GAAP Convergence Timeline

**Presenter(s):** Tiffany Zins

**Advisor:** Dr. Will Thomas, Accounting

**Abstract:** Over the past twenty years, differences between U.S. and international accounting standards have led to complications for companies that operate both in the U.S. and in other countries. To make operating in other countries easier, the International Accounting Standards Board and the Financial Accounting Standards Board have been working to bring convergence to the two sets of standards. The two organizations established a timeline for convergence, but in recent years the dates for completion have been repeatedly pushed back. This project examines whether the best strategy for the boards is to set a firm date for convergence and allow adjustments to the standards later or to work out all the issues before setting a final completion date.

### 4A

**Title:** The Effects of Sunflower Extract on the Height and Dry Biomass of Zinnia Plants

**Presenter(s):** Brittney Hallahan, Amy Dressen, Christopher Eichten

**Advisor:** Dr. Pamela Sanders, Biology

**Abstract:** Allelopathy is a phenomenon that arises when chemical compounds are released by plants and affect the overall growth of a different plant species growing within the same vicinity. Understanding the reaction of certain plants to chemical compounds around them can help increase growth and yields. We analyzed the allelopathic effects of sunflower extract on zinnia plants. There were four treatment groups of five zinnia plants that were treated with 0g/L, 5g/L, 10g/L, and 20g/L concentrations of sunflower extract in distilled water over three weeks. The shoot height was measured every 2-4 days and the dry biomass for each plant was recorded following completion of the experiment. The results showed a decrease in the dry biomass of the zinnia plant as the concentration of sunflower extract was increased, but the shoot height showed little difference between the concentration levels. Sunflower extract displayed hindering effects on the dry biomass of zinnia plants.

### 5A

**Title:** The Responses of Zinnia and Barley Growth to Root Heating

**Presenter(s):** Alexis Peters, Gabrielle Dufour, Jessamy Busman, Jessica Sheehan, Ucheoma Kate Nwaozuru

**Advisor:** Dr. Pamela Sanders, Biology

**Abstract:** Zinnia is a tropical plant that grows well in warm temperatures while barley is a temperate plant that prefers cool temperature for optimum growth. Six zinnias and barley were grown at 21-27°C air and root

zone temperatures while six zinnias and barley had their roots warmed to 35°C by placing them on electric heating mats. We hypothesized that root-heating would inhibit zinnia growth less than barley growth. Every other day we measured the leaf length of the zinnias and the stem heights of the barley and zinnias. Our results show that the heating mats inhibited the growth of the barley and zinnia plants to 82.60% and 76.34%, respectively, of the controls. Overall root-heated barley increased in height over four weeks more than the root-heated zinnias which is contrary to our hypothesis.

#### 6A

**Title:** Ireland's Financial Crisis

**Presenter(s):** Brad Holland and Brad Veit

**Advisor:** Dr. Will Thomas, Accounting

**Abstract:** A financial crisis in Ireland occurred because their banks were making many subprime loans from 2008 to the present. This project examines whether the Irish government took the appropriate steps to prevent the crisis from happening, and whether the government took the appropriate steps to correct it once the crisis occurred. We examined articles about the crisis. We found that the Irish government was allowing the banks free reign when loaning out money. We concluded that the Irish government did not take the appropriate steps to prevent the crisis from happening, but they did take the correct steps to address the crisis once it happened.

#### 7A

**Title:** IFRS's Impact on Auditors

**Presenter(s):** Mai Yang

**Advisor:** Dr. Will Thomas, Accounting

**Abstract:** In 2002, the Financial Accounting Standards Board (FASB) and the International Accounting Standard Boards (IASB) came together to converge their separate standards of the International Financial Reporting Standards (IFRS) and the U.S Generally Accepted Accounting Principles (GAAP) into one global set of standards. The advantage is that IFRS is less detailed than the U.S GAAP, easier to use, and have better result in reporting. The disadvantage is that IFRS is not as specific as GAAP, fails the cost/benefit analysis, and transition periods cause disconcerting results. There is controversy about the convergence and how it will impact companies' financial reporting and the auditors. The auditors would have to retain and cope with unexpected challenges. The method of the impact of IFRS on auditors consists of research done through professional literature articles, and federal government websites. With all changes there will be gains and losses.

#### 8A

**Title:** The Increased Need for Forensic Accounting

**Presenter(s):** Amanda Larsen

**Advisor:** Dr. Will Thomas, Accounting

**Abstract:** Forensic Accounting, a once virtually unheard of profession, has hit the headlines in the past decade. This is due to large fraud scandals that have taken place in corporations throughout the world. The purpose of my project is to examine if there is an increased need for Forensic Accounting because of this. I first studied possible reasons why the fraud is taking place. Then, I looked at the Enron and WorldCom cases, and the Sarbanes Oxley Act to see how they have had an effect on the Forensic Accounting profession. The last step was to see if Forensic Accounting is the solution or if there are other answers to the problem. Through my research, I found multiple indications that have suggested the profession is or will soon be in high demand to stop fraud. This however may not be enough as it still leaves some elements of fraud unresolved.

#### 9A

**Title:** The Hire Act Impact

**Presenter(s):** Annette Magnus

**Advisor:** Dr. Will Thomas, Accounting

**Abstract:** The 2010 Hire Act provided tax incentives for businesses to help reduce the high unemployment rate and to stimulate the economy. Looking at the unemployment rate before the act was implemented and after it expired will determine if the act actually reduced the unemployment rate. The employment rate did not decrease enough to affirm the positive effect on the economy. In conclusion, the Hire Act was unsuccessful in stimulating the economy by reducing the unemployment rate.

#### 10A

**Title:**  $\alpha$ -Synuclein Distribution in Parkinson's Disease and Multiple System Atrophy

**Presenter(s):** Soua Vue

**Advisor:** Drs. Betsy Desy, Sandra Craner and Pamela Sanders, Biology

**Abstract:** The protein  $\alpha$ -synuclein is an underlying pathological hallmark in neurodegenerative diseases such as Parkinson's disease and multiple system atrophy.  $\alpha$ -synuclein is a major component of three distinct types of inclusions: Lewy bodies and neurites, oligodendroglial cytoplasmic inclusions (GCIs), and axonal spheroids. The accumulation of  $\alpha$ -synuclein has been shown to be toxic to neurons and induce neuronal cell death. The progression of neuronal cell death has been linked to the progression of the neurodegenerative disease. The purpose of this study was to determine the distribution of  $\alpha$ -synuclein in the pertaining inclusions in Parkinson's disease and multiple system atrophy. In Parkinson's disease, Lewy



bodies accumulated in dopaminergic neurons of the substantia nigra pars compacta. In multiple system atrophy, the oligodendrocytes of the substantia nigra and the dorsolateral putamen of the striatonigral region and of the cerebellar vermis of the olivopontocerebellar region were most vulnerable to accumulation of GCIs.

#### 11A

**Title:** 2010 Tax Relief Act

**Presenter(s):** Laurie Boerboom

**Advisor:** Dr. Will Thomas, Accounting

**Abstract:** On December 18, 2010, The Tax Relief, Unemployment Insurance Reauthorization, and Job Creation Act of 2010 (2010 Tax Relief Act) was signed into law by President Obama. This law extends 2001 tax cuts and contains many incentives for business owners and investors to make investments into their operations. The primary intention of the law was to stimulate the economy and encourage job growth. Through explanations and real world examples, I will look at the various provisions of the law, focusing on those that businesses can take advantage of directly. Although it is too soon to determine whether this law has had a substantial effect on the economy and job growth, I will be exploring some data that suggests there has been movement in the intended direction.

#### 12A

**Title:** The Downfall of Matrix Metalloproteinase Inhibitors as a Potential Cancer Treatment

**Presenter(s):** Larissa Rott

**Advisor:** Drs. Sandra Craner and Pamela Sanders, Biology

**Abstract:** Matrix metalloproteinases (MMPs) are enzymes that degrade the extracellular matrix and promote cancer. Matrix metalloproteinase inhibitors (MMPIs) could treat cancer and save lives. I evaluated two articles. Primrose et al. (1999) studied a synthetic MMPI, Marimastat. Patients were given varying dosages of Marimastat. Success was indicated by no rise of carcinoembryonic antigens (CEA). They determined higher dosages led to CEA decreasing, although it was not significant. Badry et al. (2007) studied a natural MMPI, tissue inhibitor of matrix metalloproteinase (TIMPs). Researching TIMPs could lead to a potential cancer treatment. Their purpose was to determine a possible correlation between TIMP presence and incidence of nasopharyngeal carcinoma (NPC). Samples were analyzed for TIMP presence using the Western blot analysis. The difference in percentage of TIMP-2 presence between NPC patients and controls was statistically significant but determined more research is

needed. I've found most evidence shows that MMPI's are not currently an effective cancer treatment.

#### 13A

**Title:** Nephrotoxic Effects of Gentamicin and Aztreonam Antibiotics

**Presenter(s):** Priya Budhathoki

**Advisor:** Drs. Sandra Craner and Pamela Sanders, Biology

**Abstract:** Aminoglycosides are very valuable therapeutic antibiotics, but have some serious nephrotoxic side effects in human beings. To review this, I studied two research articles focusing on gentamicin, one of the most frequently used aminoglycoside antibiotics. Baylis *et al.* (1977), examined the defect in the glomerular ultrafiltration through micropuncture and morphological studies and indicated the reduction in single nephron glomerular filtration rate was primarily due to the decline in glomerular capillary ultrafiltration coefficient,  $K_f$ . The second study (Moore *et al.* 1992), used a randomized double-blind clinical trial to compare aztreonam, an alternative to aminoglycosides, to aminoglycoside therapy during the treatment of seriously ill nonneutropenic patients. A 13-fold increase in risk for nephrotoxicity was found to be associated with aminoglycoside therapy. These studies indicate aminoglycosides are nephrotoxic and aztreonam is a less toxic alternative to aminoglycoside therapy.

#### 14A

**Title:** Role of Dendritic Cells in the Immune Response to HIV Virus

**Presenter(s):** Tripti Joshi

**Advisor:** Drs. Sandra Craner and Pamela Sanders, Biology

**Abstract:** The Human Immunodeficiency Virus (HIV) can lead to acquired immunodeficiency syndrome (AIDS) by destroying certain white blood cells; specifically CD4+ cells. Currently, there is no cure or vaccine available for HIV infection, and treatment options are costly and limited to simply slowing disease progression. Lu *et al.* (2004) and Garcia *et al.* (2011) examined the efficacy and toxicity of therapeutic vaccines based on dendritic cells to treat people with chronic HIV-1 infection. Lu *et al.* (2004) exposed dendritic cells to aldrithiol-inactivated HIV virus; while Garcia *et al.* (2011) used a heat-inactivate virus to prime dendritic cells. Both studies examined plasma viral load (PVL) and HIV-specific T cell responses. A decrease in PVL is observed in the vaccinated patients from both clinical trials, and this decrease in PVL is correlated with the HIV-specific T cell response, suggesting that these vaccines may provide a means to protect infected individuals from disease progression and minimize the risk of transmitting the virus to others.



### 15A

**Title:** Effect of Menstrual Cycle Pattern, Luteinizing Hormone, Androgen and Insulin in Adolescent Females with Polycystic Ovary Syndrome

**Presenter(s):** Sunav Shrestha

**Advisor:** Drs. Sandra Craner and Pamela Sanders, Biology

**Abstract:** Polycystic ovary syndrome (PCOS) is a major cause of anovulation and infertility in 6% of premenopausal women. Hoff *et al.* (2009) evaluated the role of LH secretion, hyperandrogenism and hyperinsulinism in the development of PCOS. Teenage girls were given questionnaires on menstrual cycle patterns and underwent ultrasonographic testing. Oligomenorrheic girls with polycystic ovaries had the highest androgen and LH concentration, but no relationship was found with the insulin level. Coviello *et al.* (2005) tested the factors related with an increased risk of the MBS and the hypothesis that the prevalence of Metabolic syndrome (MBS) increases in adolescent girls with PCOS. Results indicated that the hyperandrogenemia and insulin resistance was a risk factor for MBS and was higher in obese adolescent girls with PCOS than the general adolescent population. Both the articles discuss the possibility of the higher androgen level causing PCOS but neither are clear about the insulin resistance in adolescents.

### 16A

**Title:** Role of Enterovirus in Triggering Type 1 Diabetes

**Presenter(s):** Neha Dalvi

**Advisor:** Drs. Tony Greenfield, Pamela Sanders and Sandra Craner, Biology

**Abstract:** Type 1 Diabetes (T1D) is caused by destruction of insulin producing  $\beta$  cells in the pancreas. The epidemiological studies show that coxsackie virus (CBV) infection appears to initiate T1D. Coxsackieviruses are part of the enterovirus family. I studied two research articles focusing on the association of CBV and T1D. Anders *et al.* (2005), studied the simultaneous T1D onset in mother and child with an enteroviral infection in which there was a significant rise in titre against CBV strains and HLA alleles which are associated with increased risk of T1D. In the second article Kobayashi *et al.* studied the mechanism of accelerated  $\beta$  cell failure in fulminant T1D, where chemokine ligand 10 and interferon- $\gamma$  was coexpressed in the  $\beta$  cell which accelerates T cell response with  $\beta$  cell destruction. These studies indicate that enterovirus infection initiates an immunological response leading to T1D.

### 17A

**Title:** The Effects of Ammonium Nitrate on Water Stressed Corn Plants

**Presenter(s):** Tyler Brinka, Seifemichael Kenea, Michael Wenk, Matthew Zager

**Advisor:** Dr. Pamela Sanders, Biology

**Abstract:** This experiment approaches the problem of water stress on *Zea mays* 'Dekalb' (corn). Studies have shown that ammonium nitrate has an ameliorating effect on water stressed plants. In addition to the 1g/L of fertilizer we added to every plant, our treatment groups also received an additional 2g/L of ammonium nitrate. By adding ammonium nitrate to water stressed and non-water stressed corn plants, we concluded that the treatment had improved effect on the growth of our corn plants. Through our results we were able to learn that ammonium nitrate increased the height of the plants on both of our treatment groups by an average of 10.5 centimeters. In this experiment ammonium nitrate not only affected the overall growth of our water stressed treatment group, but it also helped our regularly watered plants that were treated with ammonium nitrate grow at a faster rate than our control group.

### 18A

**Title:** Zinc May Alleviate the Negative Effects of Salt Stress on Growth of Tomato Plants

**Presenter(s):** Bethany Hultgren, John Callaghan, Tatsuro Shindoh, Sujeeta Maskey, Noble Ekuban

**Advisor:** Dr. Pamela Sanders, Biology

**Abstract:** Salt stress on plants is a significant issue in areas near frequently salted roads. We conducted an experiment to determine if Zinc Sulfate alleviates negative growth effects of salt stress on *Lycopersicon esculentum* (tomatoes). Five groups containing five plants each were observed for four weeks. Four groups were watered with 1.0 g/L NaCl twice weekly. ZnSO<sub>4</sub> treatments were 0.1 g/L, 0.5 g/L, or 1.0 g/L once weekly. Weekly heights and final dry weights will be analyzed. Results showed NaCl decreased height compared to the non-stressed group. Low and high ZnSO<sub>4</sub> levels decreased height compared to salt stressed and non-stressed groups, whereas medium ZnSO<sub>4</sub> levels increased height compared to salt stressed and non-stressed groups. We concluded Zinc Sulfate increases height when levels become significant until levels become toxic. ZnSO<sub>4</sub> may be used commercially where salt stress is an issue.

### 19A

**Title:** IFRS Convergence and Education

**Presenter(s):** Justin Gruenwald

**Advisor:** Dr. Will Thomas, Accounting

**Abstract:** A possible convergence between the United States Generally Accepted Accounting Principles and

the International Financial Reporting Standards is a major controversy in the current accounting world. I conducted research on the potential effects on the accounting population; students, professors, as well as current Certified Public Accountants to determine what level of education currently existed in terms of international standards. I found that very few schools have implemented international accounting classes into their curriculums. Contrary to that, continuing professional education courses seem to be incorporating more international discussion into their courses to prepare for a potential convergence. I believe it is important for everyone within the accounting scope to be mindful of the contingencies and keep up to date on the progress being made toward the convergence.

#### 20A

**Title:** The Allelopathic Effects of Lettuce on Barley Growth

**Presenter(s):** Brooke Burmeister, Trista Hacker, Mary Groth, Stephanie Lienemann

**Advisor:** Dr. Pamela Sanders, Biology

**Abstract:** Allelopathy is when a plant emits chemicals that effect surrounding plants. Studies show lettuce can display allelopathic characteristics and inhibit growth of other plants. We hypothesized three different concentrations (10, 25, and 50g/L) of the lettuce extract will display increasing allelopathic effects on plants height, dry biomass and seed germination. Over four weeks, we measured height three times a week followed by measuring the dry biomass. During a ten day period, the assorted concentrations were also tested on barley seed germination. Our data shows that the plants and seeds exposed to 25g/L concentration displayed the lowest growth patterns in plant height and seed germination. Data from the dry biomass resulted in the control being the lowest and 50g/L having the highest. The allelopathic potential of lettuce will hopefully be utilized to create an eco-friendly natural herbicide in the near future.

#### 21A

**Title:** Community Banks Suffering from the Dodd-Frank Act?

**Presenter(s):** Amber Burns

**Advisor:** Dr. Will Thomas, Accounting

**Abstract:** The Dodd-Frank Act created new regulations for banks large and small in response to the financial crisis of 2008. There has been discussion in the United States that community banks have suffered from the Dodd-Frank Act. I have been researching the possibility that the act

has hurt community banks. I have gathered background information from bankers' testimonies, articles, and various other sources to support the possibility. Community banks are suffering from the Dodd-Frank Act and the result could be some community banks being consolidated or even closing.

#### 22A

**Title:** Accounting for the Convergence

**Presenter(s):** Kendall Jensen and Rebecca Towne

**Advisor:** Dr. Will Thomas, Accounting

**Abstract:** We reviewed the International Financial Reporting Standards in comparison with the United States Generally Accepted Accounting Principles to determine the main impacts a potential convergence would have on companies within the United States. We selected the following topics we determined to be most applicable to both United States based companies as well as foreign entities: *Accounting for Leases* and *Accounting for Inventory*. We have concluded that standards under the International Financial Reporting Standards are preferable in both cases. If the convergence takes place, companies based in the United States would have to spend a significant amount of time and effort to adjust for the changes. However, in the long run we believe having internationally uniform standards would be beneficial.

#### 23A

**Title:** How Our Economy Drives the Stock Market

**Presenter(s):** Brandi Full and Sharon Johnson

**Advisor:** Dr. Will Thomas, Accounting

**Abstract:** Due to the fluctuation in our current economy, we have examined different economies and their impact on the stock market. The three different economies we explored include a striving economy, a recessive economy, and an average economy. Economic indicators seem to be the driving force of our economy. From the housing market to the price of commodities, our economy changes on a daily basis which in turn causes variability in our stock market. There is a lag of time between economic changes and the stock market's reaction. Therefore, we have concluded that the best time to invest is not necessarily in a thriving economy. We have concluded that it's important to buy low and sell high to see big profits!

#### 24A

**Title:** Project Tosh

**Presenter(s):** Ashley Moore

**Advisor:** Dr. Michael Cheng, Culinology

**Abstract:** The objective of this project was to achieve a 20% reduction in the sodium content of Wanchai Ferry beef and broccoli frozen meal by using culinary techniques. To do so, research on the popular definition of Asian cuisine was conducted first. A

competitive analysis was undertaken to establish a base framework for beef and broccoli dishes. Various restaurants and frozen products were sampled to find out what consumers consider as authentic beef and broccoli dishes. This was followed by recipe ideation, and development of various gold standard sauces for the beef and broccoli dish. Four sauces were selected as prototypes that best exemplified authentic beef and broccoli flavor profiles, and further developed into bench top versions. All four sauces met the goal of 20% or more in reduced sodium content.

#### 25A

**Title:** Inferring Causal Connections

**Presenter(s):** Rachel Fuerstenberg, Cassandra Barber and Jamie Swanson

**Advisor:** Dr. Scott Peterson, Psychology

**Abstract:** Remembering causal connections in implied sentences versus explicit sentences is the subject of our experiment. This is important to society because it shows the importance of how our minds work. We tend to make inferences when the words are not simply put in front of us. The question studied is whether people would be able to remember implied sentences more than explicit sentences. There were a total of fifty participants; twenty five of them were in the implied sentences group while the other twenty five were in the explicit sentences group. Our participants were all students of Southwest Minnesota State University given two points of extra credit for participating. Each group was given a list of eight sentences, and then asked to remember these sentences a few minutes later. Results will be discussed following data analysis

#### 26A

**Title:** The Effects of Norway Spruce Needles on the Growth of Common Garden Beans

**Presenter(s):** Arthur Hyzer, Chandan Gupta and Melissa Finke

**Advisor:** Dr. Pamela Sanders, Biology

**Abstract:** Many of us may have noticed that nothing grows under pine trees. We hypothesized that higher amounts of pine needle mulch would inhibit the growth of snap beans. Snap bean seedlings were grown with 0, 5, 10, 20 g of pine needle mulch mixed into soil. We periodically determined leaf number, height, pH and the dry weight. There was no significant effect on height however the higher concentration reduced the leaf number and the dry weight of the beans by 28.8%. The soil was also slightly basic in pH. We concluded that the increased amount of pine needle mulch inhibited growth of snap bean plants.

#### 27A

**Title:** Illusion of Knowledge and State Capitol Recognition

**Presenter(s):** Chelsey Ryer, Nicole Prellwitz, Nathan Krekelberg, Sean Connolly

**Advisor:** Dr. Scott Peterson, Psychology

**Abstract:** The term "illusion of knowledge" is one that is fairly new to the field of psychology. It was coined by Chabris and Simons in their book *the Invisible Gorilla: and Other Ways our Illusions Deceive us*. It is used to describe the idea that we over-estimate what we know. The question that this study is charged with answering is, "Is the illusion of knowledge stronger with cued recall or free recall." To measure this, 99 psychology students were surveyed on their knowledge of state capitals. In the preliminary questions they were asked how many state capitals they thought that they could remember either with the state as a cue or without. They were then tested on their knowledge of state capitals either with or without the cue. It was found that those who were given the states as a cue were off in their predictions by an average of 7.88 while those who were not given the states were off by an average of 9.53. These results were not significant. This shows that there is not a strong connection between recall conditions and the illusion of knowledge.

#### 28A

**Title:** Formulating A Vegetarian Burger with Sunsweet Dried Plum Puree & Chipotle Tabasco Sauce

**Presenter(s):** Stephanie Grau, Ashley Moore, Subash Yadav and Yome Nguyen

**Advisor:** Dr. Michael Cheng, Culinary

**Abstract:** *Poster withdrawn*

#### 29A

**Title:** Really Paying Attention, or Just Think You Are?

**Presenter(s):** Caitlin Lemmen, Katelyn Thiner, Andie Whitcomb

**Advisor:** Dr. Scott Peterson, Psychology

**Abstract:** This study was designed to study inattention blindness. Inattention blindness is when people are less likely to notice unexpected objects no matter how important the objects are. This shows that people are not paying nearly as much attention as they think they are in everyday life. We surveyed 100 SMSU students using two different surveys in which they need to read a paragraph – in one survey, the paragraph was boring, and in the other intriguing. And an extra "the" was inserted in each paragraph. We predicted that more students would notice the extra "the" in the boring paragraph than in the attention-grabbing one, and that those in the attention-grabbing condition would be surprised at missing such an obvious error in the paragraph.

### 30A

**Title:** Early Life Salt Stress of Tomato Plants Increases Water Stress Tolerance Later in Life

**Presenter(s):** Joe Christensen, John Craig, Maxon Keating

**Advisor:** Dr. Pamela Sanders, Biology

**Abstract:** This study was performed to test the hypothesis that pretreatment salt stress of tomato plants (*S. lycopersicum*) increases efficiency during water stress. Plant height and leaf width were measured daily and watered as needed, along with photos taken during water stress. Treatments of 5g/L NaCl were applied with regular watering, while control plants received no salt. Growth was stunted by an average of 13 percent by salt treatments. During water stress, plants were allowed to reach full wilting point, and days survived were recorded. Results confirmed the hypothesis that NaCl pretreatment lengthens days to wilting during water stress. Maximizing survival to wilting point was best achieved with at least 3 pretreatments. Therefore, adequate salt stress may contribute to promoting health and sustainability of tomato or similar plants in arid or water conscious environments.

### 31A

**Title:** Mozart Effect: Reality or Illusion?

**Presenter(s):** Christopher Ehlers, Lindsey Parlow, Jennifer Johnson

**Advisor:** Dr. Scott Peterson, Psychology

**Abstract:** Our experiment examines the "Mozart Effect," which claims listening to classical music can increase intelligence and test performance. Our experiment involved 60 participants, primarily from psychology classes at Southwest Minnesota State University. Participants listened to music or silence for 3 minutes based on random assignment to their condition—Mozart, screamo, or silence. After 3 minutes, participants continued to listen to music or silence and performed a mental rotation test. Previous research largely discredits the original Mozart Effect study, which found a significant increase in IQ scores after listening to Mozart. Based on this, we predict our results to find little to no effect on test performance from listening to classical music. This research has implications in parenting and teaching since Mozart is found in houses and classrooms across the country to turn children into "geniuses." However, if the Mozart effect is an illusion, copious time and resources are being misplaced.

### 32A

**Title:** Income Tax (History and Reform)

**Presenter(s):** Jason C. Buchert

**Advisor:** Dr. Will Thomas, Accounting

**Abstract:** Tax Reform is a controversial topic in the United States today and will have an impact on the race for the presidency in 2012. The discussion will focus on which reform is best and how the changes to the tax system will be made. This project reviews prior tax codes and the significant tax reforms of our country's history, along with advice from tax professionals and politicians cited from magazines, books, and the internet. The project also compares current tax reform proposals leading to a conclusion of which reform is best and what we may likely see as reform to our income tax system in the near future.

### 33A

**Title:** Allelopathic Effects of Common Lambsquarters (*Chenopodium album*) on Early Growth of Field Corn (*Zea mays*)

**Presenter(s):** Jacob Brockpahler, Craig Gartner, Patrick Oliver, Klayton VanOverbeke

**Advisor:** Dr. Pamela Sanders, Biology

**Abstract:** Common lambsquarters is a problematic weed in agricultural fields, and has been known to possess allelopathic (inhibitory) qualities in the plant community. Being in a corn dominated agricultural area; we tested lambsquarters for allelopathic effects on field corn. We conducted a germination test and a randomized complete block design totaling 24 pots. The germination test was performed using a petri-dish assay with four treatments of lambsquarters' residue mixed in water, at concentrations of 0, 0.01, 0.03, and 0.06 g mL<sup>-1</sup>. In our second test, mulched lambsquarters' residue was mixed with soil. Four treatments were used, containing 0% (control), 2.2%, 6.6%, and 13.3% residue concentration per 10.16 cm<sup>3</sup> pot. We collected data for whirl height, growth stage, and dry-weight from each treatment group. Results appear to show lambsquarters having an inhibiting effect on field corn. Whirl height and dry weight appear to have been most effected.

### 34A

**Title:** Sustainable Agriculture

**Presenter(s):** Terry Goodmund

**Advisor:** Dr. Will Thomas, Accounting

**Abstract:** Farmers and agricultural companies are currently concerned about whether "sustainability" is the way of the future for agriculture or simply a description of what already happens on farms. As the human population surges past seven billion, agriculture must contribute to feeding more people while making a profit and conserving the land's ability to produce food into the future. This project examines the definitions of sustainability, efforts toward sustainability by organizations like Monsanto, the USDA, and SARE, and whether farmers should follow more sustainable practices than they currently do. It does so through analysis of research studies, policy



documents, and other relevant sources. Regardless of the definition, there are many promising practices that have great potential for providing food, strengthening the agricultural economy, and giving agriculture a positive direction for the future.

### 35A

**Title:** Fair Market Valuation is Not Reliable in a Corrupt Business Environment: International Financial Reporting Standards May Be Compromised by Bribery and Fraud

**Presenter(s):** Samantha Swart and Megan McFarland

**Advisor:** Dr. Will Thomas, Accounting

**Abstract:** Reporting financial assets at their fair market value can provide a relevant metric for investors assessing the health of a business entity when they are honestly valued. However, in a business climate rife with corruption and fraud, it is impossible to rely on the accuracy of such valuations. We researched periodicals and online news sources to prove that when incorrect and improper assessments can be purchased from corrupt estimators, the financial statements of those entities do not fulfill their intended purpose. We used India's business climate as a case study due to its high levels of foreign direct investment and high ranking on corruption indices. We found that in a business environment such as India's, fair market valuation is not a reliable indicator of actual asset value. We concluded that, in a corrupt environment, historical cost valuation will provide for much more reliable, and therefore usable, financial statements.

### 36A

**Title:** Downgrade of USA's Credit Rating by S&P: Commendation and Criticism

**Presenter(s):** Ananda Sapkota

**Advisor:** Dr. Will Thomas, Accounting

**Abstract:** After passage of the U.S. budget on August 5th, 2011, Standards and Poor's, one of the three biggest U.S. credit rating firms, downgraded the U.S. government's credit rating from AAA to AA+. This project evaluates whether S&P rightly downgraded the U.S. credit rating. I will highlight the events that led to the downgrade as well as criticisms of the downgrade. I gathered this information through newspaper articles, TV interviews and S&P's website. Although many people believe S&P downgraded the credit rating erroneously and without reason, the downgrade was perfectly justifiable. Given the political challenges faced by Congress and the mounting level of national debt, the credit rating had to be downgraded to AA+.

### 37A

**Title:** Developing Kosher Microwavable Dinners

**Presenter(s):** Kendra Olchefske

**Advisor:** Dr. Michael Cheng, Culinology

**Abstract:** During my summer internship I began the product development steps in processing microwavable kosher dinners. This was for Solomon's, a company in Dawson Minnesota who currently produce premium kosher meat products. Research of the kosher laws was necessary to begin the process. Many of the kosher practices limited what could be included in the meals. Ideation to golden standard development begins the product development process. Through ideation about twenty meals were brainstormed. From there ten meals were selected for current food trends, marketable desire and ability to keep the dish kosher while still being price effective. With these ten meals in mind, recipes were researched, developed and tweaked based on the needs of the kosher laws. These meals were then tested by the head of the project at Solomon's; where they're narrowed the ten meals down to five to be developed further to eventually become marketable meals for consumer use.

### 38A

**Title:** Influences on Confidence and Accuracy:

Estimates Among Elementary Student Individuals and Groups

**Presenter(s):** Arielle L. Tellinghuisen and Karissa R. Fiegen

**Advisor:** Dr. Scott Peterson, Psychology

**Abstract:** When a group is faced with a decision, there is often a leader who starts to speak for the group and is perceived as being smart, charismatic, and *confident*. Our research aims to address the issues of overconfidence and accuracy in groups versus individuals among Elementary students. We gathered 15 students as our individuals and three groups of 5 students as our groups during breakfast. We then asked them to estimate how many M&M's were in a jar and rate how confident ("sure") their individual or group answers were. The group estimate had a higher average level of confidence (3.33) and was less accurate (503.33) than the average of the individual group, which had a lower average level of confidence (2.867), but higher accuracy (605.67). The actual count of the M&M's in the jar was 975 and confidence ratings were given on a scale of 1-4 (1="Very Unsure," 4="Very Sure").

### 39A

**Title:** False Memories in the Checkout Line

**Presenter(s):** Natalie Avey, Desi Besemer, Megan Wilgenbusch

**Advisor:** Dr. Scott Peterson, Psychology

**Abstract:** People can go to jail based on a strong eye witness report. How is this possible when our memories are so fallible? Memory illusions affect us every day, especially false memories. We often strongly remember certain details that were not there or didn't happen. It's important to understand this and be aware of it so that we don't let our minds lead us to false conclusions. For this experiment we went to a supermarket and gathered most of the items to bake a birthday cake except for the cake mix. After one went through the cashier's line, another asked the cashier to fill out a questionnaire regarding what items they saw and how strongly they felt about what they saw or didn't. As we predicted, the cashiers thought we bought cake mix along with our other items when we didn't; further confirming that false memories occur in the real world.

#### 40A

**Title:** Balanced Budget Amendment

**Presenter(s):** Lacey Wintz and Rosany Platt

**Advisor:** Dr. Will Thomas, Accounting

**Abstract:** A Balanced Budget Amendment is one option proposed to address the United States national debt which is nearing \$15 trillion. We evaluated whether a Balanced Budget Amendment is needed for the United States. We gathered information from primary sources including the congressional budget office that looked at both sides of this topic. Our results include future predictions of how our national debt will grow. We also found how a Balanced Budget would affect our economy as a whole. After reviewing both sides of this topic we have concluded that a Balanced Budget is needed for the United States.

#### 41A

**Title:** Does Wal-Mart Hurt Local Businesses?

**Presenter(s):** Lacey Wintz

**Advisor:** Interdisciplinary Studies- Dr. Richard Herder, Speech and Dr. Will Thomas, Accounting

**Abstract:** During the past quarter century, large multi-store retailers have experienced considerable growth. Wal-Mart is the largest retail store in the world. With this in mind, I am trying to answer the question whether Wal-Mart is hurting small local businesses. Specifically, what is Wal-Mart's effect on local businesses when they enter a town? I have researched the topic by reading many articles that support both sides. I have found that there are many good arguments in favor of Wal-Mart as well as against Wal-Mart. Although Wal-Mart has some positive effects on a local economy, the negative effects of a Wal-Mart coming to a town on small businesses are much worse.

#### 42A

**Title:** Effects of America and Iraq Wars on the American Economy

**Presenter(s):** Atul Karki

**Advisor:** Interdisciplinary Studies- Dr. Richard Herder, Speech and Dr. Will Thomas, Accounting

**Abstract:** United States had experienced lots of destruction and economic crises since last 2003 because of the involvement in the war. The war spending had hurt the economy of United States badly. Iraq war didn't give anything to US but been nonstop events of death and destruction. The only way US can be back on its blooming economy is by ending the war activities and spending and discovering different program for clean energy, healthcare, education and jobs. Public investment is the key tool to fight against recession. Ten years ago, America was known for its economy and used to finance different foreign countries while help needed but today the situation of America is opposite. America fought Iraq war by borrowing 40% of spending from foreign countries which US had to return with interest. America is facing one of the most difficult time in history and constantly facing failure to fight against recession which was created by war involvement in recent years. If America didn't started against Iraq, then the America economy wouldn't gone bad as what it is now. The effect of Iraq on US economy is the financial crisis that occurred in America, with the spending of billions of dollars in Iraq war and putting United States in the unforgettable recession.

#### 43A

**Title:** IFRS and the CPA exam

**Presenter(s):** Jordan Rettmann

**Advisor:** Dr. Will Thomas, Accounting

**Abstract:** The uniform CPA exam included international standards starting in 2011. International standards does not have a date set for when it will become effective to be the standard in the United States. Because of this, there is a conflict of whether or not international standards should be excluded from the exam until there is an effective date set. I researched both sides of the argument to come up with a conclusion on whether or not international standards should be included on the uniform CPA exam and have explained the main parts of each argument. After reviewing both sides, I have concluded that the board's decision to include international standards on the uniform CPA exam was a sound decision. However, while I agree with international standards being included on the exam, I recommend the board also disclose exactly how and when the standards will be included on the exam.



#### 44A

**Title:** Retort Processing

**Presenter(s):** Subash Yadav

**Advisor:** Dr. Michael Cheng, Culinology

**Abstract:** Retort processing of canned soups or formulating a shelf stable, Ready To Serve (RTS) One meal soup. My motivation: creating a RTS, shelf stable soup that is a “one meal” soup and has ethnic flavor. The challenge was converting a multiple cooking process of a Chicken Tikka Masala into one- step cooking (canning) and matching flavor of a retorted product to a stovetop gold standard. I used several retort tests to check the results of thermal processing on spices and an HP test to figure out the processing time and temperature. I found a 90% match in flavor of retort processed soup and stove-top soup. Final processing was 258 degrees at 23.3 mins. Since the soup was one meal soup and consisted of rice, chicken, and tomato sauce, the end result was a thick soup. The HP test concluded that the retort processing was going to be 23.2 minutes at 258°F which was fairly high processing yet still acceptable.

### Poster Session B – History, Interdisciplinary Studies, Sociology and Theatre

#### 1B

**Title:** The Women of Maynard and Wang Lutheran Churches

**Presenter(s):** Hilary Groothuis

**Advisor:** Dr. Jeff Kolnick, History

**Abstract:** The women of the Maynard and Wang Lutheran Churches have gone through significant changes; yet many of their roles remain the same. These women have always been the backbone of the church and that continues unto this day. For my research I read several books and articles about women’s roles in churches throughout history. My primary sources came from church history booklets, Ladies Aid secretary minutes, and finally I did six interviews from congregation members. I learned that these women have always been the leaders of the church, not necessarily in major positions, but through their own activities that have lasted for the entire church’s existence. Eventually women became the actual leaders in the church when they became ordained. I found that although some women have been accepted in leadership roles, some women in other churches have not.

#### 2B

**Title:** The Dam Fight for Control of the Mississippi River

**Presenter(s):** Ryan Welle

**Advisor:** Dr. Jeff Kolnick, History

**Abstract:** This presentation will explain the history of locks and dams on the Mississippi River in Minneapolis and St. Paul, while also trying to view the issue of public v. privately owned utilities of the early twentieth century. This presentation is the culmination of intensive research in numerous books and scholarly journals, and historical newspaper articles. The findings are that the intercity battle for control of the power, along with the feelings of the public at the time, caused the failure of creating a municipally owned utility corporation. Therefore, a private corporation was able to negotiate for control over the hydroelectric power offered by the Mississippi River. This project will hopefully offer a better understanding into the issue between public and private enterprises when dealing with utilities for industrial and commercial use.

#### 3B

**Title:** Should Student Loans Be Forgivable in Bankruptcy?

**Presenter(s):** Cheri Fjermestad

**Advisor:** Interdisciplinary Studies- Dr. Richard Herder, Speech and Dr. Will Thomas, Accounting

**Abstract:** In 1976, the first legislation was passed that made it difficult to discharge student loan debt in bankruptcy. Over the years, more laws were passed, and in 2005, legislation was passed that made both federal and private student loans unforgivable unless debtors could prove undue hardship. With student loan debts becoming higher and harder to pay back, we have started to wonder: should student loans be forgivable in bankruptcy? I have examined the recent legislation, and I have read what experts on both sides of the argument have to say. It is time for bankruptcy reform with respect to how student loans are treated. Undue hardship needs to be done away with in favor of a universally applied standard that determines if someone is eligible to have his/her student loan debt forgiven in bankruptcy.

#### 4B

**Title:** School Consolidation of Murray County

**Presenter(s):** Megan Lewis

**Advisor:** Dr. Jeff Kolnick, History

**Abstract:** In rural communities it is not uncommon for schools to have more than one town attending. I researched as to why this is happening in the rural areas. I used Murray County Minnesota as an example community. For my research I went to the Southwest Regional History Center. I was able to look at newspaper articles from the 1950’s. I also interviewed three people. All the people I interviewed have faced

consolidation first hand in Murray County. I found that most consolidations started in the 1950's when farm communities did not have the population to support school houses any longer. Consolidation continues in the rural areas because of population decline bringing in low enrollment. Schools in the rural areas need to consolidate because they the small towns cannot support the schools with low enrollments.

#### **5B**

**Title:** Ending Corn-Based Ethanol Subsidization

**Presenter(s):** Cheyenne Marco

**Advisor:** Interdisciplinary Studies- Dr. Richard Herder, Speech and Dr. Will Thomas, Accounting

**Abstract:** In the search for a greener, renewable energy source, the US has given a great deal of attention to corn-based ethanol (CBE). CBE has been advertised as the home grown solution to our energy needs. In an attempt to help the CBE market, the government has granted the industry billions of dollars in subsidies. My aim was to discover whether or not CBE could help the US achieve energy independence. After reading the literature on CBE's potential to replace fossil fuel and the effects of growing corn for CBE, I have concluded that ethanol cannot help the US achieve energy independence, harms the environment, and distorts the food market. Therefore, I believe the US government should suspend funding of CBE and focus on cellulosic ethanol.

#### **6B**

**Title:** How Does the Automotive Industries in Smaller Markets?

**Presenter(s):** Jeremiah Brown

**Advisor:** Interdisciplinary Studies- Dr. Richard Herder, Speech and Dr. Will Thomas, Accounting

**Abstract:** My family and friends has been dealing with cars for several decades. The small community I will be mainly talking about is Kia's West Point Assembly in West Point, Georgia, which is the company my second uncle works for. I am proving that large automotive companies can help and improve the life of the communities surrounding the auto plant. I have been researching from United Auto Workers (UAW) versus Kia's hire policies, the local economies effect from the plant, and the amount of jobs to be created from the plants being built and to continue to remain open. Through my research, I have found that Kia has had a major effect on that local community and has proven the effect in other major areas around the nation and the effect of a plant's closure in small and large communities, and other industries around the auto industry.

#### **7B**

**Title:** How to End Sex Trafficking in the United States

**Presenter(s):** Megan Samyn

**Advisor:** Interdisciplinary Studies- Dr. Richard Herder, Speech and Dr. Will Thomas, Accounting

**Abstract:** There was an estimated 100,000- 150,000 sex slaves in the U.S. from 2001-2005 ranging from 5 year old children to adults. We have laws made up in the states such as the Trafficking Victim's Prevention Act of 2000 which was revised in 2008 that includes severe punishment for traffickers and allows grants for rehabilitation to victims. The problem is actually finding the victims and traffickers. I have researched what positive steps states like Texas, Georgia, Washington and Oregon are doing to take control of sex trafficking so that other areas can find solutions as well in hopes that our country can end this. The areas I have found that need improvements throughout the United States are more awareness, education and training to law enforcement and the public, identify prevention strategies in each area, to provide protection for adult and child victims, and increase offenders prosecutions so that justice is served.

#### **8B**

**Title:** Facebook: Managing Our Impressions

**Presenter(s):** Lauren Haase

**Advisor:** Dr. Cindy Wasberg, Sociology

**Abstract:** The purpose of this research is to identify the persona that the Southwest Minnesota State University student athletes portray in their Facebook profile photos using Erving Goffman's Impressionment theory. I hypothesize that the male student athletes will use the aggressive or athletic oriented persona in photos and the female student athletes will have the happy or vulnerable persona in photos. This will help to understand the extent to which athletes portray their athletic success in their personal lives.

#### **9B**

**Title:** Containment, Revolution, and the Cold War

**Presenter(s):** Wesley Jepsen

**Advisor:** Dr. Jeff Kolnick, History

**Abstract:** The Cold War between the Soviet Union and the United States involved more than just these two countries. The Cold War encompassed the globe, ranging from Latin America to South East Asia. The focus of the project was to see how the United States attempted to prevent the expansions of the Soviet Union, and how to stop it once it is stated. By consulting a range of secondary and primary sources I was able to see how the United States developed the idea of containment and how they applied it through the Cold War, and how it affected U.S. involvement in places like Guatemala. By completing this project, it is easier to see why the United States chose the path that it did later in the Cold War.

**10B****Title:** The Transformations Make-up Can Do**Presenter(s):** Katherine Fitzpatrick**Advisor:** Sheila Tabaka, Theatre**Abstract:****11B****Title:** Creating a Character**Presenter(s):** Josh Johnson**Advisor:** Sheila Tabaka, Theatre**Abstract:** How to alter physical appearance with latex, facial hair, and make-up.**12B****Title:** Cover Those Tats**Presenter(s):** Andrew O. Kompelien**Advisor:** Sheila Tabaka, Theatre**Abstract:****13B****Title:** Should Companies Be Ruled Too Big To Fail**Presenter(s):** Zach Waterston**Advisor:** Interdisciplinary Studies- Dr. Richard Herder, Speech and Dr. Will Thomas, Accounting**Abstract:** Too big to fail is a political problem our nation was faced with in our recent nation's history. Too big to fail refers to the bank bail outs in our near economic crash in the early 2000's. Most people are against the 2008 bank bailout but most people don't realize that our economy would have indefinitely crashed. I dug deep into the 2008 bail outs via internet and found that these banks are more intertwined in our nation than most people realize. The financial status of these banks is more important to our nation than people want to believe. Letting these institutions go bankrupt and fail would have put our nation into a 2<sup>nd</sup> great depression. The economic status of the United States economy is dependent on the financial wellbeing of these institutions. The failure of these banks would send the nation as well as other nations intertwined to the ground.**14B****Title:** Beyond Imagination (Fantasy Make-up)**Presenter(s):** Megan Wilgenbusch**Advisor:** Sheila Tabaka, Theatre**Abstract:** For my Fantasy Make-up project I will be using many different techniques and products. My goal is to create fairies and other magical creatures that we get from our imaginations. I will be using many colors of cream make-up, feathers, glitter, and fake eye lashes.**15B****Title:** Theatre Stage Make-Up: Fairies**Presenter(s):** Lisa Loots**Advisor:** Sheila Tabaka, Theatre**Abstract:** This poster project demonstrates the techniques and application of Theatre stage make-up. There are many varieties of designs used for this type of application, but this project will focus on the technique of fairy make-up and how it is created and applied to the actor. Through images and textual information, the process of make-up application will be explained.**16B****Title:** Should NAFTA be Repealed?**Presenter(s):** Haoua Kombeogo**Advisor:** Interdisciplinary Studies- Dr. Richard Herder, Speech and Dr. Will Thomas, Accounting**Abstract:** The world has been significantly marked by regionalism over the last decades. On all five continents, both developed and developing countries have come together to build strong regional organizations. Today one of the largest and best known regional organizations is the North American Free Trade Agreement (NAFTA). NAFTA is a trilateral agreement that allows for trade liberalization among Canada, Mexico and the United States. It was implemented on January 1st, 1994 and signed by the Clinton administration. Today, despite NAFTA's success in all three countries, some people blame NAFTA for creating labor and environmental problems. In response to these issues, I argue that NAFTA should be renegotiated instead of rescinded. To be specific, NAFTA should be reformed in the areas of labor and environmental standards and agricultural subsidies.**17B****Title:** American Holocaust Commemoration**Presenter(s):** Jason Deling**Advisor:** Dr. Jeff Kolnick, History**Abstract:** Holocaust commemoration is vital because a society that forgets history tends to repeat it. Acknowledging and understanding the Holocaust gives immense insight to those fighting prejudice and oppression in our society. In composing my work I examined many sources focusing on Holocaust commemoration globally and in the United States. I compared current Holocaust commemorations with past commemorations and charted the origins of the movement. I used interviews and a recent documentary among other primary sources. Holocaust commemoration in the United States began as a necessary step to avoid repeating the past and has continued because it is seen as the right thing to do even as we have lost the imperative of its necessity.

**18B**

**Title:** Deceitful Marketing and Greenwashing Our Brains

**Presenter(s):** Cassandra Sanow

**Advisor:** Interdisciplinary Studies- Dr. Richard Herder, Speech and Dr. Will Thomas, Accounting

**Abstract:** Not long ago, I started realizing that I play a large role in the destruction of our planet. I, too, have helped destroy a place that home to all the creatures I have ever known. As we realize this, we try to make changes that will ensure it continues to be inhabitable for future generations. Many corporations have used this to their advantage through a practice known as “greenwashing,” which involves making products, services, and/ or their policies appear to be better for the environment than they actually are. I aimed to determine whether misleading and deceptive marketing practices are ethical. I focused my research on “greenwashing.” I decided what constitutes “greenwashing” and what are the implications involved. Next, I applied multiple moral theories to analyze the ethics of deceptive marketing. I determine that deceptive marketing, such as “greenwashing” is unethical. Finally, I conclude by offering alternatives.

**19B**

**Title:** End the Fed?

**Presenter(s):** Ryley Richards

**Advisor:** Interdisciplinary Studies- Dr. Richard Herder, Speech and Dr. Will Thomas, Accounting

**Abstract:**

**20B**

**Title:** What Can Government and Non-government Agencies Do To End Human Trafficking?

**Presenter(s):** Rupesh Kasat

**Advisor:** Interdisciplinary Studies- Dr. Richard Herder, Speech and Dr. Will Thomas, Accounting

**Abstract:** Human trafficking is a part of the larger problem of slavery. Human trafficking is when people are transported, by force or cheat, to become enslaved. People become trafficked within their own country and outside the country. Human trafficking is an issue everywhere in the world but in my research I looked at human trafficking in India. People involved in human trafficking in India are mostly uneducated, poor, and unlucky. Sometimes women and children get cheated and forced into prostitution by traffickers. The main reason for human trafficking is pleasure, profit and money. There are some government and non-government organizations such as Maiti Nepal, Rescue foundation, AFESIP, ATSEC Bihar etc. who work to reduce human trafficking. They help people to avoid traffickers and teach them different skills to

earn money. I argue that human trafficking can be reduced if government and non-government organizations cooperate to end this problem.

**21B**

**Title:** For Sale: One Used Kidney- The Market for Human Organs

**Presenter(s):** Stacy Biwott

**Advisor:** Interdisciplinary Studies- Dr. Richard Herder, Speech and Dr. Will Thomas, Accounting

**Abstract:** The market for human organs is not a myth, but an ongoing issue worldwide. This is a sensitive issue that has not received the publicity it warrants. Currently all countries except Iran have banned the legal market of human organs, although at one time countries such as India and the Philippines had legal organ trades. However, within the black market illegal goods are high priced and the sale of human organs is a source of income. While some of the poorest countries do not have a human organ black market, poverty is the major contributing factor in the illegal trade. Within this study multiple books, articles, and journals have been examined to analyze pro and anti-legalization. Whether or not the human organ trade is legalized, an understanding of this issue is essential in determining the approach to eliminate the black market for human organs.

**22B**

**Title:** Why Should Prostitution Be Legalized?

**Presenter(s):** Siddhant Mahajan

**Advisor:** Interdisciplinary Studies- Dr. Richard Herder, Speech and Dr. Will Thomas, Accounting

**Abstract:** Let's start with a brief history about sin. In the 1700's women were prosecuted as witches and burned at the stake. In the 1800's African Americans were sold as slaves and in the 1930's the Nazi's slaughtered millions of Jews. Obviously history has shown us that humans are not the best judge of character. And so it is with prostitution. My argument is that there has always been a persistent problem with prostitution and the best solution is to legalize it and regulate it. I explain the problems with illegal prostitution and some beneficial solutions if it were legalized and regulated properly. First, this would alleviate economic problems. Second, it would help overcome outdated moral and social standards. Most important of all, it would provide a safer environment and help to prevent the spread of sexually transmitted diseases, STD's.

**23B**

**Title:** Are Blood Diamonds Still an Issue in 2011?

**Presenter(s):** Kelsey Hood

**Advisor:** Interdisciplinary Studies- Dr. Richard Herder, Speech and Dr. Will Thomas, Accounting

**Abstract:** The purpose of this research was to dive into the issue of conflict diamonds and discover whether they are still an important issue. Blood diamonds were a problem in the 20<sup>th</sup> century when they were used to fund wars in Africa. After reading several articles on the subject I have concluded conflict diamonds are still an issue in 2011. Many of the wars in Africa are over, but the conflict diamonds market is still destroying lives through its violence and inhuman nature. The implications of this situation are horrendous. If conflict diamonds are ignored, many children will be forced to work under brutal conditions.

**24B**

**Title:** All Black and Blue

**Presenter(s):** Haley Jacobsen

**Advisor:** Sheila Tabaka, Theatre

**Abstract:** This poster will focus on the technique of applying make-up bruises throughout the bruise life cycle. It will show how to apply this kind of make-up from stage one of the bruise until the completed phase by using Ben Nye Make-Up.

**25B**

**Title:** Before and After: Eye Highlight and Contour

**Presenter(s):** Sia Lor

**Advisor:** Sheila Tabaka, Theatre

**Abstract:** No plastic surgery is needed! Visibly reshape, enhance, add depth or emphasize the natural contours of the eye area using only two Ben Nye products. Highlight and shadowing the eye area in a multi-tonal neutral range is used to achieve this effect.

**26B**

**Title:** Chemicals in Cosmetics: Toxicity through the Ages

**Presenter(s):** Sara Marie Mills

**Advisor:** Sheila Tabaka, Theatre

**Abstract:** Have you ever wondered what cosmetics you put on your face and why? We will be taking a look at cosmetic trends throughout history, as well as what materials have been used as cosmetics.

**27B**

**Title:** The Art of Egyptian Make-up

**Presenter(s):** Jalisa Ross

**Advisor:** Sheila Tabaka, Theatre

**Abstract:** Ever wonder what the Egyptians used for make-up? Didn't we always assume it was toxic? Well you would be surprised to know that most of the stuff they used to make their make-up was all natural things. The black eye liner that was commonly known and seen on many statues and hieroglyphs was made with lead or soot. This black eye liner made from lead was called "Mesdemet", and up until just recently was thought to have been extremely dangerous. In the most recent study done from samples of early Egyptian make-up, it was found that the lead based eye liner boosted production of nitric oxide by up to 240% in cultured human skin cells. In simpler terms the eye liner was boosting the Egyptians immune system, by doing this the make-up they were using was keeping them from getting sick. I wonder if we had always known that, would we be using that same stuff today in our make-up?

**28B**

**Title:** Dracula from Myth to Make-Up

**Presenter(s):** Courtney Watkins

**Advisor:** Sheila Tabaka, Theatre

**Abstract:** We all heard the myths of vampires when we were younger. It all started when Bram Stoker wrote the famous book Dracula which later was turned into a stage adaption. Have you ever wonder how Stoker pictured his character be or what he would look like on stage. I will be showing how you turn a person into the character of Dracula through make up.

**29B**

**Title:** People's Perception of Those Who Use a Wheelchair and How Sports Can Change that Perception

**Presenter(s):** Bryan Creamer

**Advisor:** Dr. Cindy Wasberg, Sociology

**Abstract:** *Poster Withdrawn*



# Abstracts

## Original Works Session – Art Program

1

**Title:** *Drawing* - untitled

**Presenter:** Tara Borman

**Advisor:** Robert Dorlac, Art Program

**Abstract:** For my research, I've chosen to study the cartoonist known as Roz Chast. She is a staff cartoonist for *The New Yorker* and has had work published in *Scientific American*, and *Harvard Business Review*. She has a simplistic style that uses rough lines to depict her subjects. The matters she likes to illustrate deal with domestic and family, adding a humorous touch to the daily intricacies of life. As cartooning is my favorite style, I wanted to acquaint myself with how other cartoonists promote their work. Before this research study, I had no idea who Roz Chast was. After spending the time to discover who she is, I have to say that I couldn't be more excited, as I have the same interests in my art subjects.

2

**Title:** *Drawing* - untitled

**Presenter:** Jaclyn Boyd

**Advisor:** Robert Dorlac, Art Program

**Abstract:** I was assigned Egon Schiele, an Austrian artist, to pull inspiration for my piece. Egon Schiele created over 3000 drawings before the end of his short life. These drawings focus on figures and portraits. They show a strong sense of proportion utilizing bold outlines and almost no shading, instead using line to emphasize movement and shadow. Schiele used line thickness to define areas of importance. He elongated the proportions of his figures almost to the point of giving them the appearance of being emaciated, while still maintaining overall proportion ratios. In emulating Schiele, I chose to focus on his use of bold outlines, line thickness, and slight elongation in portraiture, specifically the style of his self-portraits.

3

**Title:** *Drawing* - untitled

**Presenter:** Amber Casperson

**Advisor:** Robert Dorlac, Art Program

**Abstract:** For the undergraduate research program, I studied Donald Sultan's work. Donald Sultan was born in 1951 in North Carolina and is still alive today.

His abstract work is commonly known through his still life art of lilies and his famous lemons. He describes his work as "heavy structure, holding fragile meaning." Working with Sultan's style is an excellent experience for me, because we have several things in common in regards to our art. We both like to make art abstract, use black, and—at times—our art will hold a "fragile meaning" to us personally. For my artwork, I am emulating his use of black, abstraction, and equal positive and negative space.

4

**Title:** *Drawing* - untitled

**Presenter:** Jimmy Crespino

**Advisor:** Robert Dorlac, Art Program

**Abstract:** My inspiration for this drawing came from Edward Hopper, an American Realist painter and printmaker. My intent was to emulate his subject's melancholic moods framed by desolate architecture. I studied many of his preliminary sketches that he would later convert into his final works. His pieces always end up telling a familiar narrative of being alone. I tried to echo this feeling looking around in my own environment. In the end, I choose ink and pen as my medium to produce an illustration that closely resembles some of Hopper's etchings.

5

**Title:** *Drawing* - untitled

**Presenter:** Ashley Dehncke

**Advisor:** Robert Dorlac, Art Program

**Abstract** The task we were assigned is to emulate, in some fashion, the work of a famous artist. The artist that I am emulating is Ellsworth Kelly. Ellsworth Kelly has been and continues to be a great American artist. His drawings are mainly of plants and flowers. When drawing Kelly uses the element of line as his main focus which in turn creates the shape of his subject. This technique gives the impression that Kelly is a minimalist. The serious and to the point look of his works have been suggested to link back to his background in the military. It has also been suggested that the camouflage his battalion used enlightened him to the use of form and shadow as well as construction and deconstruction of the visible. I will be emulating his use of line to create shape within my own art.

6

**Title:** *Drawing* - untitled

**Presenter:** Suzannah Gau

**Advisor:** Robert Dorlac, Art Program

**Abstract:** Mary Cassatt was an American born artist during the late nineteenth and early twentieth



centuries. While best known for her paintings, she was also an accomplished printmaker and did many drawings. While trained in the United States, she spent much of her life in France, becoming associated with the Impressionist movement alongside Edgar Degas. Cassatt was also influenced by then recently discovered Japanese prints, utilizing large areas of flat color and pattern. For this project, Cassatt's subject matter will be the focus. Cassatt's art tended towards domestic scenes and human interactions in a day-to-day setting. This project seeks to capture this "snapshot" style of composition and sympathetic treatment of the subjects, while also drawing on some of her Japanese inspiration for execution.

7

**Title:** *Drawing* - untitled

**Presenter:** Katie Grebinoski

**Advisor:** Robert Dorlac, Art Program

**Abstract:** The artist Wanda Gag influenced this drawing through her sense of style, technique, and subjects. Gag's art was distinguished by flowing lines, highlights, and the use of dramatic shadowing. However, her black and white drawings usually consisted of a nature subject, which are represented with rhythm and unity. All of these features are represented in this drawing.

8

**Title:** *Drawing* - untitled

**Presenter:** Kristin Guggisberg

**Advisor:** Robert Dorlac, Art Program

**Abstract:** The assignment is to replicate my appointed artist's style of representation using some of the principles of art to imitate Albrecht Durer's concepts of real life depictions, including people, animals, or landscapes that he was known for. I will combine Durer's use of line and value to make my own drawing. This man's life lasted from 1451 to 1528. His art represented the time period in which he lived, the Northern renaissance period. He was well known and his artwork was widely interpreted throughout all of Europe for the incredible talents he possessed. The most well-known works that this German artist created were engraving, woodworking, painting and printmaking. A wonderful aspect of how he drew was that it all was often drawn with no models, instead only inspiration from a prior event and memory, using a lot of religious works, portraits, self-portraits and engravings.

9

**Title:** *Drawing* - untitled

**Presenter:** Sarah Hall

**Advisor:** Robert Dorlac, Art Program

**Abstract:** The assignment is meant to honor a famous artist of the past. My artist, Kathe Kollwitz, chose to depict images of suffering, poverty, illness, and war. She was influenced by the working class and poor she saw around her in Berlin, as well as the ravages of World War I and II, dying before the end of World War II. My drawing is influenced in part by her dark subject matter and the almost stark simplicity she used to draw attention to it.

10

**Title:** *Drawing* - untitled

**Presenter:** Sherren Hill-Pulcher

**Advisor:** Robert Dorlac, Art Program

**Abstract:** *Celestial Awareness* is a piece partially inspired by Aubrey Beardsley while remaining within my original style. The boldness of the extreme black and white values as well as the circular encasing of the figure is inspired by Beardsley. The figure displayed is something of a modern jester whose life is influenced by the nature around her. She is a glorious product of the mysterious and unusual beauty surrounding her existence. She is embraced by the moon, which appears to be present during the daytime given the birds that are out and about perched on the barren trees.

11

**Title:** *Drawing* - untitled

**Presenter:** Josephine Jobgen

**Advisor:** Robert Dorlac, Art Program

**Abstract:** The assignment I was given was to use or borrow some aspects of an artist in an original work of my own. Edgar Degas' drawings of dancers have inspired me. I borrowed the subject matter of dancers to incorporate into my work. In Degas' drawings of dancers, he used gesture lines to imply movement within the piece. I have also incorporated the same gesture lines in my drawing. My drawing has reflected Degas' style in several ways, but it also reflects my own.

12

**Title:** *Drawing* - untitled

**Presenter:** Cheyenne Jones

**Advisor:** Robert Dorlac, Art Program

**Abstract:** In this assignment I was asked to pick a master artist and apply some aspect of their work to my own. I picked Native American Artist, Fritz Scholder. Fritz Scholder has helped pave the way for Native American artists due to his huge popularity and controversy with many of his series of paintings. Scholder's work has bold lines, strong contrasts, and simple forms. This style comes in part from his Native American culture. In this assignment I plan to borrow all of the above listed

characteristics and incorporate them into a drawing. Many of this artist's works were done primarily in black and so I will use India ink for my project. I believe this medium will provide many similarities between my work and Scholder's.

13

**Title:** *Drawing* - untitled

**Presenter:** Kao Yang

**Advisor:** Robert Dorlac, Art Program

**Abstract:** I was assigned to do my undergraduate research on Vincent Van Gogh and incorporating his techniques to my art work. Van Gogh concentrates on brush strokes, contour form, symbolism, intense colors, surface tension, movement, form, and line. His artwork has a strong form and content. He is good at making his artwork dramatic, rhythmic, and imaginative. He stresses his artwork by using movements to show emotion. Van Gogh and Paul Gauguin were influenced by each other's artwork. Van Gogh was also hugely influenced by Japanese prints. The way I plan to emulate his art techniques are the work of his line strokes, working with light and dark values by using graphite pencils or charcoal pencils. I will be using movements and rhythm to show emotion throughout my art work the way Van Gogh expresses his art work.

14

**Title:** *Drawing* - untitled

**Presenter:** Katie Kiffmeyer

**Advisor:** Robert Dorlac, Art Program

**Abstract:** My piece of artwork is inspired by the cubism movement started by Pablo Picasso and George Braque during the 20th Century. My original piece would closely resemble a piece of Analytical Cubism Artwork of Braque's. Although Cubism is usually made with oil paintings, using the same simple shapes to show another object inside I used graphite pencil. With the graphite pencil I shaded the shapes in gradients to show where new shapes were, although hard to see with a little searching people will be able to see a nice balance of nature.

15

**Title:** *Drawing* - untitled

**Presenter:** Mai Yang

**Advisor:** Robert Dorlac, Art Program

**Abstract:** The focus of this project was to research an artist and incorporate some of the technique, style, objects, or subjects into your own work. My work will be based on Aubrey Beardsley. From an early age Beardsley developed an illness of tuberculosis. Because of this, he had a clear and uncomplicated vision of his wild creations of fantasy

subjects and caricatures. He had a unique style of art during the Victorian period. Some of his biggest known style was his black and white ink drawing (inspired by photography technology), decoration patterns details, flowers, dots, and bold curvy lines. His influenced came from Pre-Raphaelite, early Renaissance style and later Baroque and Rococo. He was inspired by James McNeil Whistler and Japonism's flat spatial plane. I will incorporate the black and white style along with his curvaceous lines, flowers, some of his subjects.

16

**Title:** *Drawing* - untitled

**Presenter:** Ross Pyka

**Advisor:** Robert Dorlac, Art Program

**Abstract:** My assignment was to study Michael Mazur (1935-2009) who is well known for his drawings. I was then told to replicate something that he did in his work. He was influenced by German expressionists and tended to produce darker drawings. One of his works was a series of illustrations for Dante's *Inferno*. I will be focusing more on using a similar range of value and lines than I will be on replicating his subject.

17

**Title:** *Drawing* - untitled

**Presenter:** Marissa Ritter

**Advisor:** Robert Dorlac, Art Program

**Abstract:** My artist inspiration was Edgar Degas and his series entitled *The Bathers*. While Degas worked mostly in watercolors and drawings, I chose to do my piece in oil pastel. I tried to mimic Degas' style of capturing the human figure, but I changed what the figure is doing to something I more prefer. While I usually leave the medium untouched and "rough," with this piece I chose to mimic Degas smoother style and blend everything together

18

**Title:** *Drawing* - untitled

**Presenter:** Nicole Robinson

**Advisor:** Robert Dorlac, Art Program

**Abstract:** Kathe Kollwitz is an amazingly expressive portrait artist, and through studying her pieces, I hope to better my own skill. I will create a response piece to her portraits with a portrait piece of my own using charcoals, and charcoal paper. The piece I intend to respond to will be a portrait of 'lovers nestling against each other.' I intend on imitating her strong use of contrasting values, and her use of strong expressive lines. I will better my skill as an artist and begin to work towards finding artists that will influence my artistic style.

**19**

**Title:** *Drawing* - untitled

**Presenter:** Crystal Severance

**Advisor:** Robert Dorlac, Art Program

**Abstract:** I am studying the works of Edward Gorey to bring a piece that emulates his works, but I will do it in a way that still fits me. Edward Gorey's work uses a lot of lines to create images that can be described as an illustrator style. They are mainly black and white images with a Gothic feel to them. He makes a style he called literary nonsense, made famous by Lewis Carroll. Other than the classes I am taking at SMSU, I have taught myself many of my techniques and works of art, much like Gorey did. He was influenced by Lewis Carroll, Agatha Christie, Charles Dickens and many more, while influencing Daniel Handler, Richard Sala, and Tim Burton. They also inspire me. The part of Gorey's work that I plan to emulate is his style, the lines mixed with my subject peaks my interest.

**20**

**Title:** *Drawing* - untitled

**Presenter:** Matthew Stark

**Advisor:** Robert Dorlac, Art Program

**Abstract:** I will research Mary Cassatt, the way she produces her great artwork, and then emulate it myself. Mary Cassatt, born in 1844 in Pennsylvania did a vast majority of her studies and learning in Europe with friend Edgar Degas. When Cassatt returned home she attended Pennsylvania Academy of the Fine Arts where only 20% of the academy was women. In 1879 after being introduced to the "impressionist" style by friend Degas she masters the style. Now, Mary was known for her paintings of mothers and children but what people did not know was she had great prints and pastel drawings. Cassatt was able to manipulate pastels to create awesome color, texture, harmony, and unity with optical blending just like how she did in her well known paintings. I will emulate Cassatt's style with similar material that she used when creating her drawings.



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