Without imagination we can go nowhere. And imagination is not restricted to the arts. Every scientist I have met who has been a success has had to imagine.

Rita Dove
novelist/poet laureate

The mission of the EWU Student Research and Creative Works Symposium is to promote student research, scholarship, and creative activity done in partnership with faculty as a vital component of higher education. Students, faculty, and administrators are invited to attend to hear and discuss undergraduate and graduate creative and scholarly work.
Day One
Wednesday, May 14, 2008
6 p.m. - 10 p.m.
Creative Arts Complex

6:00 - 6:45 p.m. - Welcome and Presenter Check-In
Music Building, Recital Hall

6:00 - 9:00 p.m. - Session 4: Art Display
RTV Building, 2nd Floor Loft

6:30 - 9:00 p.m. - Appetizers and Refreshments Provided
RTV Building, 2nd Floor Loft

7:00 - 10:00 p.m. - Session 3: Electronic Media & Film
RTV Building, Room 101

7:00 - 10:00 p.m. - Session 1: Music Performances
Music Building Recital Hall

7:00 - 9:00 p.m. - Session 2: Creative Writing/Visual Communication Session
RTV Building, Room 221

7:00 - 9:30 p.m. - Opening: Proof, directed by Sara Goff
Doors open at 7:00 p.m.
Curtain: 7:30 p.m.
Admission: Free for students (with I.D.) and one guest.
Eastern Washington University
11th Annual Student Research & Creative Works Symposium

Day Two
Thursday, May 15, 2008
8 a.m. - 6 p.m.
Senior Hall

8:00 – 9:00 a.m. Welcome, Coffee and Presenter Check-In
1st Floor

8:00 a.m. – 4:00 p.m. Graduate Studies, EWU Library, HPPV Competition
Visit the information tables located on the first floor

8:30 a.m. - 12:00 p.m. Morning Oral Presentations
Rooms 101, 124, 201, 203, 204, 221, 243

9:30 a.m. - 11:30 a.m. Morning Poster Session
Rooms 302/304 and 306. Posters may be viewed throughout the day

12:40 – 3:30 p.m. Afternoon Oral Presentations
Rooms 101, 124, 201, 203, 204, 221, 243

1:00 – 3:00 p.m. Afternoon Poster Session
Rooms 302/304 and 2nd Floor Lounge. Posters may be viewed throughout the day

4:00 – 6:00 p.m. Keynote Address/ Awards Banquet
Pence Union Building, Multi-Purpose Room (PUB MPR)
*Dinner Provided*

Keynote Address by Dr. Kayleen Islam-Zwart, EWU Department of Psychology
“Informed Winging It: The Role of Research in Our Lives”

Please join us to recognize and celebrate the presenters and their faculty mentors as we present awards in recognition for outstanding presentations.
2008 Diversity Theme

Rita Dove

“Without imagination we can go nowhere. And imagination is not restricted to the arts. Every scientist I have met who has been a success has had to imagine.”

One of the key missions of the Student Research and Creative Works Symposium is to serve as a catalyst for sharing diverse forms of knowledge across varied disciplines at the University by providing a campus forum for encountering these many perspectives. This year the symposium committee has chosen this quote by poet and author Rita Dove to exemplify that mission.

Rita Frances Dove (August 28, 1952 in Akron, Ohio) is an American poet, author, musician, and playwright. Most renowned for her poetry, she developed a passion for literature at a young age. Her parents encouraged her passion and valued education for their daughter. Dove would eventually go on to graduate with honors in 1973 from Miami University and hold a Fulbright Scholarship in Germany from 1974-1975. She earned her M.F.A. from the University of Iowa in 1977.

A renowned author eight volumes of poetry, Dove would also receive critical acclaim over her plays and musical collaborations. One her most popular collections of poems, *Thomas and Beulah* (1986), earned her the 1987 Pulitzer Prize for Poetry, making her only the second African American poet to ever receive the award. In 1993, Rita Dove became the youngest, and the first, African American to ever be appointed as Poet Laureate for the United States. Dove has earned an endless list of honors and awards over the last thirty years, including numerous fellowships and over twenty honorary doctorates.

Through all of her honors and achievements, Dove remains passionate about getting people of all ages excited about the Creative Arts and has appeared on such television shows as “Sesame Street” and “The Today Show.” Rita Dove currently teaches English at the University of Virginia at Charlottesville and serves as Chancellor of the Academy of American Poets.
Symposium Sponsors

EWU Office of the Provost ❖ Graduate Education Research Grants & Research Development ❖ Undergraduate Studies McNair Scholars Program ❖ Spokane Teachers Credit Union

Thank you to the generous individual donors:

Ruth & Jerry Galm

Special thanks to:

President Rodolfo Arévalo ❖ Provost John Mason Dr. Kayleen Islam-Zwart ❖ Dean Michael Frumkin ❖ Leslie Swannack

University Graphics: Judy McMillan, Larry Conboy, Nick Brown
MARS Lab: Lance Walker, Grant Ramsey & Staff
Printing Services
Event Planning & Dining Services

Spokane Teachers Credit Union for their generous donation towards student awards, honorariums, and supplies

And to all students, judges, mentors, volunteers & departments who worked to make the symposium a success.

♦♦♦♦

If you would like to contribute, envelopes are available in the Symposium office, Showalter 207C.
Please make checks payable to: EWU Foundation, for Student Research & Creative Works Symposium
Symposium Committee Members

Heather Beatty, College Relations Officer, Undergraduate Studies
Larry Briggs, Associate Vice President, Enrollment Services
Brian Donahue, Interim Director, Graduate Studies
Cynthia Dukich, McNair Scholars Program, Counselor/Academic Coordinator
Greg DuMonthier, Assistant Professor, Art
Ruth Galm, Executive Director, Office of Grant & Research Development
Sara Goff, Assistant Professor, Theatre
Don Goodwin, Assistant Professor, Music
Angela Johnson, Graduate Advisor, Communications
Jonathan Johnson, Professor, Inland Northwest Center for Writers
Sarah Keller, Professor, Anthropology
Patricia Kelley, Dean, EWU Libraries
Melissa Lavitt, Interim Vice Provost, Graduate Education Research
Jamie Litzkow, Graduate Assistant, Symposium Office
Karen McKinney, Director, McNair Scholars Program
Ryan Mizner, Assistant Professor, Physical Therapy
Erica Morris, Graduate Assistant, Symposium Office
Yves Nievergelt, Professor, Mathematics
Peter Porter, Professor, Electronic Media & Film
Julia Smith, Professor, Anthropology

McNair Scholar Participants and Faculty Mentors

Tiffany Chambers        Dr. Christina Valeo, English
Elizabeth Contreras        Dr. Sidney Kasuga, Biology
Erica Delgado        Dr. Mahlon Dalley, Psychology
Oswald Fonseca        Dr. Guillermina Walas-Mateo, Spanish
Claudine Richardson-Fraser        Dr. Sidney Kasuga, Biology
Isaura Gallegos        Dr. Mary Ann Keogh-Hoss, Health Admin.
Nancy Guillen        Dr. Kimberly Kidwell (WSU)
Candice Helsing        Dr. Donald Lightfoot, Biology
Julian Mendez        Dr. Jonathan Anderson, Psychology
Shawn Pattison        Dr. Georgia Bonny Bazemore, History
Laura Preciado        Dr. Raphael Guillory, CED Psychology
Elizabeth Welch        Dr. Amani El-Alayli, Psychology
Ia Xiong        Dr. Jonathan Anderson, Psychology

Dr. Phillip Watkins, Psychology
Information Tables

EWU Library
EWU Libraries will have an information table available in the lobby of Senior Hall at the 2008 Creative Works Symposium. The table will hold information on library services such as RefWorks. The table will also provide information on upcoming library events such as Books2Eat and speakers, and other programs. The table’s main focus will be on RefWorks, an online footnoting and bibliography formatting feature of the Library Information System.

Graduate Studies
The EWU Graduate Studies Office will have an information table during the Symposium. Students considering advanced study beyond the bachelor’s degree will find information about more than 50 graduate programs offered at EWU, the application process, tuition and financial aid, contacts and deadlines, along with applications for admission. The friendly, professional staff members in the Graduate Studies Office are available to answer questions on the day of the Symposium and every weekday from 8 a.m. to 5 p.m. in 206 Showalter Hall, or by phone at 359-6297.

Human Powered Paper Vehicle (HPPV) Competition
Each year, Eastern Washington University (EWU) hosts the annual Intercollegiate Human Powered Paper Vehicle (HPPV) Engineering Competition. This engineering competition inspires students, challenges their engineering skill and creativity, and provides a format that limits the amount of money needed to field a competitive team. The basic concept is to construct a human powered vehicle out of 90% paper products (by weight). The remaining 10% can be any type of material and is limited only by the imagination of the designers. There are two parts to the overall competition, the first tests the vehicle’s performance while the second gauges the team’s presentation skills. These events are treated as separate portions of the overall competition with awards presented for each category, although participation in both events is required. On display will be vehicles from this year’s competition along with a video presentation capturing the performance trials and tribulations.

National Conference on Undergraduate Research (NCUR)
NCUR is the nation's largest conference with the unique emphasis on undergraduate research. NCUR’s mission is to promote undergraduate research scholarship and creative activity carried out in partnership with faculty or other mentors as a vital component of higher education. EWU students participate in NCUR. This year, 19 EWU undergraduate students attended the 22nd annual NCUR, April 10-12, 2008, held at Salisbury University in Salisbury, Maryland. The students presented research papers and posters on a wide variety of topics. These students successfully demonstrated what they had learned, and so can you. NCUR 23 will be held at the University of Wisconsin, LaCrosse, in April 2009. This is a great opportunity for you to present your research and have a wonderful learning experience. Think about presenting a proposal for NCUR 23. For more information on NCUR, visit the National Conference on Undergraduate Research website at: http://www.salisbury.edu/ncur22/
Table of Contents

Keynote Speaker........................................................................................................................................... 8

May 14th Creative Works Presentation Schedule .......................................................................................... 9

Session 1:  Music Building Recital Hall .............................................................. 10
Session 2:  RTV Building Room 221 .............................................................. 10
Session 3:  RTV Building Room 101 .............................................................. 11
Session 4:  RTV Building Loft (2nd floor) .................................................... 11

May 15th Oral Presentation Schedule ......................................................................................................... 12

Session 1:  Room 101 ..................................................................................... 13
Session 2:  Room 124 .................................................................................... 13
Session 3:  Room 201 .................................................................................... 14
Session 4:  Room 203 .................................................................................... 14
Session 5:  Room 204 .................................................................................... 15
Session 6:  Room 221 .................................................................................... 15
Session 7:  Room 243 .................................................................................... 16
Session 8:  Room 101 .................................................................................... 16
Session 9:  Room 124 .................................................................................... 17
Session 10: Room 203 ................................................................................... 17
Session 11: Room 204 ................................................................................... 18
Session 12: Room 221 ................................................................................... 18
Session 13: Room 243 ................................................................................... 19

May 15th Poster Presentation Schedule ..................................................................................................... 12

Morning Groups 1-4: Rooms 302/302, 306 ....................................................................................... 20-21
Afternoon Groups 5-7: Rooms 302/304, 2nd floor lounge ......................................................... 22-23

Presenter Abstracts in Alphabetical Order .............................................................................................. 24-83
One of the all too true sayings about education is that the more you know, the more you realize all you do not know. This probably contributes to a feeling of being ill prepared for tasks as individuals leave the halls of the university and begin hard-earned careers. In these situations, and even before, my advice to students has been to “wing it,” knowing full well this will not be the case in the least. In this presentation, I share the ways in which the path of research has shaped and guided my life, and helped me to assist others in being informed consumers, investigators, and implementers.

**Biography**

Dr. Kayleen Islam-Zwart obtained a Ph.D. in Clinical Psychology from Idaho State University in Pocatello in 2001. She completed her M.S. in Psychology at Idaho State University and her B.S. in Pre-Professional Psychology at Mankato State University, Minnesota. She has been with EWU since 2001 and is currently associate professor, director of the psychology graduate program, and coordinator for the Psychology @ BCC program in the Department of Psychology. Dr. Islam-Zwart is a licensed psychologist in the State of Washington, with clinical interests primarily in disability assessment and diagnostic, cognitive, and neuropsychological evaluation. Previous clinical experiences have involved working in male and female prisons, clinics, and group private practices. Her research focuses on female offenders, prison adjustment, alcohol/drug misuse, sexual victimization, and cognitive and neuropsychological evaluation as it relates to factors such as sexual assault and malingering. Dr. Islam-Zwart has regularly presented at American Psychology – Law Society conferences. She has published in peer-reviewed journals including *Criminal Justice and Behavior*, the *Journal of Traumatic Stress*, the *Journal of Interpersonal Violence*, and *Women’s Health Issues*, and serves on the editorial board for the journal *Criminal Justice and Behavior*. 
Creative Works Presentation Schedule

Wednesday, May 14th 2008
Time: 6:00 - 10:00 p.m.

**Music Building**
(Recital Hall)

6:00-6:45 p.m. Opening Statements and Check-In
(Check-In in front of Recital Hall Entry)

7:00-10:00 p.m. Music Presentation Session
(Music Recital Hall)

**RTV Building**

6:30-9:00 p.m. Refreshments Served
(RTV loft, 2nd floor)

7:00-10:00 p.m. Creative Writing Session
(RTV room 221)

7:00-10:00 p.m. Electronic Media & Film Session
(RTV room 101)

6:00-9:00 p.m. Art Exhibit
(RTV loft, 2nd floor)
# Creative Works Session 1: Music

**Music Building Recital Hall, 7:00-10:00 p.m.**

<table>
<thead>
<tr>
<th>Time</th>
<th>Author(s)</th>
<th>Title</th>
<th>Mentor</th>
</tr>
</thead>
<tbody>
<tr>
<td>7:00</td>
<td>Alexander Wolfe</td>
<td><em>Volcanic Suite</em></td>
<td>Don Goodwin</td>
</tr>
<tr>
<td>7:20</td>
<td>Rebecca Castillo, Heather Wisswell, Mandy Reynolds</td>
<td><em>Farrell Tears</em></td>
<td>Don Goodwin</td>
</tr>
<tr>
<td>7:40</td>
<td>Drew Stern</td>
<td><em>Lullaby for a Worried Mind</em></td>
<td>Don Goodwin</td>
</tr>
<tr>
<td>8:00</td>
<td>Henry McNulty</td>
<td><em>Blues for Clarinets</em></td>
<td>Don Goodwin</td>
</tr>
<tr>
<td>8:20</td>
<td></td>
<td><strong>Break</strong></td>
<td></td>
</tr>
<tr>
<td>8:40</td>
<td>Ty Pfundheller</td>
<td><em>Spirit Awakening</em></td>
<td>Don Goodwin</td>
</tr>
<tr>
<td>9:00</td>
<td>Nicholas Bailey</td>
<td><em>No Words</em></td>
<td>Don Goodwin</td>
</tr>
<tr>
<td>9:20</td>
<td>Drew Stern</td>
<td><em>Bird of Prey</em></td>
<td>Don Goodwin</td>
</tr>
<tr>
<td>9:40</td>
<td>Jill Pendleton</td>
<td><em>Orange Blossoms</em></td>
<td>Don Goodwin</td>
</tr>
<tr>
<td>9:20</td>
<td>Drew Stern</td>
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<td>9:40</td>
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# Creative Works Session 2: Creative Writing, Visual Communication

**RTV Building, Room 221, 7:00-9:20 p.m.**

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<thead>
<tr>
<th>Time</th>
<th>Author</th>
<th>Title</th>
<th>Mentor</th>
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<tbody>
<tr>
<td>7:00</td>
<td>Diana Brinkley</td>
<td><em>Visual Communication Design Website</em></td>
<td>Mindy Breen</td>
</tr>
<tr>
<td>7:20</td>
<td>Michelle Kozlowski, Melissa Lindstrum</td>
<td><em>From Immigrant Labor Camps to George W. Bush in Hell</em></td>
<td>Christopher Howell</td>
</tr>
<tr>
<td>7:40</td>
<td>Michelle Kozlowski, Melissa Lindstrum</td>
<td><em>Poetry is Political to Us, Too</em></td>
<td>Christopher Howell</td>
</tr>
<tr>
<td>8:00</td>
<td></td>
<td><strong>Break</strong></td>
<td></td>
</tr>
<tr>
<td>8:20</td>
<td>Tana Young</td>
<td><em>The Oddity of One</em></td>
<td>Nance Van Winckel</td>
</tr>
<tr>
<td>8:40</td>
<td>Shira Richman</td>
<td><em>Where Communication and Collaboration Collide</em></td>
<td>Dr. Jonathan Johnson</td>
</tr>
<tr>
<td>9:00</td>
<td>Amanda Frederick</td>
<td><em>Busing Home</em></td>
<td>Dr. Jonathan Johnson</td>
</tr>
</tbody>
</table>
Creative Works Session 3: Electronic Media and Film  
RTV Building, Room 101, 7:00-10:00 p.m.

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<thead>
<tr>
<th>Time</th>
<th>Author</th>
<th>Title</th>
<th>Mentor</th>
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<tbody>
<tr>
<td>7:00</td>
<td>Colin Johnson</td>
<td>Dead Air</td>
<td>Tom Mullin</td>
</tr>
<tr>
<td>7:20</td>
<td>Christopher Chilton</td>
<td>No Home</td>
<td>Tom Mullin</td>
</tr>
<tr>
<td>7:50</td>
<td></td>
<td>Break</td>
<td></td>
</tr>
<tr>
<td>8:00</td>
<td>Aaron Fink</td>
<td>Allies</td>
<td>Tom Mullin</td>
</tr>
<tr>
<td>8:10</td>
<td>PawLy P</td>
<td>Willie Will (feat. Jazz Digga) – God’s Will Music Video</td>
<td>Tom Mullin</td>
</tr>
<tr>
<td>8:20</td>
<td>Nicholas Pearson</td>
<td>Life for a Life</td>
<td>Tom Mullin</td>
</tr>
<tr>
<td>8:30</td>
<td>Aaron Fink</td>
<td>The Maltese Frankfurter</td>
<td>Tom Mullin</td>
</tr>
<tr>
<td>8:40</td>
<td>Colin Johnson</td>
<td>The Screening Room</td>
<td>Tom Mullin</td>
</tr>
<tr>
<td>8:50</td>
<td></td>
<td>Break</td>
<td></td>
</tr>
<tr>
<td>9:00</td>
<td>Colin Johnson</td>
<td>Penelope Fitch Finds a Husband</td>
<td>Tom Mullin</td>
</tr>
<tr>
<td>9:30</td>
<td>Christopher Chilton</td>
<td>Bloodline</td>
<td>Tom Mullin</td>
</tr>
</tbody>
</table>

Creative Works Session 4: Art Exhibit  
RTV Building Loft (2nd floor), 6:00-9:00 p.m.

<table>
<thead>
<tr>
<th>Time</th>
<th>Author</th>
<th>Title</th>
<th>Mentor</th>
</tr>
</thead>
</table>
| 6:00  | Juventino Aranda, Sara Babcock, Kimiko Ishii, Janelle Lile, Dani Pavlic, Jessica Robinson | Mixed Media Installation:  
  Her Answer Wasn’t Quite What He Expected | Greg DuMonthier |
| 6:00  | Jessica Dietzen                            | Paris, from Memory                                      | Mindy Breen  |
| 6:00  | Brandon Rosman, Trevin Spencer             | Bombing Heaven                                          | Mindy Breen  |
Oral & Poster Research Presentation
Schedule

Thursday, May 15th 2008
Time: 8:00 a.m. - 3:30 p.m.

Senior Hall

8:30 a.m. - 12:00 p.m. Morning Oral Sessions: 1-7
(Rooms 101, 124, 201, 203, 221, 243)

9:30 a.m. - 11:30 a.m. Morning Poster Session
(Rooms 302/304, 306; Groups 1-4)
* Posters will be available to view throughout the day.

12:40 - 3:30 p.m. Afternoon Oral Sessions: 8-13
(Rooms 101, 124, 201, 203, 221, 243)

1:00 - 3:00 p.m. Afternoon Poster Sessions
(Rooms 302/304, 2nd Floor Lounge; Groups 5-7)
* Posters will be available to view throughout the day.

Pence Union Building (PUB)

4:00 - 6:00 p.m. Keynote Address/Awards Banquet
Location: PUB Multi-Purpose Room (MPR)
Dinner will be served
### Oral Session 1: Psychology Room 101, 8:50 a.m.-12:00 noon

<table>
<thead>
<tr>
<th>Time</th>
<th>Author</th>
<th>Title</th>
<th>Mentor</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:50</td>
<td>Shawn Pattison</td>
<td>Professors Terms of Address</td>
<td>Dr. Amani El-Alayli</td>
</tr>
<tr>
<td>9:10</td>
<td>Erica Peterson, Laura Preciado, Michelle</td>
<td>Depression and Age in Relation to Intrversion Versus Extraversion</td>
<td>Dr. Kayleen Islam-Zwart</td>
</tr>
<tr>
<td></td>
<td>Livengood, Noelle O’Neill</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9:30</td>
<td>Steven Carrasco, Kristina George, Darla</td>
<td>Testing the Activation-Monitoring Account of False Memory</td>
<td>Dr. Leonard Stern</td>
</tr>
<tr>
<td></td>
<td>Bumpus</td>
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</tr>
<tr>
<td>9:50</td>
<td>Wendy Rosenau</td>
<td>The Effects of Communication Technology on Verbal Skills</td>
<td>Dr. Amani El-Alayli</td>
</tr>
<tr>
<td>10:10</td>
<td>Julian Mendez</td>
<td>Bullying among Mexican High School Students</td>
<td>Dr. Raphael El-Alayli</td>
</tr>
<tr>
<td>10:30</td>
<td></td>
<td><strong>Break</strong></td>
<td></td>
</tr>
<tr>
<td>10:40</td>
<td>Jolene Oss, Leandra Shaver, Thomas Talarico</td>
<td>Conduct Disorder and Adolescent Inhalant Abuse: Affecting Our</td>
<td>Dr. Kayleen Islam-Zwart</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Children One “Huff” at a Time</td>
<td></td>
</tr>
<tr>
<td>11:00</td>
<td>Anna Beattie, Jolene Griego, Dusty Horn,</td>
<td>PTSD from Interpersonal Trauma Versus Natural Disaster: A</td>
<td>Dr. Kayleen Islam-Zwart</td>
</tr>
<tr>
<td></td>
<td>Adrienne Tucker</td>
<td>Comparison in Anxiety Symptoms</td>
<td></td>
</tr>
<tr>
<td>11:20</td>
<td>Elizabeth Welch</td>
<td>Media, Personality and the Mind: How Violent Media and</td>
<td>Dr. Kayleen Islam-Zwart</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Personality Traits Affect Memory</td>
<td></td>
</tr>
<tr>
<td>11:40</td>
<td>Kimberly Stankovich</td>
<td>Jail Study</td>
<td>Dr. Kayleen Islam-Zwart</td>
</tr>
</tbody>
</table>

### Oral Session 2: Computer Science Room 124, 9:10 a.m.-12:00 noon

<table>
<thead>
<tr>
<th>Time</th>
<th>Author</th>
<th>Title</th>
<th>Mentor</th>
</tr>
</thead>
<tbody>
<tr>
<td>9:10</td>
<td>Kandyce Moore</td>
<td>Displaying Spokane Data to the World: Development and Maintenance</td>
<td>Dr. Linda Keiffer</td>
</tr>
<tr>
<td></td>
<td></td>
<td>of the Community Indicators Initiative of Spokane Website</td>
<td>Dr. James Braukmann</td>
</tr>
<tr>
<td>9:30</td>
<td>Melissa Mewhinney</td>
<td>The Flex Development Process – A Case Study</td>
<td>Dr. Linda Keiffer</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Dr. James Braukmann</td>
</tr>
<tr>
<td>9:50</td>
<td>Brian Kamp</td>
<td>Rendered Audio in a 3D Animation Paradigm</td>
<td>Dr. William Clark</td>
</tr>
<tr>
<td>10:10</td>
<td>Gary Duncan</td>
<td>XNA Game Development – The Physics Engine</td>
<td>Stuart Steiner</td>
</tr>
<tr>
<td>10:40</td>
<td>Johnathon Warner</td>
<td>XNA Game Development – Graphics</td>
<td>Stuart Steiner</td>
</tr>
<tr>
<td>11:00</td>
<td>Byron Masterson</td>
<td>XNA Game Development – Game Art</td>
<td>Stuart Steiner</td>
</tr>
<tr>
<td>11:20</td>
<td>Ross Lanes</td>
<td>XNA Game Development – Sound Design</td>
<td>Stuart Steiner</td>
</tr>
<tr>
<td>11:40</td>
<td>Jeff Powell</td>
<td>XNA Game Development – NASA Space Race</td>
<td>Stuart Steiner</td>
</tr>
</tbody>
</table>
### Oral Session 3: Philosophy Room 201, 8:30 a.m.-12:00 noon

<table>
<thead>
<tr>
<th>Time</th>
<th>Author</th>
<th>Title</th>
<th>Mentor</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:30</td>
<td>Chris Lybeck</td>
<td>A Contrast of the Political Theories of Jean-Jacques Rousseau and Thomas Hobbes, and a Determination of Which Makes a More Satisfactory Theoretical Basis for Human Society</td>
<td>Dr. Kevin Decker</td>
</tr>
<tr>
<td>8:50</td>
<td>Jeffrey Ewing</td>
<td>William James’ Moral Life</td>
<td>Dr. Terrance MacMullan</td>
</tr>
<tr>
<td>9:10</td>
<td>Caleb Woodrow</td>
<td>A Comparison of Metaphysical and Analytical Interpretations of Hegel’s Philosophy</td>
<td>Dr. Kevin Decker</td>
</tr>
<tr>
<td>9:30</td>
<td>Alex Wardian</td>
<td>Kant and the Iraq War</td>
<td>Dr. Kevin Decker</td>
</tr>
<tr>
<td>9:50</td>
<td>Kaitlin Morrison</td>
<td>In What Ways Is the Legacy of Kantian Political Liberalism Challenged by Contemporary Pluralist Perspectives, and Is a Satisfactory Reconciliation Possible?</td>
<td>Dr. Kevin Decker</td>
</tr>
<tr>
<td>10:10</td>
<td>Ryan Downie</td>
<td>Leibniz and the Theory of Possible Worlds</td>
<td>Dr. Kevin Decker</td>
</tr>
<tr>
<td>10:30</td>
<td>Break</td>
<td></td>
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</tr>
<tr>
<td>10:40</td>
<td>Jordan Biltoft</td>
<td>Quantum Mechanics and Consciousness: The Universe within Our Minds</td>
<td>Dr. Kevin Decker</td>
</tr>
<tr>
<td>11:00</td>
<td>Cristen Royce</td>
<td>The Biggest Theory Ever</td>
<td>Dr. Terrance MacMullan</td>
</tr>
<tr>
<td>11:20</td>
<td>Joshua White</td>
<td>Pragmatism and Faith Side by Side</td>
<td>Dr. Terrance MacMullan</td>
</tr>
<tr>
<td>11:40</td>
<td>Richard Devenport</td>
<td>A Response to Some Deficiencies in Paradigmatic Classroom Aesthetics</td>
<td>Dr. Terrance MacMullan</td>
</tr>
</tbody>
</table>

### Oral Session 4: English I Room 203, 8:30 a.m.-12:00 noon

<table>
<thead>
<tr>
<th>Time</th>
<th>Author</th>
<th>Title</th>
<th>Mentor</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:30</td>
<td>Jeremy Huston</td>
<td>A Painted Ship upon a Painted Ocean: The Visual Influence of Coleridge’s <em>Rime of the Ancient Mariner</em></td>
<td>Dr. Christina Valeo</td>
</tr>
<tr>
<td>8:50</td>
<td>Amy Shank</td>
<td>Familial Disharmony and Domestic Satire in the Works of Jane Austen</td>
<td>Dr. Christina Valeo</td>
</tr>
<tr>
<td>9:10</td>
<td>Car Christian Mancini</td>
<td>Italian Immigration in Early American Literature</td>
<td>Dr. Paul Lindholdt</td>
</tr>
<tr>
<td>9:30</td>
<td>Alexis Hardy</td>
<td>Aestheticism and Decadence in Victorian Culture and Literature</td>
<td>Dr. Beth Torgerson</td>
</tr>
<tr>
<td>9:50</td>
<td>Colette Chenault</td>
<td><em>Tess of the D’Urbervilles</em>, a Difference through Motivation</td>
<td>Dr. Beth Torgerson</td>
</tr>
<tr>
<td>10:10</td>
<td>Katie Hass</td>
<td>Bathsheba: A Heroine Split by Society</td>
<td>Dr. Beth Torgerson</td>
</tr>
<tr>
<td>10:30</td>
<td>Break</td>
<td></td>
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<tr>
<td>10:40</td>
<td>Erica Morris</td>
<td>“Ghost-Girl-Rider”: Invention of Memory and Arrangement of Grief in Thomas Hardy’s <em>Poems of 1912-1913</em></td>
<td>Dr. Beth Torgerson</td>
</tr>
<tr>
<td>11:00</td>
<td>Susan Nield</td>
<td>The Development of Adolescent Literature: A Victorian Legacy</td>
<td>Dr. Beth Torgerson</td>
</tr>
<tr>
<td>11:20</td>
<td>Tiffany Chambers</td>
<td>Snow White’s True Beauty</td>
<td>Dr. Christina Valeo</td>
</tr>
<tr>
<td>11:40</td>
<td>Michelle Schultz</td>
<td>Harry Potter and the Power of House-Elves</td>
<td>Dr. Christina Valeo</td>
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</tbody>
</table>
## Oral Session 5: Biology, Geology, Physics, Chemistry
### Room 204, 8:30 a.m.-12:00 noon

<table>
<thead>
<tr>
<th>Time</th>
<th>Author</th>
<th>Title</th>
<th>Mentor</th>
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</thead>
<tbody>
<tr>
<td>8:30</td>
<td>Brittany Davidson</td>
<td>Assessing Potential Effects of Brook Stickleback on Waterfowl at Turnbull National Wildlife Refuge</td>
<td>Dr. Margaret O’Connell Dr. Ross Black</td>
</tr>
<tr>
<td>8:50</td>
<td>Elizabeth Simonson</td>
<td>The Chemical Ecology of the European Earwig</td>
<td>Dr. Camille McNeely</td>
</tr>
<tr>
<td>9:10</td>
<td>Yohan Kim</td>
<td>The Development of Methods for Long Term Culture of Live Thin Sections of Bovine Ovaries</td>
<td>Dr. Charles Herr</td>
</tr>
<tr>
<td>9:30</td>
<td>Rochelle Hoey-Chamberlain</td>
<td>Survey of the Ants of Washington State with an Emphasis on Disturbed Sites</td>
<td>Dr. Camille McNeely</td>
</tr>
<tr>
<td>9:50</td>
<td>Ean Esche</td>
<td>Leptin Administration and Estrous Cycle Disruption in Female Sprague Dawley Rats</td>
<td>Dr. Karen Carlberg</td>
</tr>
<tr>
<td>10:10</td>
<td>Brandee Gregory, Krista Morrow, Alicia Ewing</td>
<td>The Effect of Dietary Capsaicin and Exercise on Body Fat in Sprague Dawley Rats</td>
<td>Dr. Thomas Hancock</td>
</tr>
<tr>
<td>10:30</td>
<td>Rochelle Hoey-Chamberlain</td>
<td>Nutrition-Based Curriculum May Be Ideal for Obesity Prevention</td>
<td>Dr. Karen Carlberg</td>
</tr>
<tr>
<td>10:50</td>
<td></td>
<td><strong>Break</strong></td>
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<tr>
<td>11:00</td>
<td>Gabriel Bailey</td>
<td>Paleoenvironmental Study of the Etadunna Formation, South Australia</td>
<td>Dr. Carmen Nezat</td>
</tr>
<tr>
<td>11:20</td>
<td>Meghan Horner</td>
<td>Verlan: Language Variation and Identity in France</td>
<td>Dr. Achin Sen</td>
</tr>
<tr>
<td>11:40</td>
<td>Kylie Hafer</td>
<td>Demonstration of Solid-Phase Ion Exchange in IR Sample Preparation</td>
<td>Dr. Jamie Manson</td>
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</tbody>
</table>

## Oral Session 6: Anthropology, Linguistics, Sociology, Spanish
### Room 221, 8:50 a.m.-12:00 noon

<table>
<thead>
<tr>
<th>Time</th>
<th>Author</th>
<th>Title</th>
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<tbody>
<tr>
<td>8:50</td>
<td>Megan Peluso</td>
<td>Coca Relations between the United States and Bolivia</td>
<td>Dr. Julia Smith</td>
</tr>
<tr>
<td>9:10</td>
<td>Laura Willis</td>
<td>Globalism, the Cotton Textile Industry, and Child Labor</td>
<td>Dr. Julia Smith</td>
</tr>
<tr>
<td>9:30</td>
<td>Rosalind Mallett</td>
<td>A Case Study of Ankylosing Spondylitis and Civinini Foramen</td>
<td>Dr. Sarah Keller</td>
</tr>
<tr>
<td>9:50</td>
<td>Patrick Wilkinson</td>
<td>The Involvement of Commoners in the Traditional Mesoamerican Ballgame</td>
<td>Dr. Julia Smith</td>
</tr>
<tr>
<td>10:10</td>
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<td><strong>Break</strong></td>
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<tr>
<td>10:20</td>
<td>Jennifer Shannahan</td>
<td>Verlan: Language Variation and Identity in France</td>
<td>Dr. Michael Zukosky</td>
</tr>
<tr>
<td>10:40</td>
<td>Alex Queen</td>
<td>Language Attitudes in Regional Japan</td>
<td>Dr. LaVona Reeves</td>
</tr>
<tr>
<td>11:00</td>
<td>Miranda Hamilton</td>
<td>Minority Representation in the Spokane Media</td>
<td>Dr. Pui-Yan Lam</td>
</tr>
<tr>
<td>11:20</td>
<td>Dawn Ruebush</td>
<td>An Investigation of Resources for Homeless Families in the Spokane Area</td>
<td>Dr. Pui-Yan Lam</td>
</tr>
<tr>
<td>11:40</td>
<td>Ashley Troha</td>
<td>Industrialization and Its Consequences on the Women of Juárez</td>
<td>Dr. José García-Sanchez</td>
</tr>
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</table>
### Oral Session 7: History, Art History, Film History
Room 243, 8:30 a.m.-12:00 noon

<table>
<thead>
<tr>
<th>Time</th>
<th>Author</th>
<th>Title</th>
<th>Mentor</th>
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<tbody>
<tr>
<td>8:30</td>
<td>Kari McClure</td>
<td>The Suspicious Death of Alexander the Great</td>
<td>Dr. Laura Phillips</td>
</tr>
<tr>
<td>8:50</td>
<td>Candice Helsing</td>
<td>The Evolution of Satan and Exilic Influence</td>
<td>Dr. Georgia Bazemore</td>
</tr>
<tr>
<td>9:10</td>
<td>Pippin Rubin</td>
<td>A Cautionary Tale: A Study of Primary Documents Related to the Execution of John Billington, the Mayflower Murder</td>
<td>Dr. J. William Youngs</td>
</tr>
<tr>
<td>9:30</td>
<td>Maegan Yapp</td>
<td>Voices of Reason: Political Satire of John Milton and Miguel de Cervantes</td>
<td>Dr. Armand Garcia</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Dr. Ann LeBar</td>
</tr>
<tr>
<td>9:50</td>
<td>Blaine Wickham</td>
<td>In the Mouth of Madness: A Look into the Architecture of American Asylums</td>
<td>Dr. Charles Mutschler</td>
</tr>
<tr>
<td>10:10</td>
<td>Brad Thew</td>
<td>The War on Drugs: The History of a Failed Policy</td>
<td>Dr. Ann LeBar</td>
</tr>
<tr>
<td>10:40</td>
<td>Oswald Fonseca</td>
<td>History of El Salvador</td>
<td>Dr. Guillermina Walas</td>
</tr>
<tr>
<td>11:00</td>
<td>Adam Attwood</td>
<td>Museums and American Popular Culture</td>
<td>Dr. Charles Mutschler</td>
</tr>
<tr>
<td>11:20</td>
<td>Angela Mutter</td>
<td>Titian’s Elusive Reclining Nude</td>
<td>Dr. Barbara Miller</td>
</tr>
<tr>
<td>11:40</td>
<td>Bradford Yurkiw</td>
<td>The Evolution of the Director through the Man Who Caught Kong</td>
<td>Dr. Peter Porter</td>
</tr>
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</table>

### Oral Session 8: Engineering and Design
Room 101, 1:00-2:40 p.m.

<table>
<thead>
<tr>
<th>Time</th>
<th>Author</th>
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<tbody>
<tr>
<td>1:00</td>
<td>Adam Huson</td>
<td>Applications of Robotics and Automation</td>
<td>Dr. Jeffrey Donnerberg</td>
</tr>
<tr>
<td>1:20</td>
<td>Drew Fink</td>
<td>Radial Design Air Motor</td>
<td>Dr. Jeffrey Donnerberg</td>
</tr>
<tr>
<td>1:40</td>
<td>Charles Rodgers</td>
<td>Jet Propelled Radio Controlled Boat</td>
<td>Terence Geyer</td>
</tr>
<tr>
<td>2:00</td>
<td>Benjamin Constantine, Andrew Scheikert, Jacob Hinch, Dustin Sheridan</td>
<td>Using Paper Products to Construct a Ridable Vehicle</td>
<td>Terence Geyer</td>
</tr>
<tr>
<td>2:20</td>
<td>Ryan Hatch, Isaac Floding, Kaleb Rideout, Barry Gaunce</td>
<td>HPPV: Team Speed Racer</td>
<td>Dr. Donald Richter</td>
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</tbody>
</table>
### Oral Session 9: Social Work, Recreation, Occupational Therapy
**Room 124, 1:00-2:40 p.m.**

<table>
<thead>
<tr>
<th>Time</th>
<th>Author</th>
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<th>Mentor</th>
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</thead>
<tbody>
<tr>
<td>1:00</td>
<td>Sheri Weistaner, Larissa Lotton</td>
<td>Foster Parents’ Perception of Concurrent Planning in Idaho Region I</td>
<td>Dr. Lisa Avery</td>
</tr>
<tr>
<td>1:20</td>
<td>Sheri Frantilla, Michelle Magers</td>
<td>Eastern Washington University Lesbian, Gay, Bisexual, and Transgender Campus Climate Survey and Needs Assessment</td>
<td>Dr. Lisa Avery</td>
</tr>
<tr>
<td>1:40</td>
<td>Susan McDaniel</td>
<td>“No Child Left Inside” Grants Opportunity for Pend Oreille County</td>
<td>Dr. Barbara Brock</td>
</tr>
<tr>
<td>2:00</td>
<td>Rebecca Strickler, Angela Weathers, Nick DeGroat, Christina Richter, Johanna Evans</td>
<td>Effect of Matching Peers in a Peer Mentoring Program</td>
<td>Dr. Wendy Holmes, Diane Norell</td>
</tr>
<tr>
<td>2:20</td>
<td>Angela Carlson, Rhonda Pinto, Shannon Harris, Jocelyn Lowe, Kathi Smith</td>
<td>Determining the Validity and Reliability of the Motor-Free Visual Perceptual Test 3rd Edition (MVPT-3) and Its Use in a Driving Evaluation Program for Adults with Brain Injury</td>
<td>Dr. Wendy Holmes, Kathryn Frankenfield</td>
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### Oral Session 10: English II
**Room 203, 12:40-3:30 p.m.**

<table>
<thead>
<tr>
<th>Time</th>
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<tbody>
<tr>
<td>12:40</td>
<td>Quinn Redfield</td>
<td>Lucifer as Satan: The Development of an Association</td>
<td>Dr. Garrett Kenney</td>
</tr>
<tr>
<td>1:00</td>
<td>Nancy Zook</td>
<td>The Woman within Ellen Glasgow</td>
<td>Dr. Judith Logan</td>
</tr>
<tr>
<td>1:20</td>
<td>Kristopher Olsen</td>
<td>Post-Colonial Fallout: Access to English Education for India’s Untouchables</td>
<td>Dr. Tracey McHenry</td>
</tr>
<tr>
<td>1:40</td>
<td>Mana Okabe</td>
<td>Building Classroom Communities through Journaling</td>
<td>Dr. LaVona Reeves</td>
</tr>
<tr>
<td>2:00</td>
<td></td>
<td><strong>Break</strong></td>
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<tr>
<td>2:10</td>
<td>Mary Parker</td>
<td>Creating a Community through Music: Marian Anderson &amp; ESL Students</td>
<td>Dr. LaVona Reeves</td>
</tr>
<tr>
<td>2:30</td>
<td>Wannaporn Lohpaisankrit</td>
<td>Poetry, Postcards and Pop Culture in ESL College Writing Class</td>
<td>Dr. LaVona Reeves</td>
</tr>
<tr>
<td>2:50</td>
<td>Andrea Whittemore, Katsuhide Tsuchiya</td>
<td>Social Activism and Community: The Power of Social Justice in ESL Classrooms and Weblogs</td>
<td>Dr. LaVona Reeves</td>
</tr>
<tr>
<td>3:10</td>
<td>Amanda Nickerson</td>
<td>César Chávez: Heritage, Language and Culture in the Classroom</td>
<td>Dr. LaVona Reeves</td>
</tr>
</tbody>
</table>
### Oral Session 11: Physical Therapy
**Room 204, 1:00-3:10 p.m.**

<table>
<thead>
<tr>
<th>Time</th>
<th>Author</th>
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<tbody>
<tr>
<td>1:00</td>
<td>Isaac Leitz</td>
<td>Low Back Kinematics Differences between 1-Mason and 2-Mason Lift</td>
<td>Dr. Ryan Mizner</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Teams Using 12 Inch Block</td>
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<tr>
<td>1:20</td>
<td>Kevin Spiegel</td>
<td>Comparison of the Shoulder Kinematics and Muscle Activity between</td>
<td>Dr. Daniel Anton</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1-Mason and 2-Mason Lift Teams Using 12 Inch Concrete Block</td>
<td>Dr. Ryan Mizner</td>
</tr>
<tr>
<td>1:40</td>
<td>James Mannenbach</td>
<td>Variant and Invariant Characteristics of Knee Joint Kinematics during</td>
<td>Dr. Ryan Mizner</td>
</tr>
<tr>
<td></td>
<td></td>
<td>the Drop Jump Task in Female College Athletes</td>
<td>Dr. Darl Vander Linden</td>
</tr>
<tr>
<td>1:50</td>
<td>Break</td>
<td></td>
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<tr>
<td>2:10</td>
<td>Kristen Parkin</td>
<td>Potential Ramifications of Knee Stiffness during Landing on Injury</td>
<td>Dr. Ryan Mizner</td>
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<tr>
<td></td>
<td></td>
<td>Risk and Jump Performance in Female Athletes</td>
<td>Dr. Darl Vander Linden</td>
</tr>
<tr>
<td>2:30</td>
<td>Ashley Jamison, Jeff Demmert</td>
<td>Feelings about Exercise, Health, and Quality of Life in Patients One</td>
<td>Dr. Kimberly Cleary</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Year after Coronary Artery Bypass Surgery</td>
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<tr>
<td>2:50</td>
<td>Christopher Beadle</td>
<td>The Development of an Exercise Video for Patients with Coronary</td>
<td>Dr. Tanya LaPier</td>
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<td></td>
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<td>Heart Disease: <em>For Your Heart Exercise DVD</em></td>
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</table>

### Oral Session 12: Government, International Studies, Africana Education
**Room 221, 1:00-2:40 p.m.**

<table>
<thead>
<tr>
<th>Time</th>
<th>Author</th>
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<tbody>
<tr>
<td>1:00</td>
<td>Amber Bernardi</td>
<td>Benefits of Gap Years</td>
<td>Dr. Martin Garcia</td>
</tr>
<tr>
<td>1:20</td>
<td>Kendra Beseler</td>
<td>Giving Sex trafficking a Red Light: What Is Being Done to Stop Sex</td>
<td>Dr. Kristin Edquist</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Trafficking (and Prostitution) in Europe?</td>
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</tr>
<tr>
<td>1:40</td>
<td>Margo Butcher</td>
<td>The Rise of Islamic Madrassahs in Pakistan: Fulfiling the Failures of</td>
<td>Dr. Kristin Edquist</td>
</tr>
<tr>
<td></td>
<td></td>
<td>the Government</td>
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</tr>
<tr>
<td>2:00</td>
<td>Matthew Holmes</td>
<td>Dueling Democracies: A Study of the Dynamic between Legislators and</td>
<td>George Durrie</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Initiatives in Washington State</td>
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</tr>
<tr>
<td>2:20</td>
<td>Laree Dedmond</td>
<td>Slavery and the Bible</td>
<td>Dr. Scott Finnie</td>
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</tbody>
</table>
### Oral Session 13: Urban & Regional Planning, Health Services Administration
Room 243, 12:40-3:30 p.m.

<table>
<thead>
<tr>
<th>Time</th>
<th>Author</th>
<th>Title</th>
<th>Mentor</th>
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</thead>
<tbody>
<tr>
<td>12:40</td>
<td>Christopher Green</td>
<td>The Ebasco Report, King Cole, and the Reinvention of Downtown Spokane</td>
<td>Dr. Dick Winchell</td>
</tr>
<tr>
<td>1:00</td>
<td>Robert Searle</td>
<td>Vinegar Flats: A Community in Transition</td>
<td>Dr. Dick Winchell</td>
</tr>
<tr>
<td>1:20</td>
<td>Donald Sims</td>
<td>Research Proposal: Urban Morphological Analysis of Rousse, Bulgaria</td>
<td>Dr. Dick Winchell</td>
</tr>
<tr>
<td>1:40</td>
<td>Joel Soden</td>
<td>Migration in China</td>
<td>Dr. Dick Winchell</td>
</tr>
<tr>
<td>2:00</td>
<td></td>
<td>Break</td>
<td></td>
</tr>
<tr>
<td>2:10</td>
<td>Romeal Watson</td>
<td>Health Care for the Connoisseur</td>
<td>Dr. Mary Ann Keogh-Hoss</td>
</tr>
<tr>
<td>2:30</td>
<td>Claudine Richardson-Fraser</td>
<td>It's a BIG Job &amp; a Critical One: Understanding the Disparities in Access to Health Care among Low Income Black and Hispanic Groups</td>
<td>Dr. Mary Ann Keogh-Hoss</td>
</tr>
<tr>
<td>2:50</td>
<td>Lynette Jordan</td>
<td>Health Care: A Right That Should Be Considered a Privilege in the United States</td>
<td>Dr. Mary Ann Keogh-Hoss</td>
</tr>
<tr>
<td>3:10</td>
<td>Diana Thew</td>
<td>For-Profit or Nonprofit Hospitals, Which is Better for the U.S. Health Care Consumer?</td>
<td>Dr. Mary Ann Keogh-Hoss</td>
</tr>
</tbody>
</table>
# Poster Session

**Rooms 302/304, 306 and 2nd Floor Lounge 9:00 a.m to 3:30 p.m.**

**Presenters for Groups 1-4 will be available to discuss their poster 9:30-11:30 a.m.; Groups 5-7 from 1:00-3:00 p.m.**

<table>
<thead>
<tr>
<th>POSTER #</th>
<th>PRESENTER</th>
<th>TITLE</th>
<th>MENTOR</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Group 1 Rm 306</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Physical Education, Health &amp; Recreation</td>
<td>Tatsunori Watanabe, Chelsea Lackey, Venessa Nersten</td>
<td>Grade III Ulnar Collateral Ligament Sprain of the Elbow: A Case Study</td>
<td>Dr. Jeffrey Kawaguchi</td>
</tr>
<tr>
<td>2. Physical Education, Health &amp; Recreation</td>
<td>Leslie Rodriguez, Katie Finnie, Chris Williams</td>
<td>Case Study: Surgical Repair of a Complete Achilles Tendon Rupture</td>
<td>Dr. Garth Babcock</td>
</tr>
<tr>
<td>3. Physical Education, Health &amp; Recreation</td>
<td>Brett Moore, Audrey Ebert</td>
<td>Type I Diabetes in a High School JV Volleyball Player</td>
<td>Dr. Jeffrey Kawaguchi</td>
</tr>
<tr>
<td>4. Physical Education, Health &amp; Recreation</td>
<td>Raymond Loffredo, Takahisa Koide, Hilary Ishii</td>
<td>Collegiate Male XC Athlete with Signs and Symptoms of Wilson’s Disease</td>
<td>Dr. Garth Babcock</td>
</tr>
<tr>
<td>5. Physical Education, Health &amp; Recreation</td>
<td>Michelle Krischel, Shannon Reynolds, Caitlin Kokot</td>
<td>Femoral Neck Stress Fracture in a Women’s XC Athlete</td>
<td>Dr. Garth Babcock</td>
</tr>
<tr>
<td>6. Physical Education, Health &amp; Recreation</td>
<td>Claire Irvine, Sam Gay, Catie Fairgrieve</td>
<td>Impetigo in a Division I Collegiate Basketball Team</td>
<td>Dr. Garth Babcock</td>
</tr>
<tr>
<td>7. Physical Education, Health &amp; Recreation</td>
<td>Jennifer Clinton</td>
<td>Body Mass Index as a Predictor of Relative Risk for Obesity in College Football Players</td>
<td>Dr. Wendy Repovich</td>
</tr>
<tr>
<td><strong>Group 2 Rm 306</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Anthropology</td>
<td>Errin Edlin</td>
<td>New Orleans: Rebuilding or Replacement</td>
<td>Dr. Julia Smith</td>
</tr>
<tr>
<td>9. Anthropology</td>
<td>Wade Blanton</td>
<td>Ukraine Requires Further Development</td>
<td>Dr. Sarah Keller</td>
</tr>
<tr>
<td>10. Engineering and Design</td>
<td>Michael Gasbar, Tyler Spence</td>
<td>Facial Recognition</td>
<td>Dr. Claudio Talarico</td>
</tr>
<tr>
<td>11. Engineering and Design</td>
<td>Carl Tibbetts</td>
<td>An Interdisciplinary Service-Learning Project</td>
<td>Dr. Jeffrey Donnerberg</td>
</tr>
<tr>
<td>12. Social Work</td>
<td>Lisa Miles</td>
<td>Views of the Spokane Fire Department on 9-1-1 Overuse and Its Causes</td>
<td>Dr. Lisa Avery</td>
</tr>
<tr>
<td>13. Social Work</td>
<td>Casey Moyer, Sarah Hampton</td>
<td>Exploring the Effectiveness of the FOCUS Program in Higher Education</td>
<td>Dr. Lisa Avery</td>
</tr>
<tr>
<td>14. Occupational Therapy</td>
<td>Mecque Whitcomb, Riley Childers, Jayme Duncan, Ashli Jones, Christine Soberg</td>
<td>Baseline Developmental Status of Newborn Infants with Congenital Heart Defects</td>
<td>Margaret Miller</td>
</tr>
<tr>
<td><strong>Group 3 Rm 302/304</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15. Chemistry Biochemistry</td>
<td>Matt Duda</td>
<td>Development of Novel Compounds for the Treatment of Alzheimer's Disease: Synthesis of 2-(pyridin-3-yl)-1H-benzo[d]imidazole Analogues of GTS-21, a Potent and Selective α Nicotinic Acetylcholine Receptor Ligand</td>
<td>Dr. Travis Denton</td>
</tr>
<tr>
<td>---</td>
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<td>---</td>
</tr>
<tr>
<td>16. Chemistry Biochemistry</td>
<td>Hadega Aamer, Katie Barber</td>
<td>Effects of a P32T Mutation on Human RdgB Protein Activity</td>
<td>Dr. Nicholas Burgis</td>
</tr>
<tr>
<td>17. Chemistry Biochemistry</td>
<td>Whitney Pinches</td>
<td>Towards Tumor Cell Targeted Non-Viral Gene Delivery Agents. Preparation of Polyhydroxypolyamines by the BH3-THF Mediated Reduction of Polyhydroxypolyamides</td>
<td>Dr. Travis Denton</td>
</tr>
<tr>
<td>18. Chemistry Biochemistry</td>
<td>Elmira Peyman</td>
<td>Towards the First Completely Biodegradable Baby Diaper: Preparation of ( N_1,N'_1-(\text{alkane-1,4-diyl})\text{bis}(N_1-(3\text{-aminopropyl})\text{propane-1,3-diamines}) ) by the Catalytic Hydrogenation of ( 3,3',3'',3'''-\text{alkane-1,4-diylbis(azanetriyl)tetrapropanenitriles} )</td>
<td>Dr. Travis Denton</td>
</tr>
<tr>
<td>20. Biology</td>
<td>Amanda Matthiessen</td>
<td>Development of an Improved DNA-Based Avian Sexing Assay</td>
<td>Dr. Charles Herr</td>
</tr>
<tr>
<td>21. Biology</td>
<td>Isaura Gallegos</td>
<td>Genetic Mapping of <em>Triticum aestivum</em> for Marker Assisted Selection (MAS) Using Simple Sequence Repeats (SSR) and Single Nucleotide Polymorphisms (SNP)</td>
<td>Dr. Donald Lightfoot, Adrienne Burke (WSU), Dr. Kimberlee Kidwell (WSU)</td>
</tr>
<tr>
<td>22. Biology</td>
<td>Robin Voight</td>
<td>165 rDNA Analysis of the Microbial Community of Granite Lake</td>
<td>Dr. Donald Lightfoot</td>
</tr>
</tbody>
</table>

**Group 4**

<table>
<thead>
<tr>
<th>Rms 302/304</th>
</tr>
</thead>
<tbody>
<tr>
<td>23. Biology</td>
</tr>
<tr>
<td>24. Biology</td>
</tr>
<tr>
<td>25. Biology</td>
</tr>
<tr>
<td>26. Biology</td>
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<td>28. Biology</td>
</tr>
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<td>29. Biology</td>
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<td>30. Biology</td>
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<tr>
<td>Group 5</td>
</tr>
<tr>
<td>---------</td>
</tr>
<tr>
<td>Rms 302/304</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>31. Physical Therapy</th>
<th>Tarah McAllister</th>
<th>Issues That Influence the Feasibility of Technology-Based Exercise Education and Monitoring in Patients with Cardiovascular Disease</th>
<th>Dr. Tanya LaPier</th>
</tr>
</thead>
<tbody>
<tr>
<td>32. Physical Therapy</td>
<td>Ashley Rysdam</td>
<td>The Relationship between Exercise Knowledge and Self-Efficacy, Motivation, Cognition and Age in Patients Hospitalized with Cardiovascular Disease</td>
<td>Dr. Tanya LaPier</td>
</tr>
<tr>
<td>33. Physical Therapy</td>
<td>Kevin Rupp</td>
<td>Paradoxical Quadriceps Muscle Activation in People with Knee Osteoarthritis Performing Curb-Climbing Tasks</td>
<td>Dr. Ryan Mizner</td>
</tr>
<tr>
<td>34. Physical Therapy</td>
<td>John Toepke</td>
<td>Comparison of Knee Torque during the Four Conditions Associated with Curb Negotiation in Healthy Adults</td>
<td>D. Ryan Mizner</td>
</tr>
<tr>
<td>35. Physical Therapy</td>
<td>Michele Waitt</td>
<td>Measuring Function and Disability in Patients with Cardiovascular Disease: Using the Late Life Function and Disability Instrument as a Self-Report Outcome Measure</td>
<td>Dr. Tanya LaPier</td>
</tr>
<tr>
<td>36. Physical Therapy</td>
<td>Michael Shelton</td>
<td>Potential for the Use of Digital Video Cameras to Aid in Knee Injury Prevention Screening in Female Athletes</td>
<td>Dr. Ryan Mizner</td>
</tr>
<tr>
<td>37. Physical Therapy</td>
<td>Tyler Baxter</td>
<td>Muscular Activity of Apprentice Masons during 1-Person and 2-Person Lifting of 12 Inch Concrete Block</td>
<td>Dr. Daniel Anton</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Group 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>2nd Floor Lounge</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>38. Psychology</th>
<th>Brittany King, Justin Nemeth, Kirby Orr</th>
<th>Reasons Why Posttraumatic Stress Disorder Can Attract Amphetamine Users and the Dangerous Relationship That Exists</th>
<th>Dr. Kayleen Islam-Zwart</th>
</tr>
</thead>
<tbody>
<tr>
<td>39. Psychology</td>
<td>Tina Myers, Carley Cysensky</td>
<td>The Relationship between Neo Personality Traits and Specific Substance Misuse</td>
<td>Dr. Kayleen Islam-Zwart</td>
</tr>
<tr>
<td>40. Psychology</td>
<td>Nicole Johnson, Carmen Glaser, Alicia Pipella</td>
<td>Bipolar Disorder’s Effect on Drug-Related Problems</td>
<td>Dr. Kayleen Islam-Zwart</td>
</tr>
<tr>
<td>41 Psychology</td>
<td>Dan MacKay, Catherine Douglas, Matt Pegram, Jenesis Imai</td>
<td>Effects of Alcohol and Drug Misuse on Personal Relationships</td>
<td>Dr. Kayleen Islam-Zwart</td>
</tr>
<tr>
<td>42. Psychology</td>
<td>Naomi Gietzen, Bridgette Rose, Brent Dickson, Debbie Lorr</td>
<td>Number of Siblings Effect on Age of First Alcohol Use</td>
<td>Dr. Kayleen Islam-Zwart</td>
</tr>
<tr>
<td>43. Psychology</td>
<td>Laura DeFreese, Jonathan Wigen, Sydney Lindgren, Jane Frazier</td>
<td>Through the Looking Glass: Hallucinogenic Drug Use and Schizotypal Personality Traits</td>
<td>Dr. Kayleen Islam-Zwart</td>
</tr>
<tr>
<td>44. Psychology</td>
<td>Carly Reynolds, Jessica Brophy, Lisette Cenzria, Kimberley Tolley</td>
<td>The Effects of General Anxiety Disorder on Perceptions of Infidelity in Marriage</td>
<td>Dr. Kayleen Islam-Zwart</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Group 7</th>
</tr>
</thead>
<tbody>
<tr>
<td>2nd Floor Lounge</td>
</tr>
</tbody>
</table>

| 45. Psychology | Lisette Cenzria, Nancy Guillen | Gender Differences among Sexual and Emotional Infidelity                                                      | Dr. Jonathan Anderson |

Columbia Spotted Frog on Turnbull National Wildlife Refuge
<table>
<thead>
<tr>
<th>No.</th>
<th>Psychology Level</th>
<th>Authors</th>
<th>Title</th>
<th>Instructor</th>
</tr>
</thead>
<tbody>
<tr>
<td>46.</td>
<td>Psychology</td>
<td>Belinda Gamboa, Elizabeth Welch</td>
<td>How Stalkable Are You? An Examination of Myspace.com</td>
<td>Dr. Russell Kolts</td>
</tr>
<tr>
<td>47.</td>
<td>Psychology</td>
<td>Belinda Gamboa, Patricia Hosner,</td>
<td>How Stalkable RU,2? Examining Minority Myspace.com</td>
<td>Dr. Russell Kolts</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Anna Beattie, Hayley Smith, Kellee</td>
<td>Profiles</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Jarmin, Jamie Ayers, Chelsea Ross,</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Brittany King, Andrew Rowley</td>
<td></td>
<td></td>
</tr>
<tr>
<td>48.</td>
<td>Psychology</td>
<td>Ia Xiong</td>
<td>Don’t Remind Me! How Thought Suppression Effects Open</td>
<td>Dr. Philip Watkins</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Memories</td>
<td></td>
</tr>
<tr>
<td>49.</td>
<td>Psychology</td>
<td>Laura Preciado</td>
<td>Memory Monitoring: Intact Memory Monitoring with Present</td>
<td>Dr. Jonathan Anderson</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Memory Deficit</td>
<td></td>
</tr>
<tr>
<td>50.</td>
<td>Psychology</td>
<td>Erica Delgado</td>
<td>Teaching Optimism, Hope, Resiliency to Youth</td>
<td>Dr. Mahlon Dalley</td>
</tr>
<tr>
<td>51.</td>
<td>Psychology</td>
<td>Christopher Loux, Jessica Oxiles,</td>
<td>Teaching Optimism, Hope and Resiliency to Youth</td>
<td>Dr. Mahlon Dalley</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lauri Lindquist, Yesenia Guevera</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**Effects of a P32T Mutation on Human RdgB Protein Activity**  
Hadega Aamer, Undergraduate  
Katie Barber (co-author)  
*Dr. Nicholas Burgis, Chemistry*

The RdgB protein is thought to exclude noncanonical deoxynucleotide triphosphates (dNTPs) from DNA replication precursor pools. Deoxyinosine triphosphate (dITP) is a noncanonical dNTP which is hydrolyzed by RdgB. In addition, nucleotide derivatives of azathioprine, a purine analog, are suspected to be substrates for RdgB. Patients who are treated with this immunosuppressant drug may suffer from adverse drug reactions if they have an RdgB deficiency. Individuals with a homozygous P32T mutation lack any RdgB activity while those who are heterozygous display 25% of the RdgB activity of non-mutant individuals. The nature of this deficiency is currently unclear, and it may result from alternate splicing at the mRNA level, or alteration of RdgB structure. Experiments testing the kinetics of a P32T mutant indicate that the mutant has 55% activity with dITP compared to the non-mutant. This data supports that the deficiency seen in homozygous P32T individuals is most likely a result of alternate splicing. Our current research aims to test the phenotypic variation of a P32T mutant versus non-mutant for in vivo activity against noncanonical dNTPs.

**Her Answer Wasn't Quite What He Expected**  
Juventino Aranda, Sara Babcock, Kimiko Ishii, Janelle Lile, Dani Pavlic, and Jessica Robinson  
*Greg DuMonthier, Art*

The work is a mixed media installation that is attempting to explore the ways in which groups of viewers interact with each other and the space around them. This work has been created by a collaborative group of students from the Art Department.

**Museums and American Popular Culture**  
Adam Attwood, Graduate  
*Dr. Charles Mutschler, History*

Museums have been a part of the "cultural economy" for a long time (Loukaitou-Sideris and Grodach 2004:49). More recently, museums have become a significant part of American popular culture. The movie NIGHT AT THE MUSEUM (2006) suggests the rising popular role that museums have assumed since passage of the Museum Act in 1955. Funding and organization have undergone some changes to adapt to the morphing market of popular culture. From their varied architecture to their prodigious multidisciplinary variety, museums are wonderful institutions that educate, entertain, and inspire popular culture.
Paleoenvironmental Study of the Etadunna Formation, South Australia
Gabriel Bailey, Graduate
Dr. Carmen Nezat, Geology

The Etadunna Formation is an approximately 30 million year old rock unit formed from lake and river sediments in South Australia. Little is known about the environmental conditions under which the sediments were deposited, due to a lack of paleobotanical data. This study will answer the following questions: 1) What was the average local temperature during the deposition of the Etadunna Formation? 2) Did the average local temperature change over time? 3) If changes in local temperature are apparent, do they correlate with faunal turnover evident in the fossil record? Data on the paleoclimatic conditions of the Etadunna Formation will be obtained through geochemical analysis of fossils commonly found in the formation itself. Paleotemperatures will be estimated by elemental analyzer-pyrolysis-continuous flow-isotope ratio mass spectrometry analysis of the phosphate component of prepared fish and turtle fossils. The phosphate component of these fossils will be extracted by chemical means in the form of Ag3PO4. These assays are expected to yield high resolution data on paleotemperatures throughout the entire geologic history of the Etadunna Formation. With this data, biological changes apparent in fossil record may be correlated with shifts in local temperature.

No Words
Nicholas Bailey, Graduate
Don Goodwin, Music

In my presentation I will be discussing the aspects of and performing my piece. The aspects of my piece are, my writing process, the specific techniques employed in the piece, and the effects in the piece/equipment.

Muscular Activity of Apprentice Masons during 1-Person and 2-Person Lifting of 12 Inch Concrete Block
Tyler Baxter, Graduate
Dr. Daniel Anton, Physical Therapy
Dr. Ryan Mizner, Physical Therapy

Masonry workers have a higher prevalence of musculoskeletal disorders (MSD’s), such as low back disorders, than other construction trade workers. Heavy lifting and awkward postures have been suggested as risk factors that may contribute to MSD’s. Using 2-person lift teams has been suggested as a method to reduce injury risk, but the method’s effectiveness has not been evaluated. The purpose of this study was to compare the muscular activity between 1-person handling and 2-person handling of 12 inch concrete block. Six apprentice masons built two walls using 12 inch concrete block (20 kg). Each mason built a wall by themselves and a wall with a 2-person lift team. Surface electromyography was sampled over the forearm flexors, upper trapezius, and low back muscles bilaterally during the tasks. Compared to the 1-person method, use of the 2-person lift team decreased the amount of muscle activity in the low back muscles. This preliminary study suggests that use of a 2-person lift team may be an effective means of reducing the incidence of low back disorders in masons.
The Development of an Exercise Video for Patients with Coronary Heart Disease: “For Your Heart Exercise DVD”
Christopher Beadle, Graduate
Dr. Tanya LaPier, Physical Therapy

Regular exercise is crucial for patients with coronary heart disease and has many benefits. Often exercise prescription and patient education are provided through participation in an outpatient cardiac rehabilitation program. However, for multiple reasons patients with coronary heart disease may not participate in cardiac rehabilitation after hospital discharge. For patients with coronary heart disease who are unable to attend cardiac rehabilitation, video education and exercise programming is a feasible alternative. The purpose of this project was to create a video program on DVD that would provide appropriate education and exercise prescription for patients with coronary heart disease in lieu of or in addition to outpatient cardiac rehabilitation. Methods: Exercise and patient education content were based on current best practice in cardiopulmonary physical therapy. The video program components were organized by type of exercise and degree of difficulty. The video program developed in this project, For Your Heart Exercise DVD, will be a useful resource for patients with coronary heart disease.

The Correlation between Heart Rate and Metabolic Rate of Northern Pike (Esox lucius) from Box Canyon Reservoir, Pend Oreille River, Washington
Nicholas Bean, Graduate
Dr. Allan Scholz, Biology

Non-indigenous species often disrupt the trophic balance of their invaded ecosystems. The recent invasion of predatory northern pike (Esox lucius) to Box Canyon Reservoir, Pend Oreille River, threatens the existing fish assemblage. Knowing the metabolic expenditure of predators assists in the understanding of trophic level interactions. With oxygen consumption being established as an accurate predictor of metabolism, researchers are now utilizing electrocardiogram (ECG) telemetry methods to estimate the oxygen consumption of in situ animals. My objective was to determine the relationship between heart rate and metabolic rate of northern pike at various activity and temperature levels, representative of the Box Canyon Reservoir population. Using surgically fitted ECG electrodes, heart rate was recorded during metabolism experiments in a modified Blazka respirometer. The expected relationship is a significant linear increase in both heart rate and metabolic rate with an increase in activity and/or temperature. Understanding this relationship, field studies using remote ECG sensing equipment can be conducted to monitor activity and metabolic expenditures of northern pike in their natural setting.

PTSD from Interpersonal Trauma Versus Natural Disaster: A Comparison in Anxiety Symptoms
Anna Beattie, Undergraduate
Jolene Griego, Dusty Horn, and Adrienne Tucker (co-authors)
Dr. Kayleen Islam-Zwart, Psychology

Past research has shown that individuals who suffer interpersonal trauma are less likely to seek immediate treatment and help than those who experience natural disaster trauma, thereby leading to greater anxiety levels. Of people with Post Traumatic Stress Disorder (PTSD), it was expected that those with interpersonal trauma would have a greater degree of anxiety compared with those who have experienced trauma related to natural disaster. Two independent variables were created to look at physiological and emotional symptoms of anxiety. This study utilized data collected as part of a National Comorbidity Survey (Kessler 2000). The sample consisted of 1210 individuals reporting PTSD as a result of natural disaster or interpersonal trauma. Results, discussion, and implications will be included.
Benefits of Gap Years
Amber Bernardi, Undergraduate
Dr. Martin Garcia, Government

Most studies concerning the gap years in the United States have been very superfluous; hinting only at what could be considered beneficial, instead of what is valuable. Is a gap year however, advantageous, and are there actual benefits that one could obtain? Studies have shown that for students who take the risk of a gap year, include benefits such as improvements in scholastic achievement, foreign language knowledge, cultural awareness and understanding. This has resulted in universities and employers alike, realizing the potential benefits in hiring students who have taken the opportunity of a gap year to experience life. In a content analysis of, newspapers, journal articles, and government publications, this study demonstrates that gap years are truly something worth considering.

Giving Sex Trafficking a Red Light: What Is Being Done to Stop Sex Trafficking (and Prostitution) in Europe?
Kendra Beseler, Undergraduate
Dr. Kristin Edquist, Government

Every year, thousands of women and children are taken from their homes and sold nationally and internationally to be used in the sex industry. A large portion of these women come from economically poor and unstable countries such as Lithuania and end up in wealthier countries like the U.K. Sex trafficking seems to be increasing more and more each year and something needs to be done to stop it. This paper will look at which actors have been involved in solving the issue of sex trafficking in Europe; specifically in Lithuania and in what ways they have been addressing the sex-trafficking and prostitution dynamics. It will also evaluate, what are the abilities and benefits of state activism, non-state activism, and/or transnational activism on behalf of women.

Quantum Mechanics and Consciousness: The Universe Within Our Minds
Jordan Biltoft, Undergraduate
Dr. Kevin Decker, Philosophy

Not long ago, physicists and philosophers entertained themselves with the idea that the end of their quest was near, that they might almost have it all figured out. Physicists thought that they could rely on the certainty of Newtonian laws of mechanics and mathematics to describe the realm of physical phenomena, and psychologists armed with new technologies began to show us the inner workings of our minds. Scientists believed that it was in their capacity to construct a Grand Unified Theory which encompassed and accounted for all possible experience, so that there was nothing left to explain. This was a bleak worldview in which there was no room for individuality, freedom, or the importance of absolute, eternal good. In this presentation I will discuss the transition from the Newtonian world view of a "Great Machine," to the new paradigm given to us by Quantum Mechanics and immaterial substance, in which free will, individuality, and indeterminacy are key elements in the fabric of the universe.
Ukraine Requires Further Development  
Wade Blanton, Undergraduate  
Dr. Sarah Keller, Anthropology

The President and Prime Minister of Ukraine have encouraged the European Union (EU) to accept Ukraine as a member of the EU. However, state control of industries impedes privatization required for EU entry. In 1998 no new enterprises had formed within Ukraine and older enterprises had not been foreclosed due to state intervention despite earlier promises by the Ukrainian government. Industries which had been restructured were done so with tight state control. The President and Prime Minister have claimed a high degree of ethnic diversity, but the Tatars of the Crimea in the east were expelled after WWII yet continue to encounter difficulties when attempting to receive Ukrainian citizenship or participate politically or economically.

Yanukovych, the Prime Minister of Ukraine, has denied that eastern Ukraine is politically linked to Russia. Yet evidence suggests Yanukovych’s Party of Regions attained financial support through Russian imperialism in the form of international capitalism, which has experienced a dramatic surge in growth during 1994-2002. While the elite have benefited from profits, the working class has remained poor without learning to conserve energy or become independent of imports.

Germination Rates and Responses to Flooding of Polygonum Species  
Kathleen Boothby, Undergraduate  
Dr. Rebecca Brown, Biology

*Polygonum cuspidatum*, *P. sachalinense* and their hybrid, *P. bohemicum*, are aggressive invasive weeds that form dense monocultures in North American riparian zones. Their distribution in riparian zones suggests that they vary in their flood tolerance. This suggests that the hydrologic alteration of rivers may play a role in their spread. In addition, the relative importance of sexual versus vegetative reproduction for the invasion of these species in North America is poorly understood. The objective of this study is to: (1) determine whether the three species have different germination rates and (2) compare the response of each species to different flood regimes. Experiments were designed to test the effect of species on germination rate and the effect of flooding on each species’ survivorship. Seeds from each species were grown to test germination rates and then seedlings of each species were exposed to three flood durations: (1) one month, (2) one week, (3) not flooded. *P. cuspidatum* germinated better than *P. bohemicum*, and *P. sachalinense* had the lowest germination rate. The flooding experiment is currently ongoing. Our results may provide key information needed to manage this invasive species.

Visual Communication Design Website  
Diana Brinkley, Undergraduate  
Mindy Breen, Engineering & Design

This website was created for the design programs at EWU. The website is the primary promotional and informational tool for prospective and current students. It provides detailed information on the BFA in Graphic Design, the BA in Visual Communication Design (VCD), and the minor in VCD. The website is a fun, funky, student-generated site, yet it is also a sophisticated communication design piece. The website, as recruitment tool, reflects the quality and nature of the programs it represents. Serious attention to the development, design, and production of the site is essential for a design program to establish a reputation and presence in its target market.
The Rise of Islamic Madrassahs in Pakistan: Fulfilling the Failures of the Government
Margo Butcher, Undergraduate
Dr. Kristin Edquist, Government

Over the past twenty to twenty-five years, Islamic seminaries have achieved a forceful takeover of the Pakistani education system. These schools are referred to by the term madrassah, and their takeover relates directly to the emergence of religious conflict, underground subsidization from foreign sources, and the failed governance system in Pakistan. Each of these three influences on the growth of madrassahs will be clarified in this paper, as well as the historical progression of that growth. The rise of madrassahs poses a threat to the both the viability and security of a nation which is gradually burying itself deeper and deeper in the trenches of Islamic fundamentalism. This body of research was formed using a careful and comprehensive review of the available scholarly and historical evidence on the topic. In this paper, the issues which have increased the madrassahs in Pakistan, their current function in and impact upon the society, and finally recent attempts at reforming the madrassah system will all be thoroughly explored and dissected. This analysis is vital to the understanding of politics, education, and national security in the South Asian subcontinent.

Determining the Validity and Reliability of the Motor-Free Visual Perceptual Test 3rd Edition (MVPT-3) and Its Use in a Driving Evaluation Program for Adults with Brain Injury
Angela Carlson, Graduate
Shannon Harris, Jocelyn Lowe, Rhonda Pinto, Katy Rausch, and Kathi Smith (co-authors)
Dr. Wendy Holmes, Occupational Therapy
Kathryn Frankenfield, Occupational Therapy

One of the great hallmarks of independence is the ability to drive. Visual perception is an essential component of a driving evaluation. This study’s purpose was to determine the validity and reliability of the MVPT-3 for adults with brain injury and to describe its use within a driving evaluation program. A retrospective cohort design collected demographic and clinical assessment data from 127 patients admitted to a brain injury unit. Additionally, researchers examined a 10 subject sample of patients who completed a driving evaluation. Results showed the MVPT-3 has good reliability and validity when compared to other commonly used assessments. The driving evaluation process was variable and individualized. Study results provide support for the MVPT-3 as an appropriate assessment for adults with brain injury. More research is needed to further understand the factors that contribute to the driving evaluation process and subsequent recommendations after a brain injury.

Farrell Tears
Rebecca Castillo, Undergraduate
Mandy Reynolds and Heather Wisswell (co-performers)
Don Goodwin, Music

Farrell Tears is a piece I composed based off of a story I'm writing. For my presentation, I will tell a little bit about the story, and read an excerpt from the story. I also will have a performance prepared by me and two others. The ensemble consists of the piano, horn, and flute.
Testing the Activation-Monitoring Account of False Memory
Steven Carrasco, Undergraduate
Darla Bumpus and Kristina George (co-authors)
Dr. Leonard Stern, Psychology

People can easily be induced to falsely remember events using what has come to known as the DRM procedure. This entails presenting a series of words for study (e.g., bed, rest, tired, awake, etc.) that are related to a non-presented critical word (e.g., sleep). The usual finding is that memory of the critical non-presented word is about as good as that of any presented word. To examine the activation-monitoring account false memory, study lists were presented that included three DRM words each presented three times either massed or spaced and either in sets of three identical vs. three different words. The outcomes of a recognition test were difficult for the activation-monitoring view to explain. Even though each priming list activated a non-presented word nine times, most false memory occurred when words were massed and in the context of different words. Further research comparing levels of false memory resulting from different configurations of priming words may allow a better test of these conclusions.

Gender Differences among Sexual and Emotional Infidelity
Lisette Cerenzia, Undergraduate
Nancy Guillen (co-author)
Dr. Jonathan Anderson, Psychology

Despite the fact that infidelity is the leading cause for divorce, homicide and spousal battery, it has been found that nearly 50% of males and 25% of females will engage in some type of relationship infidelity at some point in their life (Greeley, 1994). These differences in gender have also been found in the type of infidelity behaviors individuals engage in and in the partner’s emotional response to those behaviors. Compared to females, males are more likely to engage in sexual infidelity than emotional infidelity. However, females report being more upset over emotional infidelity than sexual infidelity. In a preliminary look at this data, we investigated gender differences in attitudes and behaviors of relationship infidelity in a college-aged sample. In a between-subjects design, 46 participants (13 males; 33 females) completed a measure about past cheating behaviors and identified whether given sexual and emotional behaviors constituted cheating. We hypothesize that females report lower incidence rates of cheating, rate emotional behaviors more unacceptable than sexual behaviors, and identify being more upset over emotional infidelity than sexual infidelity.

Snow White's True Beauty
Tiffany Chambers, Undergraduate
Dr. Christina Valeo, English

Children are socialized into the idea of beauty at a young age. Fairy tales give the images of beauty, class, socioeconomic status, and societal norms of gender. I examine several versions of "Snow White" (Snow White by Pools, Snow White and the Seven Dwarfs by Aiken, Fairest by Levine, and Snow White and the Seven Dwarfs by Sexton) that reveal varying concepts of beauty. The children’s versions only reinforce the external idea of beauty by using pictures and using the word “beauty” excessively, whereas the young adult version redefines external beauty, and the adult version mocks the idea of external beauty. Subliminal messages in fairy tales acculturate children into believing in a societal norm of aesthetic beauty, whereas young adults understand that the societal beauty ideal is unattainable but strive to achieve it. Is the reshaping of beauty happening too late within literature?
**Tess of the D'Urbervilles, A Difference through Motivation**  
Colette Chenault, Graduate  
*Dr. Beth Torgerson, English*

Thomas Hardy rewrote his novel *Tess of the D’Urbervilles* many times. Mowbray Morris, the editor of *Macmillan’s Magazine*, felt Tess should conform to Victorian standards; Hardy did not. After turning Macmillan down, Hardy proceeded to publish Tess in serialized form in *The Graphic*, even though it had been bowdlerized due to missing sexual language and dialogue that verified Tess D’Urbervilles rape. In 1891 Hardy published his novel the way he had first intended: uncensored and unabashed; in this edition there is no doubt that Tess D’Urberville was raped. For my presentation, I will look at the differences between the two novel versions, 1891 and 1912. All the changes Hardy made for *The Graphic* involved motivation and discovery for the protagonist; the changes Hardy made removed the “cause” for the “effect” regarding all aspects concerning the rape. The 1891 novel *Tess of the D’Urbervilles* shocked and repulsed Victorian audiences; the 1912 Wessex edition shocked and entertained; the latter provided for more discussion.

**Bloodline**  
*Christopher Chilton, Undergraduate*  
*Tom Mullin, Electronic Media & Film*

Brad has walked away from the life of crime, his brother, Isaac, wants him back. Brad faces that life again when his wife disappears and he and his bother have to resort to his old ways to get her back.

**No Home**  
*Christopher Chilton, Undergraduate*  
*Tom Mullin, Electronic Media & Film*

When Jim follows through on orders to execute a friend, he finds himself returning home to question the life he has immersed himself in and find the strength to do something about it.

**Body Mass Index as a Predictor of Relative Risk for Obesity in College Football Players**  
*Jennifer Clinton, Undergraduate*  
*Dr. Wendy Repovich, Physical Education, Health and Recreation*

The purpose of the research was to add to current literature about potential health risks due to obesity. Reporting is done regularly using BMI (Body Mass Index), a ratio of height and weight. BMI does not appear to be a good predictor of risk in athletes such as football players because it does not take body composition into account. Fifty-five EWU football players ages 18-23 participated. Height and weight was measured and BMI was determined. All players then had body composition measured three different ways, with the BOD POD, and twice on the Tanita TBF-300. The mean and standard deviation percent fat for the different techniques were: BOD POD 17.55 (Â±7.26); Tanita athletic 18.76 (Â±4.71); and Tanita standard 24.59 (Â± 4.98). BMI mean was 30.8 (Â±3.75). When placing the percent fat values into risk categories and comparing them using a Kruskal Wallis non-parametric test to BMI risk categories, all three percent values were significantly different (p=.001). Based on these results EWU football players do not fit within the standard risk categories for BMI and should use other measures to determine future risk.
Using Paper Products to Construct a Ridable Vehicle
Benjamin Constantine, Graduate
Jacob Hinch, Andrew Scheikert, and Dustin Sheridan (co-authors)
Terence Geyer, Engineering and Design

Most people would view the concept of building a vehicle out of paper products as frivolous and unnecessarily challenging. Our group viewed it as an opportunity to test our engineering and design skills. When we were first given the task of designing our vehicle none of us had attempted something like this so our first step was to research past designs after careful consideration we opted to implement the basic tricycle design as it was stable and proven strategy After selecting the basic design we started work on building it. Our first step was to construct the wheels then we slowly worked our way up the rest of the frame until it was completed. In order to make the frame more structurally sound we experimented with different filling material from shredded cardboard to cylinders made from blocks of laminated and pressed cardboard. For a drive system we went with a direct drive, a simple yet effective device that would not have the hazards of a belt or chain system. These design elements were combined to form our vehicle.

Exploring Microbial Differences in Organic and Conventional Foods
Elizabeth Contreras, Undergraduate
Dr. Sidney Kasuga, Biology

Consumers did not anticipate induction of cancer, early maturing of their preteen daughters, and contaminated food recalls when preservatives, additives, and antibiotics were introduced into the agricultural world. Potential health concerns associated with conventional foods have promoted renewed interest in organic foods. Researchers disagree on the benefits of organic products therefore; supplementary research is needed to determine the value of organic foods on the health of consumers. This research compares the shelf-life and microbial growth rates in organic-grown and conventionally-grown produce. I hypothesized that organic foods would grow a microbial population more effectively, thus decreasing the produces shelf-life. Selected produce were sampled and cultured onto TSA plates nine times over three weeks. The plates were examined and quantified for microbial load. The difference in daily microbial load and contamination was used to determine and compare the shelf-life. I found there was no significant difference in the microbial growth rates in both produce. In conclusion, even with the insignificant difference in microbial growth rates other differences such as agricultural growth methods might be correlated to the health of the consumer.

Assessing Potential Effects of Brook Stickleback on Waterfowl at Turnbull National Wildlife Refuge
Brittany Davidson, Graduate
Dr. Margaret O'Connell, Biology
Dr. Ross Black, Biology

Invasive fish species prey upon and compete with native species and alter aquatic communities by disrupting the food web and physical environment. Waterfowl, especially nesting hens and ducklings, are impacted by the introduction of fish species because they rely heavily on invertebrate prey during the breeding season. Food limitation in waterfowl often results in decreased habitat use, productivity, and survival. Turnbull National Wildlife Refuge’s (TNWR) mission to conserve breeding habitat for waterfowl is jeopardized by the recent introduction of the brook stickleback (Culaea inconstans). At TNWR, brook stickleback has been shown to reduce the biomass and abundance of both large-bodied zooplankton and some macroinvertebrates. With this talk, I will first address how brook stickleback might alter food webs and nutrient dynamics, thereby limiting the invertebrate prey available to waterfowl. I will then review studies that have used observations of foraging behavior to assess food limitation in waterfowl, and discuss the advantages and limitations of their approaches.
Slavery and the Bible
Laree Dedmond, Undergraduate
Dr. Scott Finnie, Africana Education

Was slavery an institution sanctioned by the Bible? Or did slaveholders use the bible as justification for their personal gain and ruthless behavior? There are many passages in the Bible that regulate slavery and none that rebuke it. Many Southern Christians at the time believed slavery to be, not only a need at that time but felt it was their duty as a Christian to maintain slaves. They used theories akin to the “Curse of Ham” as rationalization for this racially specific means of forced labor. Slavery was accepted and sanctioned by the Bible but the treatment and grief imposed on slaves in the United States was not. Though, slavery has been around for ages the fact remains that the New World definition of slavery was very inhuman, and far different from historical definition of slavery. Slavery in America was not biblically acceptable.

Through the Looking Glass: Hallucinogenic Drug Use and Schizotypal Personality Traits
Laura DeFreese, Undergraduate
Lane Frazier, Sydney Lindgren, and Jonathan Wigen (co-authors)
Dr. Kayleen Islam-Zwart, Psychology

This study was done to assess the traits of schizotypal personality disorder that are relevant to hallucinogen use. It was hypothesized that people who have used hallucinogens would be more likely to report schizotypal traits, as determined by a composite of six items measuring hypnotic/magical abilities, visions and voices, and feelings in/on their body, than individuals who have not used hallucinogenic drugs. This study used data from the National Comorbidity Survey (Kessler, 2000).

Teaching Optimism, Hope, Resiliency to Youth
Erica Delgado, Graduate
Dr. Mahlon Dalley, Psychology

It seems that nowadays more and more children and adolescents are becoming depressed. About 20% of adolescents will experience depression by the time they graduate from high school (Gillham, Reivich, Jaycox, and Seligman, 1995). Statistics demonstrate that 7% to 9% of 14 year old adolescents will experience depression (Gillham, Reivich, Jaycox, and Seligman, 1995). According to Jane Gillham and Karen Reivich (2004) interventions promoting optimism and hope to young people can help decrease depressive symptoms. Cognitive behavioral therapy has been found to be effective in treating adult depression and interventions based on cognitive therapy have been effective in treating depression in youth. The Teaching Optimism, Hope, Resiliency to Youth Program (TOHRY) was developed in January, 2005, to be implemented in the juvenile court system in the northwest. This program was created based on the “Optimistic Child”, by Dr. Seligman (1995) and also from the Penn Resiliency Program. The purpose of TOHRY was to teach adolescents optimism and social skills that could help them confront situations in a more realistic and effective manner. Promoting hope and optimism may help decrease depression and anxiety in young adolescents (Gillham and Reivich, 2004).
Richard Devenport, Undergraduate  
*Dr. Terrance MacMullan, Philosophy*

In my essay “Connecting Three Elements of Aesthetics: Creation, Object and Audience in Today’s Literature Classrooms”, I take the field of literary education as an arena in which to examine aesthetic philosophies. It seems that today’s literature classes represent two ways of looking at the aesthetic quality and value of literature. One view maintains an objective aesthetic originating from the writings or objects. The other lens supports a radically individualistic and relative aesthetic philosophy. I will argue, that by replacing these traditional philosophies with John Dewey’s aesthetic theories presented in Art as Experience, we may reinvigorate and improve our understanding of art in today’s universities and, eventually, in contemporary society. In order to replace them responsibly, we must first examine what they are, their deficiencies, and explore Dewey’s aesthetic philosophy as a tool or starting block for further aesthetic endeavors.

*Paris, From Memory*  
*Jessica Dietzen, Undergraduate*  
*Mindy Breen, Engineering & Design*

It is unfortunate that, in the absence of 21st-century technological wonders like the camcorder, human memory is only afforded tangled bits of life’s greatest hits. In *Paris, From Memory* I visually explore the nature of memory and personal narrative using a retrospective account of one day in my 16-year-old self’s trip to Paris, France. It is a quirky tale of young playfulness and ignorance, one that my current self both smiles and frowns upon. As the viewer is guided through a beginning, middle, and end with the aid of urban signage and a horizontal format representative of time, they encounter text, images, and design elements that are, in simplest terms, fragmented. Though the piece reflects the personal experiences of one person, the graphical treatment reveals a shared human inability to recount every detail of the people, times, and places we never mean to forget.

Daniel Dodge, Undergraduate  
*Dr. Travis Denton, Chemistry/Biochemistry*

Imbalances in the natural level of glutamate, the major excitatory neurotransmitter of the mammalian central nervous system, have been linked to many neurological disorders including spinal cord injury, stroke and Alzheimer's disease (AD). Specifically, an increase in the concentration of glutamate in the synaptic cleft over stimulates post synaptic glutamate receptors resulting, eventually, in cell death. The project to be discussed will focus on the initial synthesis of the common intermediate (E)-ethyl 4-(diethoxyphosphoryl)-4-oxobut-2-enoate and its reactivity as a dienophile in the Diels-Alder reaction.
Leibniz and the Theory of Possible Worlds
Ryan Downie, Undergraduate
Dr. Kevin Decker, Philosophy

My presentation examines in some detail the “Theory of Possible Worlds” that was first formulated by Leibniz as a natural outworking of his philosophy. Possible worlds theory provides a unique understanding of logical modality and is meant as a genuine metaphysical theory of reality as opposed to having mere semantic utility. This theory is also unique in that, like mathematics, what can be proven of possible worlds in general also applies to our world. Many great thinkers since Leibniz have taken it upon themselves to develop this theory, and in this respect Alvin Plantinga’s ideas will be examined in my presentation.

Development of Novel Compounds for the Treatment of Alzheimer's Disease: Synthesis of 2-(pyridin-3-yl)-1H-benzo[d]imidazole Analogues of GTS-21, a Potent and Selective α Nicotinic Acetylcholine Receptor Ligand
Matt Duda, Undergraduate
Dr. Travis Denton, Chemistry/Biochemistry

Nicotinic acetylcholine receptor (nAChR) levels are known to be compromised in the brains of Alzheimer's disease patients. It has also been shown that one nAChR in particular, α, is less vulnerable to down regulation in the brains of Alzheimer's disease patients. It has also been shown that activation of α nAChR stimulates cognitive function. Binding of amyloid-α, which is the major protein component of senile plaques, which are major contributors to the pathology of Alzheimer's disease, inhibits α nAChR mediated influx of calcium ions. α nAChR activity is retained when the protein is preincubated with the known receptor ligands nicotine or epibatidine. The goal of this project is to use lead directed synthesis to develop a panel of α selective receptor ligands. The synthetic strategy and preliminary biological results will be presented.

XNA Game Development - Physics Engine
Gary Duncan, Undergraduate
Stuart Steiner, Computer Science

In video game development, the physics engine is one of the primary components of the game. The primary aspect considered is the speed of the physics engine, and its ability to update the game without affecting game speed. As an example calculating the effects of gravity on a single object requires 120 calculations a second. Multiply those calculations by 10 objects in the scene. If the physics engine is not programmed correctly then the screen display will be negatively affected. This talk will discuss the physics engine required to develop for the Xbox 360.
New Orleans: Rebuilding or Replacement?
Errin Edlin, Graduate
Dr. Julia Smith, Anthropology

Hurricane Katrina devastated several lower-income communities in New Orleans. For these residents, rebuilding has been particularly difficult and aid has been tied into prohibitive plans and regulations. Planners and officials are converting these destroyed areas into clean-slate opportunities; chances to reform crime-ridden areas and create mixed income neighborhoods. Unfortunately they are doing so at the expense of established communities with histories rooted in the sense-of-place of their neighborhoods. Even where intentional social reform is not the goal, modern architectural forms related to new 'green' experiments and safety regulations often alienate residents. Using secondary sources and news reports, I will illustrate the discrepancy between the desires of the residents and the actual planning and 'rebuilding' taking place. I will discuss the city's official rebuilding plan, present what is actually being done, and propose strategies for retaining the distinct sense-of-place for these communities. Intentional or not, much of the current replacement building is pushing aside former lower-income residents in favor of higher-income, new residents. If New Orleans is to truly recover, consideration must be given to the needs of the communities that made the city what it is.

Leptin Administration and Estrous Cycle Disruption in Female Sprague Dawley Rats
Ean Esche, Graduate
Dr. Karen Carlberg, Biology

A female mammal’s energy balance will determine, in part, the normality of her estrous cycle. Leptin, a hormone produced in the fat cells of the body, is a major signal of energy availability and plays a role in the estrous cycles of mammals. My study examines the effect leptin has on the estrous status of rats that have been rigorously exercised to disrupt energy availability and consequently normal estrous function. A first step in this process is to develop a way to deliver the protein leptin without stressful frequent injections. Using molecular techniques, an engineered vector will be created to introduce leptin with very few injections, to reduce stress on the animals. This talk reviews the molecular techniques required in the creation of this leptin delivery vector. Specific procedures include isolation of leptin mRNA, and conversion of mRNA to cDNA to generate the engineered vector. This vector will be injected into study animals and its effect will be observed.

William James' Moral Life
Jeffrey Ewing, Undergraduate
Dr. Terrance MacMullan, Philosophy

In the beginning of his essay, *The Moral Philosopher and the Moral Life*, William James explains the moral standard by which we should live our lives. He argues that the source of moral obligation is a demand made by another sentient being, and that demands themselves create obligations. Consequently, we act rightly "if we satisfy at all times as many demands as we can . . . [and] which prevail at the least cost" (264). In this presentation I will argue against James' positions by showing (1) it is not 'demand' that is the source of moral obligation, but the objective effects on the well being of all affected, and (2) that demands must give equal weight to the legitimate interests and demands of all concerning those objective effects. By these points, I intend to take out the strains of James' thought that imply relativity, and strengthen the strains that ground morality in something testable by science.
**Allies**
Aaron Fink, Undergraduate  
*Tom Mullin, Electronic Media & Film*

A music video to the song *Allies* by the band Blue States. I felt this song was perfect fodder for dramatization. I utilized rapid-cut editing and cinematic framing to create a specific mood and pace to a narrative with underlying nods to popular culture.

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**The Maltese Frankfurter**
Aaron Fink, Undergraduate  
*Tom Mullin, Electronic Media & Film*

A parody of the classic, 1941 film, The Maltese Falcon, characterized with hot dog puppets. I utilized film noir conventions with stylized dialogue and editing to creatively interpret the film, and the genre.

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**Radial Design Air Motor**
Drew Fink, Undergraduate  
*Dr. Jeff Donnerberg, Engineering and Design*

(Machine Tool 1) is a class offered at Eastern Washington University in the Engineering and Design Curriculum intended for teaching students the principles and methods behind a variety of both manual and Computer Numerical Controlled (CNC) machining operations. To supplement our machining practices, we as a class were asked to create a functional three cylinder radial air motor, based off the designs given to us by our instructor, Jeff Donnerberg. As a result, our class produced multiple running replicas of the original intended motor design as well as gained real-world engineering experience through the hands-on manufacturing setting of the shop.

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**History of El Salvador**
Oswald Fonseca, Undergraduate  
*Dr. Guillermina Walas, Spanish*

When El Salvador received its independence, the country dealt with many hard economic issues. The majority of the population lived in poverty. El Salvador’s government was constantly being taken over by military members who forced their way into office. On top of El Salvador’s social problems, the country was constantly being invaded by neighboring countries. The production of coffee helped El Salvador to play a part in the world market and boosted its economy. The government built up the military to keep order and was able to concentrate on extending roads and rail lines, and providing health and educational services to its people. With such a good start to the 20th century, what went wrong within the country to cause El Salvador to become one of the world’s poorest countries and made its people finally rise up causing a civil war? Through this paper, I observe that it was a series of factors that caused poverty and civil war, including: corrupt governments, bad economic decisions, depression, struggles for power, and poverty itself. The importance of this research is to learn about the mistakes made in history so that we make sure that history does not repeat itself in the future.
Regional and national surveys have indicated lesbian, gay, bisexual, and transgender (LGBT) college students find the campus climate less welcoming than their heterosexual counterparts. To this end, the Eastern Washington University (EWU) Campus Climate & Needs Assessment was developed and administered to (n=109) students in academic year 2007-2008 using anonymous web-based survey technology. The study sample is ethnically and racially diverse and is comprised of both undergraduate and graduate level students. The results of the study echo major themes in existing professional literature. Findings conclude EWU’s LGBT students view the university climate to be less than hospitable toward them and face intolerance in the classroom from both students and faculty. Findings also emphasize additional supports needed by the LGBT community at EWU including a visible academic support center, which provides social and emotional support, as well as academic support and courses in LGBT studies. Methodological shortcomings, potential solutions, and a need for further research are discussed.

Busing Home
Amanda Frederick, Graduate
Dr. Jonathan Johnson, Creative Writing

This non-fictional personal narrative examines the complexities in the seemingly every-day occurrence of riding a Greyhound bus. The bus serves as a “vehicle” to explore tensions of race and class in America. The narrator, packing unexamined assumptions, begins her literal and figurative journey in the small, homogeneous city of Marquette, MI. As she makes her way toward the culturally complex city of Chicago, she finds herself unpacking these assumptions, shedding new light on her thoughts and feelings toward herself and the other passengers that make the journey with her.

Genetic Mapping of *Triticum aestivum* for Marker Assisted Selection (MAS) Using Simple Sequence Repeats (SSR) and Single Nucleotide Polymorphisms (SNP)
Isaura Gallegos, Undergraduate
Adrienne Burke and Dr. Kimberlee Kidwell, Spring Wheat Breeding and Genetics Program, WSU
Dr. Donald Lightfoot, Biology

Wheat (*Triticum spp.* ) is the food grain primarily consumed by humans (Briggle and Curtis, 1987). Twenty percent of production occurs in California and the Pacific Northwest (NASS, 2007). Stripe rust is one of the most important diseases of wheat worldwide; it is found in more than 60 countries (Chen, 2005) and in the year 2000, stripe rust was found in 20 states throughout the U.S. (Chen, 2002). Due to increased demands in global crop production (Landjeva, et. al., 2007), new approaches relying on molecular marker technologies for the selection of agronomically valuable traits such as disease resistance can increase the efficiency of breeding efforts (Dreher, et. al, 2003). One such approach is Marker Assisted Selection (MAS). MAS discriminates on the basis of genotype, as opposed to more traditional methods using morphological and physiological characteristics. The goal of the Spring Wheat Breeding and Genetics Program at Washington State University is to identify DNA markers closely associated with resistance from the spring wheat cultivar “Louise” through genetic linkage analysis using MAS. The two types of markers being used are simple sequence repeats (SSR) and single nucleotide polymorphisms (SNP).
How Stalkable Are You? An Examination of Myspace.com
Belinda Gamboa, Graduate
Elizabeth Welch (co-author)
Dr. Russell Kolts, Psychology

Stalking represents a significant but understudied form of violence. Social networking sites like Myspace.com provide a wealth of information that stalkers can utilize in pursuing their victims. We examined a large number of Myspace.com pages with regard to the specific types of information that different types of users reveal about themselves, with specific attention given to information that might be useful to stalkers. Results reveal that while share information responsibly, a subgroup of Myspace.com users reveal significant personal information across several domains. Additionally, we provide recommendations for utilizing such internet resources in a manner that is designed to minimize stalking risks.

How Stalkable R U, 2? Examining Minority Myspace.com Profiles
Belinda Gamboa, Undergraduate
Jamie Ayers, Anna Beattie, Patricia Hosner, Kellee Jarmin, Brittany King, Chelsea Ross, Andrew Rowley, and Hayley Smith (co-authors)
Dr. Russell Kolts, Psychology

This research examines the personal information that members of various minority groups include on their Myspace.com profiles. Previously, we observed interesting patterns in data for various minorities, but did not have sufficient data to conduct statistical analyses. For the current study, we sampled Myspace.com profiles for a number of different minority groups gathered from randomly-derived zip codes. Current results address the ways that different minority groups utilize Myspace.com, the types of information they share, and ways in which they may be vulnerable to internet stalking.

Facial Recognition
Michael Gasbar, Graduate
Tyler Spence (co-author)
Dr. Claudio Talarico, Electrical Engineering

This paper provides a brief overview of available facial recognition technologies along with examples of their application. Both successful and failed examples are provided along with an examination of improvements in recent years. Specific challenges in achieving high recognition rates are also covered.
**Number of Siblings Effect on Age of First Alcohol Use**  
Naomi Gietzen, Undergraduate  
Brigette Rose, Brent Dickson, and Debbie Lor  
Dr. Kayleen Islam-Zwart, Psychology

Previous research has demonstrated that siblings influence and resemble each other in use of alcohol, but has not focused on the effect of number of siblings on age at first use. Based on archival data collected as part of the National Comorbidity Survey (Kessler, 2000), this study examined the relationship between number of siblings and the age at first consumption of alcohol. The sample consisted of over 8,000 respondents administered a nationally distributed survey. It was hypothesized that number of siblings would be associated with differential age of first alcoholic drink. Participants were classified into 11 groups and all groups represented the actual number of siblings, with one group reflecting 10 or more. Results showed that people with 0 to 4 siblings differed significantly from people with 8 or 9 siblings. Specifically, people with 8 or 9 siblings had a significantly later age of first alcohol consumption. These findings indicate a need to consider family size as a factor when dealing with prevention and intervention programs for alcohol use in adolescents.

**The Ebasco Report, King Cole, and the Reinvention of Downtown Spokane**  
Christopher Green, Graduate  
Dr. Dick Winchell, Urban & Regional Planning

In 1961 Ebasco Services, Inc., a national consulting firm, completed a bold plan for the revitalization of downtown Spokane. A year later, voters rejected funding for the redevelopment projects proposed in the plan, discouraging civic leaders who had hoped to see the creation of a park along the downtown Spokane riverfront. An alliance of downtown businesses hired King Cole, a pioneering urban planner from California, in a last ditch effort to implement the Ebasco Report. Rather than follow the methods prescribed in the Report’s implementation program, Cole formed community organizations to rally the public and forged partnerships between public and private sector leadership. Although it took thirteen years and a World's Fair, Spokane got its Riverfront Park in 1974, thanks to a prototypical mid-century downtown revitalization plan and the tireless work of an unconventional urban planner. Drawing on archival documents, historic accounts, and interviews with urban planners of the time, this presentation will explore the role of King Cole in the tumultuous evolution of the Ebasco Report into Expo'74.
The Effect of Dietary Capsaicin and Exercise on Body Fat in Sprague Dawley Rats
Brandee Gregory, Undergraduate
Krista Morrow and Alicia Ewing (co-authors)
Dr. Thomas Hancock, Biology

Exercise is proven for limiting weight gain and improving health, however many look for alternatives such as supplements and surgery. Dietary capsaicin increases lipid metabolism and may reduce weight. To understand relationships between exercise and dietary capsaicin, these variables were tested in recently weaned Sprague-Dawley rats. All groups (Control, Exercise, Capsaicin, Capsaicin/Exercise; N=33) were fed unlimited high fat diets for 4 weeks. Capsaicin groups consumed 3% cayenne pepper. Weight and individual food intake were monitored. Exercise groups swam four times weekly for 20 minutes. Total food intake didn't differ significantly between groups, but non-Capsaicin groups gained significantly more weight than Capsaicin groups (p<0.05). Exercise decreased weight gain but not significantly. The wet/dry body mass ratio was measured to calculate body fat composition. Body fat was significantly lower in Capsaicin groups, and Exercise groups had a distinctly lower body fat percentage, though not significant (p=0.053). It appears that capsaicin consistently minimized weight gain by decreasing adipose deposition, while this moderate level of exercise had a lesser effect.

Demonstration of Solid-Phase Ion Exchange in IR Sample Preparation
Kylie Hafer, Undergraduate
Dr. Jamie Manson, Chemistry

The use of potassium bromide (KBr) as a preparation agent for infrared (IR) analysis was in widespread use prior to the Fourier Transform Infrared analysis (FTIR) process. KBr pellets are still used to analyze solid phase samples, however not to the extent prior to the use of FTIR. In using KBr pellets there is evidence to suggest an ion exchange between the sample and preparation agent. Evidence of this molecular exchange can be seen in the IR spectra of ephedrine hemisulfate and ephedrine bromide. When the spectra of these different salt forms were compared, the spectra were different and they should not have been; the only difference between the salt forms is an ionic bond. Although there may potentially be an exchange between the sample and the KBr preparatory agent, this does not invalidate the process. The following experiment confirms the possibility of metathesis through the analysis of ephedrine hemisulfate and ephedrine bromide. In the process of this experiment, ephedrine hemisulfate and ephedrine bromide samples were authenticated and crystallographic data was obtained for ephedrine bromide.
Minority Representation in the Spokane Media
Miranda Hamilton, Undergraduate
Dr. Pui-Yan Lam, Sociology

Much of the information acquired in society today comes from various media presentations. These presentations often have a large impact on those who view them, as well as those who are being portrayed. This is especially true in terms of minority groups, or groups with limited power in terms of race, gender, class, age, etc. These groups are shown in the media to audiences who often have no contact with these minority groups. In my research, I analyzed various forms of media with easy accessibility (e.g., newspapers, primetime television, billboards, etc) in Spokane, Washington. I found that there are large misrepresentations of minority groups through stereotyping and underrepresentation. I also found that many individual viewers across racial, ethnic, age, gender and socio-economic groups view these images on a daily basis. Stereotyping or typecasting shown in the media often leads to incorrect or skewed views of individuals, or groups of individuals, leading to barriers of interaction between groups. Though Spokane is made up of predominately “majority-group” populations, the types of minority portrayals greatly impact the impression majority groups form of these minorities.

Aestheticism and Decadence in Victorian Culture and Literature
Alexis Hardy, Undergraduate
Dr. Beth Torgerson, English

Together the Aesthetic and Decadence movements were monumentally important to arts and literature in the late Victorian-era wherein they produced an entirely new way of appreciating and creating art. Decadence was the more controversial in its complete disregard to morality. Both movements became widely controversial in a society that valued morals above all else. Many famous writers and artists embraced both Aestheticism and Decadence, among them, Oscar Wilde. His novel *The Picture of Dorian Gray* embodies Aestheticism and Decadence through its theme and through the characters Dorian Gray, Lord Henry Wotton, Basil Hallward, and the representation of the portrait.

Bathsheba: A Heroine Split by Society
Katie Hass, Graduate
Dr. Beth Torgerson, English

Hardy’s heroines challenged the established paradigms for women during his time. As the first of these heroines, Bathsheba in *Far From the Madding Crowd* provides a glimpse into Hardy’s attempt to challenge the prescriptive nature of society that would reject her unique character. Yet, in spite of Hardy’s sympathy for his heroine, Hardy’s portrayal of Bathsheba stays within the derogatory construct of the male perception of women at that time. Thomas Hardy, like the Victorian society around him, is complicit in the suffering of women who struggle to live up to the dichotomy of the idealized woman of the age as she is split between the perception of masculinity as strength and femininity as weakness. It is for this reason that Bathsheba is left without a voice or unique identity by the end of the novel. Though Thomas Hardy attempts to provide an example of a strong woman, he only re-invents the accepted feminine stereotype dressed up with masculine qualities.
HPPV: Team Speed Racer  
Ryan Hatch, Undergraduate  
Isaac Floding, Barry Gaunce, and Kaleb Rideout (co-authors)  
Dr. Donald Richter, Engineering Design  

Team Speed Racer Upon designing a bike of ninety percent paper, one must carefully choose a design which excels in strength but is also feasible to complete on time. After reviewing the past designs, it is the simplest of models which win the competition. We decided to go radical in our design. It is a tricycle shape with a front wheel chain drive. As most things do, it looked great on paper. To our dismay, the design was not functional. It proved to be to difficult to pedal, steer and stay balanced with this type of bike. We changed our drive to a direct style to prevent errors in the chain. This also proved to be simpler to navigate the track. Our body is a glue laminate style, which withstands a great amount of sheer. All of these features combined, we fully expect to not only complete the race but complete the race ahead of E.W.U. counterparts.

The Evolution of Satan and Exilic Influence  
Candice Helsing, Undergraduate  
Dr. Georgia Bazemore, History  
Dr. Julia Smith, Anthropology  

The modern demon “satan” was not originally intended to be the leader of the evil legions and ultimate adversary to Yahweh that he is today. In pre-Exilic literature, the rare appearance of the term “satan” is used as a common noun, describing the obstructive function of the angel of Yahweh. This paper asks the question, when did “satan” become “Satan?” This research seeks to establish the origin of the evil nature of this entity. In this work, I will analyze the relation between the evil nature of Satan and the exposure of the Jews during the Exile to Zoroastrian beliefs.

Nutrition-Based Curriculum May Be Ideal for Obesity Prevention  
Jillian Hernandez, Graduate  
Dr. Karen Carlberg, Biology  

The occurrence of overweight youth has risen dramatically in recent decades. As the increase in overweight youth has negative consequences for many people, it is important we seek ways to prevent its occurrence. I taught an eight-week long cooking class intended to teach children how to read nutrition labels. Reading labels allows them to make better, more informed decisions regarding food. Making better food choices allows one to obtain and maintain good health. I hypothesized those participating would experience an improvement in diet quality, physical activity, and body composition. Food logs monitored diet quality, activity monitors measured physical activity, and body mass index and visceral adipose tissue were used to assess body composition. The sample sizes were small making analysis difficult, however, there seemed to be no marked difference in any measurement. I will review how I intend to refine future classes to obtain better data. For example, the timing of the class needs to be altered to better accommodate the needs of the children. Also, the label reading should be more extensive.
Survey of the Ants of Washington State with an Emphasis on Disturbed Sites
Rochelle Hoey-Chamberlain, Undergraduate
Dr. Camille McNeely, Biology

The goal of this study was to survey the ants of Washington State. Ants in Washington have been surveyed only once in 1941. I collected ants from 23 sites in 20 counties, from disturbed sites such as road sides, parks, abandoned areas, and trails. Three collection methods were used, including: Winkler extraction, baiting along a transect line, and point sampling. I recorded characteristics of each site including: latitude, longitude, elevation, surrounding vegetation, percent ground cover, ground cover height, soil type, air temperature, humidity, and time of day. A total of 25 ant taxa were found throughout the state. A multivariate analysis will be conducted comparing site characteristics with the taxa found. The counties not sampled in this survey will be sampled in a continuation survey in summer of 2008.

Dueling Democracies: A Study of the Dynamic between Legislators and Initiatives in Washington State
Matthew Holmes, Undergraduate
George Durrie, Government

In November 2007, Washington voters passed Initiative 960 (the "Taxpayer Protection Act"), a measure aimed at preventing increases in state taxes and fees. The initiative went into effect for the first time during the 2008 legislative session, sparking considerable speculation amongst the press as to how legislative spending would be affected. Looking back at the legislation that was passed this year, however, it would seem that Initiative 960 had no significant impact on the legislature’s actions. The question is, given that legislators are democratically-elected representatives of the people of the state, and that initiatives are democratically-enacted mandates from the people of the state, why then is the impact of those initiatives on the actions of the legislature so minimal? This study, based on a series of interviews with Washington State Legislators, seeks to answer that question by examining the relationship between legislators and initiatives and how that relationship is affected by factors like partisan politics, so-called "initiative mills," and the inherent difficulties of direct democracy.

Effect of Matching Peers in a Peer Mentoring Program
Wendy Holmes, Graduate
Nick DeGroat, Johanna Evans, Christina Richter, Rebecca Strickler, and Angela Weathers (co-authors)
Dr. Wendy Holmes, Occupational Therapy
Diane Norell, Occupational Therapy

While all students face difficulties in navigating the challenges of higher education, students with disabilities face additional challenges including social isolation and accessing campus environment and services. Peer mentoring is an effective service to alleviate challenges that students face. This quasi-experimental research project investigated the effectiveness of intentional matching to the success of a peer mentoring relationship between students with disabilities and masters of occupational therapy students. Matching was accomplished based on values and interests as measured by achieving pre-identified goals for the peer mentoring program. The program lasted 10 weeks with pairs meeting either in person or through virtual means averaging 1-8 meetings. The results will show both positive and negative themes regarding the relationship of the pairs, the structure of the program, and goal attainment. Factors such as program structure, commitment to the process, and logistical challenges will also be discussed. This study will contribute to the understanding of how peer relationships in a mentoring program are cultivated in higher education.
Fuzzy Tickets - A Friendly Quantum Absurdity
Meghan Horner, Undergraduate
Dr. Achin Sen, Physics

The traditional paradigm of physics education, for natural reasons, identifies concepts within Newtonian mechanics as most suitable for students at the introductory level. This approach has served us well for many decades, but nonetheless makes the tacit assumption that concepts under more modern headings like “Special Relativity” or “Quantum Mechanics” are unsuitable for such audiences and should be reserved for upper-division collegiate work. However, there is little, if any, real evidence to suggest that this assumption is necessary; in fact, continuing to operate in such a paradigm may actually underserve physics students in today's rapidly-changing scientific landscape. Some effort has been exerted to recast many advanced topics into more palatable formats, although they are most commonly imagined for a professional audience of interested physicists. With this in mind, we present a creative reinterpretation of David Mermin's classic explanation of a test of “Bell's Theorem”, one of the most profoundly counterintuitive results in modern physics. It requires no familiarity with concepts in physics, and only a basic understanding of probability, rendering it accessible to most introductory physics students in high school or college, as well as many science-averse bystanders.

Vegetation Colonization and Seed Bank Analysis of Lake Mills Deltas
Cara Hulce, Graduate
Dr. Rebecca Brown, Biology

Removal of Glines Canyon dam on the Elwha River in Olympic National Park, Washington will leave over 13 million cubic meters of exposed sediment in the bottom of Lake Mills. It is uncertain how these sediments will revegetate following dam removal, however current vegetation succession on exposed delta sediment within Lake Mills will provide insight. In summer 2007, 43 100 m² vegetation plots were permanently established on Lake Mills deltas. Plots were stratified across a gradient of time since deposition ranging from 8 to 57 years. Vascular plant species composition and a range of environmental variables were surveyed at each plot. Soil seed bank samples were collected and are being analyzed to identify species composition and abundance and to assess the presence of non-native plant species. Data analysis comparing how vegetation composition, environmental variables, and seed bank composition vary with time since deposition is underway. Understanding patterns of vegetation succession across delta sediment of varying ages will enable a trajectory of vegetation recovery within the drained impoundment and provide insight into management strategies to control non-native species invasion following dam removal.
Applications of Robotics and Automation  
Adam Huson, Undergraduate  
Sean Smith (co-author)  
*Dr. Jeff Donnerberg, Engineering and Design*

In today’s industrial manufacturing sector, two primary forces driving production are: lower cost, and increase quality. Over the past decade, this market has seen dramatic growth in the use of robotics in automation systems. In the Department of Engineering and Design Tech 385 course, students are required to develop a real-world application of an industrial robot that addresses the aforementioned objectives. For this assignment, a team of six students developed an automated system for processing mail envelopes. The overall function of the system was to autonomously sort outgoing mail, separating out envelopes missing address labels, and verifying, (and applying if necessary), required postage. The solution was designed in two stages. First we had to design and construct a work envelope in which the robot would be handling the mail, and construct a multipurpose device to attach to the end of the robot for inspecting and manipulating the envelopes. The second stage was to program the robot to use input from sensors within the work envelope and on the robot to logically handle each of the possible cases of incoming mail.

A Painted Ship Upon a Painted Ocean: The Visual Influence of Coleridge's  
*Rime of the Ancient Mariner*  
Jeremy Huston, Graduate  
*Dr. Chris Valeo, English*

The imagery evoked by the language of Samuel Taylor Coleridge's “*Rime of the Ancient Mariner*” has inspired numerous artists to represent the poem in a myriad of different styles and media. This presentation explores the visual interpretations of engraver Gustave Doré and illustrator Willy Pögany function as responses to “Rime” in the same way that Coleridge’s poem is a response to influences of his time.

Impetigo in a Division 1 Collegiate Basketball Team  
Claire Irvine, Undergraduate  
Catie Fairgrieve and Sam Gay (co-authors)  
*Dr. Garth Babcock, Physical Education, Health and Recreation*

Impetigo is caused by Staphylococcus Aureus, alone, or in a combination with ß-Hemolytic Streptococci. Impetigo is the third most common skin disease overall, behind dermatitis and viral warts, and is the most common bacterial skin infection among children. If not treated, it may release into the blood and become systemic, and is generally treated with an oral antibiotic. This case study focuses on a collegiate basketball team with multiple cases of impetigo, and focuses on the specific treatment initiated by the EWU Athletic Training staff. General information on the disease, differential diagnosis, common locations it may be found, and signs and symptoms of the disease may be found in the study. Information on preventing impetigo, preventing further problems that may arise from it, and preventing the spreading are also presented in the study.
Feelings about Exercise, Health, and Quality of Life in Patients One Year After Coronary Artery Bypass Surgery
Ashley Jamison, Graduate
Jeff Demmert (co-author)
Dr. Kimberley Cleary, Physical Therapy

Adopting exercise as a lifestyle behavior is important for recovery and secondary disease prevention in patients following coronary artery bypass (CAB) surgery. The purpose of this study was to qualitatively evaluate factors that influence patient adherence to exercise, feelings about health and quality of life (QoL), and perceived activity limitations following CAB surgery. Twenty-eight people were prospectively recruited to participate in this study following CAB surgery. Participants were asked to respond to a series of open-ended questions regarding factors that both motivated and prevented them from exercising, feelings about their health and QoL, and their perceived activity limitations. Data was coded by identifying significant statements, grouping them into meaningful themes, and then generating rich descriptions of patients’ perceptions. The data revealed nine themes reflecting motivating factors to exercise, eight themes discouraging exercise, five themes concerning feelings about health and QoL, and three themes regarding perceptions on activity limitations. Results from this study will give healthcare providers insight into patients’ perceptions of factors that positively and negatively influence participation in regular exercise twelve months after CAB surgery.

Dead Air
Colin Johnson, Undergraduate
Tom Mullin, Electronic Media & Film

Chester is a late-night DJ/talk show host at a local radio station. He spends his nights completely alone, surrounded by other people’s problems. But tonight, Chester’s not alone. Someone is watching him. An exploration of the paranoia and fear we all experience when we may not be as alone as we think...

Penelope Fitch Finds a Husband
Colin Johnson, Undergraduate
Tom Mullin, Electronic Media & Film

Penelope Fitch is a fun-loving girl, who desperately wants to find herself a husband. Better yet, a rich one. When Clive Coward inexplicably wins the lottery, Penelope thinks she has her dream guy. Until complications arise...

The Screening Room
Colin Johnson, Undergraduate
Tom Mullin, Electronic Media & Film

Wally sits in a darkened screening room, watching an abomination unravel itself on the screen. Can it be fixed? Can any good come from this debacle? At what point does your rationality end, and your wildest imagination begin when confronted with the death of a project?
Bipolar Disorder's Effect on Drug-Related Problems

Nicole Johnson, Undergraduate
Carmen Glaser and Alicia Pipella (co-authors)
Dr. Kayleen Islam-Zwart, Psychology

This study examined the relationship between having a bipolar disorder and having drug-related problems. According to Berglof (2008), alcoholism among persons with bipolar disorder is five times greater than for people in the general population. Our study utilized archival data collected as part of the National Comorbidity Survey (Kessler, 2000). The answers the respondents gave were taken from a questionnaire in which they were asked about their use of drugs based on six different problem areas. These problem areas included problems with individuals in their environment, expulsion from work or school, increased chances of getting hurt, accidental injuries, health problems, and emotional/psychological problems. Results showed that drug misuse is more likely for persons with a bipolar disorder than without and also more likely for men than women, regardless of having a bipolar disorder. Results showed that having a bipolar disorder did have a significant effect on drug-related problems. Further discussion and implications will be provided.

Health Care: A Right That Should Ve Considered a Privilege in the United States

Lynette Jordan, Graduate
Dr. Mary Ann Keogh-Hoss, Health Services Administration

Health Care in the United States is a privilege for some and a right for others. In researching the issue, material was found to support the notion that access to quality health care for all residing in the United States was an issue of concern for many. The research indicated that many consider the access to quality affordable health care as a right. However, in the current health care delivery system of the United States it is a privilege to receive quality, affordable health care. With the conception of Medicaid and Medicare during the Lyndon Johnson administration individuals in specified socio economic classifications became entitled to subsidized health care. This entitlement is viewed as a right by many. Nonetheless, many citizens of the United States are not extended this right as they do not meet the criteria for medical insurance under these programs.

Rendered Audio in a 3D Animation Paradigm

Brian Kamp, Graduate
Dr. William Clark, Computer Science

Traditional 3D animation software is visually centered. Integrating audio rendering into existing software provides a daunting challenge. The Eagle Audio Rendering System (EARS) is a software solution which incorporates audio information into existing 3D software and renders a synchronized spatial 3D audio track seamlessly back into the 3D authoring environment. The design methodology, development challenges, current successes and future development plans will be discussed. Furthermore, the development effort to date will be demonstrated.
The Development of Methods for Long Term Culture of Live Thin Sections of Bovine Ovaries
Yohan Kim, Graduate
Dr. Charles Herr, Biology

Oocytes, female germ cells, gradually develop from primordial germ cells and become eggs. The growth of oocytes is achieved with development of follicular cells surrounding the oocytes, and the overall process is called folliculogenesis. Although in vitro culture systems for growth of follicles have been studied for some species, there have been no culture systems supporting the observation of the developmental course of bovine oocytes. The establishment of a proper in vitro culture system of the follicular development for domestic animals contributes to livestock industry. Thus I will develop an advanced in vitro culture system supporting the full development of the bovine oocytes. My study focuses on long term culture of thin section of bovine ovaries. For this, cow ovaries are sectioned by a vibratome allowing cells to be viable, and these sections will be treated to ensure that follicles keep growing to mature stages. This method will provide an excellent opportunity for observation of follicles as they go through their full development. Using a stereo microscope I will next document the growth of follicles.

Reasons Why Posttraumatic Stress Disorder Can Attract Amphetamine Users and the Dangerous Relationship that Exists
Brittany King, Undergraduate
Justin Nemeth and Kirby Orr (co-authors)
Dr. Kayleen Islam-Zwart, Psychology

There is increasing epidemiological and clinical text exploring the frequent co-occurrence of substance use disorders and posttraumatic stress disorder (PTSD). The goal of the present study was to examine the relationship between PTSD and amphetamine drug abuse. It was hypothesized that people who suffer from PTSD have a higher rate of substance abuse. This study utilized archival data gathered as part of the National Co. Morbidity Survey (Kessler, 2000). Results showed that, those with PTSD used amphetamines more heavily, more often, and at an earlier age than those without PTSD. This has implications in the fields of trauma therapy as well as drug abuse prevention and treatment programs. When a treatment provider understands the level of risk at which the client is presenting methods and order of treatment can be appropriately applied.

From Immigrant Labor Camps to George W. Bush in Hell
Michelle Kozlowski, Graduate
Melissa Lindstrum (co-author)
Christopher Howell, Creative Writing

We will discuss the power of poetry and how it can elicit political thought, change people’s minds, inform the public and call us to action. Through the work of David Wojahn, Diana Garcia, and Marta Espada we will demonstrate how language functions as a political tool.
Poetry is Political to Us, Too
Michelle Kozlowski, Graduate
Melissa Lindstrum (co-author)
Christopher Howell, Creative Writing

After an introduction to how poetry functions politically, we will explain how we infuse politics and social issues into our own poetry. We will follow this discussion by reading our own work.

Femoral Neck Stress Fracture in a Women's XC Athlete
Michelle Krischel, Undergraduate
Caitlin Kokot and Shannon Reynoldson (co-authors)
Dr. Garth Babcock, Physical Education, Health and Recreation

Bone stress fractures are typically seen in athletes who consistently train beyond the point of muscle fatigue. Some of the risk factors associated with stress fractures include sudden increases in training intensity, improper mechanics, and poor nutrition. This case study explores the initial and secondary evaluations, treatment, and rehabilitation program implemented in working with an athlete with a femoral neck stress fracture. The athlete is a twenty-two year-old female collegiate cross country runner who had a gradual onset of symptoms in her left hip. She was evaluated by both a certified athletic trainer and a physician. Upon diagnosis, a rehabilitation program was implemented, beginning with non-weight bearing activities and progressing to sport specific activities as tolerated. The athlete returned to full activity approximately six weeks following diagnosis.

XNA Game Development - Sound Design
Ross Lanes, Undergraduate
Stuart Steiner, Computer Science

Ever since Walt Disney created Steam Boat Willy and introduced sound into motion pictures the film industry has been using sound to engage the audience. Using the same concepts as motion pictures, electronic video games utilize sound. Sound in video games is used to set the scene and to invoke an emotional response from a player. Unlike film, most modern video games sound is generated dynamically, allowing the player to feel more involved. In order to accomplish the proper feel and effect the game programmer must account for Doppler Shift and many other physical elements in the game. This talk will explore the implementation of sound into video games.
Low Back Kinematics Differences between 1-Mason and 2-Mason Lift Teams Using 12 Inch Concrete Block
Isaac Leitz, Graduate
Dr. Ryan Mizner, Physical Therapy

Masonry workers are at increased risk for developing low back disorders compared to other occupations. Repeated heavy lifting and awkward back positions likely contribute to risk of injury among masons. Some masonry apprenticeship programs teach the use of 2-mason lift teams while handling heavier concrete block, but the effect of this injury reduction intervention is unknown. The purpose of this study was to compare the differences in trunk angles of masons constructing a wall using 1-mason and 2-mason lifting techniques. Nine, 3rd and 4th year masonry apprentices built walls with 12-inch concrete block (20 kg) alone and with a 2-person team. Trunk angle data was recorded with a 3-D motion capture system for one block, during the 1st, 3rd, and 6th rows of the wall. There were significant differences in trunk angles for forward bending and rotation in row 1, and side bending in row 6. The 2-mason lifting technique significantly reduces peak trunk bending when laying block and could reduce the risk of low back injury.

Collegiate Male XC Athlete with Signs and Symptoms of Wilson's Disease
Raymond Loffredo, Undergraduate
Hilary Ishii and Takahisa Koide (co-authors)
Dr. Garth Babcock, Physical Education, Health and Recreation

Wilson’s disease is a rare autosomal recessive inherited disorder of copper metabolism that affects 10 to 30 million people worldwide (Shah 2007). The signs and symptoms of, tests used to diagnose, and short and long term treatments for the disease will be presented in this study along with a discussion of differential diagnosis. This case study focuses on a twenty-year-old male cross-country athlete who presented with signs and symptoms of Wilson’s disease. All diagnostic tests were negative and symptoms subsided 5 days after they began. The athlete is currently competing without restrictions.

Poetry, Postcards and Pop Culture in ESL College Writing Class
Wannaporn Lohpaisankrit, Graduate
Dr. LaVona Reeves, English

Literature suggests that feelings of displacement as outsiders in “the dominant culture” (Hooks, 2003, p. 131) can be lessened if “a mutual partnership model invites engagement of the self that humanizes, that makes love possible” (p. 131). The ESL writing class is a good place to develop mutual partnerships across cultures, languages, and continents. Like Capps (2007), Lohpaisankrit (2008) found that “to enter the dialogue on how differences of culture, language, and identity are performed, represented, negotiated, and renegotiated” (Capps, 2007, p.2) is an experience that frees language learners to explore their own histories, beliefs, and dreams. This is a presentation of the results of data collected for a master's thesis project based on the biography, Eleanor Roosevelt: A Life of Discovery, which was read in an ESL college writing class. As Eleanor & Franklin traveled to Europe, students wrote postcards employing a simulated journal technique and writing back and forth to one another in class. They also wrote journals on Dr. Seuss's poem, "Oh, the Places You’ll Go!" and on a person they admire from their cultures. Themes will be discussed and analyzed.
Teaching Optimism, Hope and Resiliency to Youth
Christopher Loux, Undergraduate
Yesenia Guevera, Lauri Lindquist, and Jessica Oxiles (co-authors)
Dr. Mahlon Dalley, Psychology

Under the leadership of Dr. Mahlon Dalley, the five of us teach West Valley Contract Based Education students the principles outlined in, *The Optimistic Child* by Martin Seligman. We extracted many tools and lessons from the Pennsylvania Prevention Program illustrated in this book, in an effort to create an adolescent-directed, 8 week program that could help CBE students protect themselves from depression and anxiety. We instruct two classes of 2-8 students, once a week, for an hour and twenty minutes each. Typically, Dr. Dalley and two other mentors teach the students how to recognize their irrational thoughts and beliefs through discussion and activities. The students have often faced many challenging difficulties early in life, which can lead to an internalization of pessimistic beliefs. We help them to recognize the advantages of an optimistic attitude, and intrapersonal awareness. Through the use of Albert Ellis’s ABC model, we show students the importance that beliefs play in the reaction that we have to potentially negative events. In addition, we also teach the students social skills such as assertiveness, at the end of the program.

A Contrast of the Political Theories of Jean-Jacques Rousseau and Thomas Hobbes, and a Determination of Which Makes a More Satisfactory Theoretical Basis for Human Society
Chris Lybeck, Undergraduate
Dr. Kevin Decker, Philosophy

The purpose of this paper will be to compare and contrast the political philosophies of Jean-Jacques Rousseau’s *Social Contract* and Thomas Hobbes’ *Leviathan*. Through this comparison and contrast it will be determined which political philosophy is a more satisfactory basis for human society. The paper will focus specifically on the role of obedience within each political philosophy, as well as the amount of freedom that man retains. This comparison will ultimately show that the political philosophy of Rousseau is a superior basis for human society.

Effects of Alcohol and Drug Misuse on Personal Relationships
Dan MacKay, Undergraduate
Catherine Douglas, Jenesis Imai and Matthew Pegram (co-authors)
Dr. Kayleen Islam-Zwart, Psychology

Drugs and alcohol play a significant role in today’s society. In recent years, drug and alcohol use has become a socially acceptable activity, resulting in an increase in substance abuse. Recent research has shown a number of issues pertaining to drug abuse and social relationships. In a study based on marital problems and alcoholism, results suggested an increase in marital dissatisfaction, distress, and physical aggression. Other research has shown an increase in negative social behavior such as anger, social isolation, and depression. Our study focuses on the effects drug and alcohol misuse has on personal relationships. This study utilized archival data collected as part of the National Comorbidity Survey (Kessler, 2000). We hypothesized that alcohol and drug misuse will have a negative effect on relationships with friends.
A Case Study of Ankylosing Spondylitis and Civinini Foramen
Rosalind Mallett, Undergraduate
Dr. Sarah Keller, Anthropology

This is a case study of a skeleton of known provenience, exhibiting an acute rheumatic disease which best fits the criteria for the spondyarthropathy known as ankylosing spondylitis (AS). Additionally, the skull possesses an unusual epigenetic variation i.e., demonstrated by the complete expression of a pterygospinous bridge with the resulting formation of a civinini foramen. As yet, there has been no clinical evidence brought forth to support the presence of a disabling condition associated with this variant. However, it is possible that this extra bony appendage may have indeed caused a re-networking of the nerve pathway potentially resulting in neurological damage. I propose that his individual not only experienced an advanced case of ankylosing spondylitis, but that the pteryogospinous bridge (with subsequent civinini foramen) rendered a threat to the trigeminal nerve pathway with resultant physiological trauma. AS is a rheumatic disease which attacks the skeletal system through a process of inflammation, resultant formation of scar tissue, and eventual, complete ossification of these tissues and surrounding ligaments. The civinini foramen encompasses a bundle of the trigeminal nerves, around which any restriction would cause neuralgia or scarring, posing a secondary and quite possibly neurological problem for this individual. It is not yet clear whether there is a causal relationship between the two debilitating conditions.

Italian Immigration in Early American Literature
Carr Christian Mancini, Graduate
Dr. Paul Lindholdt, English

Disease and Immigration in Nathaniel Hawthorne’s “Rappaccini’s Daughter”: Giovanni Guasconti and the southern Italian migration. This paper will discuss whether the character of Giovanni Guasconti is a proper representation of southern Italian immigrants and how disease was one of the many influences of Italian immigration.

Variant and Invariant Characteristics of Knee Joint Kinematics during the Drop Jump Task in Female College Athletes
James Mannenbach, Graduate
Dr. Ryan Mizner, Physical Therapy
Dr. Darl Vander Linden, Physical Therapy

The drop and jump task (DJ) is used as a training tool as well as to evaluate knee mechanics for knee injury risk. Prior research suggested that greater knee bending velocity upon landing was associated with increased jump height for male athletes. The primary purpose of our study was to describe the knee joint angle and velocity of female athletes during the drop and jump task and secondarily whether jump height, angle, velocity or ground forces were altered after instruction to “land softer”. Twenty female athletes underwent 3-D motion capture analysis during a drop and jump task for pre and post instruction. There was no change in knee angle at contact with instruction; however there was an increase in knee flexion velocity. There were no correlations between landing knee angular velocity and decreased ground forces, or increase in jump height. Changes in the athletes’ motor plan to land softer may have increased knee velocity, however landing angle remained constant and may aid in maintaining optimal jump height by maximizing muscle length tension relationships.
An Association Between Antibiotic Use and the Appearance of Antibiotic Resistant Bacteria in Cheney, WA
Margaret Marshall, Graduate
Dr. Prakash Bhuta, Biology
Dr. Sidney Kasuga, Biology

Antibiotic resistant bacteria are a major health care concern. Their presence in our environment affects not only the patients and doctors but also the pharmaceutical industry. This study shows a strong association between the type of antibiotic used in a community and the presence of antibiotic resistant bacteria in their wastewater. A survey of pharmacies in Cheney, WA identified which antibiotics are frequently being prescribed. Samples of local wastewater were tested for the occurrence of gram-negative bacteria resistant to these antibiotics. On average 25% and 35% of bacteria in the influent and effluent, respectively, were found to be resistant to ampicillin. After initial isolation of ampicillin resistant bacteria, 180 isolates were tested for resistance to other antibiotics. Sixty-four of which were found to be resistant to two or more antibiotics. These, in turn, were screened for the presence or absence of plasmids. The data presented here show that there is a connection between the community’s use of antibiotics and the development of antibiotic resistant bacteria colonizing that community. In addition, it demonstrated that 80% of the resistant bacteria carried plasmids.

XNA Game Development - Game Art
Byron Masterson, Undergraduate
Stuart Steiner, Computer Science

Artistic direction in games has become an extremely important part of the industry. The quality of a game is often defined by its visuals, with visual imagination constantly at odds with hardware limitations. Using new technologies, the developers can add realistic visual details without adding additional complexity. This paper discusses the concept of game art, and how the art director controls the visuals of the game.

Development of an Improved DNA-Based Avian Sexing Assay
Amanda Matthiessen, Graduate
Dr. Charles Herr, Biology

Assisted reproductive technologies are useful for animal breeding, but require that the sex of individuals be readily identified. The goal of our project is to development an easy, stressless DNA-based avian sexing assay. Most species of birds are impossible to sex by stressless methods. Easy sexing would be particularly useful when used in conjunction with hormonal manipulation for assisted reproductive technologies. Our DNA-based techniques are stressless because only a single down feather is required as the source DNA. In birds females are heterogametic (ZW) and males are homogametic (ZZ). Only females have W-chromosomes; by amplifying W-specific DNA, we can determine whether the feather contained W-chromosome DNA. If so, the feather came from a female. Previously, we developed a method with greater sensitivity compared to a widely used method that required 20,000 to 100,000 cells. Unfortunately, this sensitive assay has some limitations: it fails to produce adequate repeatability. I will develop an improved method using a conserved, repeated W-specific sequence. A different sequence of DNA, present in both sexes, will be amplified as a positive control to prove the assay worked.
Issues That Influence the Feasibility of Technology-Based Exercise Education and Monitoring in Patients with Cardiovascular Disease

Tarah McAllister, Graduate  
Dr. Tanya Lapier, Physical Therapy

The purpose of this study was to describe how often patients with cardiovascular disease had access to and comfort with using home technology, health monitoring, and exercise equipment. This prospective descriptive study used a sample of convenience. Patient information was obtained through chart review, interview and questionnaires. The technology most available was a VCR (93%) and least available was the internet (58%). Only 42% of study participants had access to and competence using computers and the internet. The health monitoring equipment most often available was a thermometer (90%) and least available was a blood pressure monitoring device (59%). The exercise equipment most often available was an exercise bike (32%). In addition, we found that 88% of the study participants reported having easy access to a safe place. We found in this population that less than half could participant in an Internet-based education and/or monitoring program after hospital discharge and many participants were not able to self-monitor vital signs or have home exercise equipment.

The Suspicious Death of Alexander the Great

Kari McClure, Undergraduate  
Dr. Laura Phillips, History

In June of 323 BCE the conqueror of the known world, Alexander of Macedon, known as the Great, died suddenly of an unknown illness. There are endless theories about what or who killed Alexander, but they are mostly incomplete and don’t extend past the interpretation of his illness. An investigation of the given sources, coupled with the medical explanation of his symptoms, all within the context of the events that surrounded his death shows Alexander was most probably murdered by his generals; the poison seems to have been arsenic.

“No Child Left Inside” Grants Opportunity for Pend Oreille County

Susan McDaniel, Undergraduate  
Dr. Barbara Brock, Physical Education, Health and Recreation

Recreational opportunities in pristine Pend Oreille County are not only limitless, but more importantly they are vital to the security of a bright future for its citizens. In small-town rural areas, such as Pend Oreille County, there are ever increasing quantities of high school drop-outs and consistently sinking levels of academic success. This dynamic duo paired with low financial community support and the whittling but still resilient resistance to tourism has some citizens worried about the long term repercussions that the intertwined communities will have to face in the future. However, it is important to remember that adversity breaks through challenges with hope. The “No Child Left Inside” grant provided by the Washington State Parks and Recreation Commission is that hope. With approval of this brand new grant, the Saddle Mountain Guest Ranch of Newport Washington intends to use the federal funds to provide academic hope, aid in financial stability, and secure opportunities for a better quality of life to the communities of Pend Oreille for generations to come.

Blues for Clarinets

Henry McNulty, Undergraduate  
Don Goodwin, Music

No Abstract Submitted
Bullying among Mexican High School Students  
Julian Mendez, Undergraduate  
Dr. Raphael Guillory, Counseling, Educational and Developmental Psychology

A bully is someone who is habitually cruel to a smaller or weaker person. Various forms of bullying include name-calling, writing provocative statements, exclusion from activities, isolation, taking or damaging personal items, threat or use of violence, or coercion. Bullying is an issue that has been plaguing schools for quite some time. Students are not only affected academically, but psychologically as well. Many students go to school everyday in fear of being bullied. Some victims are motivated to retaliate and some suffer quietly. Learning and finding new ways to prevent bullying is important to help kids feel safe and secure in school again. It is also very relevant to determine what types of kids bullies target in order to help them. Past research on bullying has examined the effects that verbal, physical, and relational bullying has had on students. It has also identified what types of students are victims of bullying. Based on my extensive literature review, it is clear that the issue of Mexican-American students bullying recently immigrated Mexican students in Lower Yakima Valley schools has not been addressed. This study will examine whether or not recently immigrated Mexican students are being bullied by Mexican-American students and will be added to the overall research on bullying to help provide new prevention methods on school bullying.

The Flex Development Process - A Case Study  
Melissa Mewhinney, Undergraduate  
Dr. Linda Kieffer, Computer Science  
Dr. James Braukmann, Engineering and Design

This case study involves a web site that I am currently developing for the International Water History Association using the developing program Flex. Flex is the latest program for developing rich internet applications. Unlike Flash which is used to predominantly display animated scenes, Flex is used to bring the same benefits of a compressed swf file while having an increased ability to create web pages for the internet. One of the greatest benefits of designing in Flex is the ability to create a site with dynamic data. Clients want sites that can have data that is easily changed without the intimidating experience of looking through code. Flex is designed to do just that. Despite these benefits though developing a product using Flex can be a challenging experience. There are basic limitations to flex that can be difficult to overcome. This is why the plan for designing and developing a Flex application is so important. This case study will focus on the development process that was taken in creating a site with good design and function as well as a backend that makes the all the data completely dynamic.

Views of the Spokane Fire Department on 9-1-1 Overuse and Its Causes  
Lisa Miles, Graduate  
Daniel Bosch and Cody Chase (co-authors)  
Dr. Lisa Avery, Social Work

The Emergency Medical Services system is burdened by the over-use of 9-1-1 for non-emergencies. Firefighters from the seven busiest stations of the Spokane Fire Department were surveyed about their views on 9-1-1 overuse and its probable causes. A large majority of the respondents felt over-use calls constituted a large percentage of Fire Department calls. 17.9% felt the Fire Department alone did not provide enough care for people with disabilities, 33.3% for people with mental illness, 26% for elderly, 20.2% for people in crisis, 29% for the homeless, and 26% for substance abusers. 47.2% felt 9-1-1 over-users lacked sufficient support at home, and 47.2% felt education would benefit over-users. 77.8% agreed they’d feel more satisfied with less over-use. Many respondents felt “non-emergent” use was a bigger problem than “over-use”.
Type 1 Diabetes in a High School JV Volleyball Player
Brett Moore, Undergraduate
Audrey Ebert (co-author)
Dr. Jeffery Kawaguchi, Physical Education, Health and Recreation

Diabetes is a growing problem in this country. According to the American Diabetes Association there are 20.8 million children and adults in the United States, or 7% of the population, who have diabetes. While an estimated 14.6 million have been diagnosed with diabetes, unfortunately, 6.2 million people (or nearly one-third) are unaware that they have the disease. With such a wide spread occurance, it is important for athletic trainers to be aware of the care and management of these individuals. The case study is of a 15 year old female Cheney High School JV Volleyball player. The patient’s parents started to notice signs of diabetes around the age of 7. The objectives of the poster will be to help others differentiate between Type 1 and Type 2 Diabetes, explain the general facts of Type 1 Diabetes, and describe the basic treatments and responsibilities of the athletic trainer for Type 1 Diabetes.

Displaying Spokane Data to the World: Development and Maintenance of the Community Indicators Initiative of Spokane Website
Kandyce Moore, Graduate
Dr. Linda Kieffer, Computer Science
Dr. James Braukmann, Engineering and Design

We developed, and now maintain, an innovative interactive website for the Community Indicators Initiative of Spokane. The website is a collaborative effort between The Center for Digital Media Design and Development and the Institute of Public Policy & Economic Analysis. This project commenced two years ago, continues today, and began with the understanding that it would include several phases. Phase 1 was the development of the original website, with subsequent phases adding features to the site. This project encompasses a public website and an Internet-accessible, back-end that allows the client to change much of the site's content. There have been many challenges throughout this project, including trying to find technologies that would accommodate the client's needs and the turnover of project team members due to graduation. Through researching and solving these and other issues, this project continues to be a real-world learning experience.

“Ghost-Girl-Rider”: Invention of Memory and Arrangement of Grief in Thomas Hardy’s Poems of 1912-1913
Erica Morris, Graduate
Dr. Beth Torgerson, English

The first Mrs. Thomas Hardy, Emma Gifford, was described by others as a shrewish, hysterical, sickly, and depressive woman more concerned with her standing in society than with the daily machinations of her marriage to her husband; yet, her memories, captured in her autobiography Some Recollections, inspired Hardy’s Poems of 1912-1913. Written in the year directly following Emma Hardy’s sudden death, Thomas Hardy's writing utilizes the medium of poetry to eulogize his wife of nearly 40 years. The result is a sequence of twenty-one powerful and haunting poems of guilt and grief, regret and remembrance, and ultimately, love.
In What Ways is the Legacy of Kantian Political Liberalism Challenged by Contemporary Pluralist Perspectives, and Is a Satisfactory Reconciliation Possible?
Kaitlin Morrison, Undergraduate
Dr. Kevin Decker, Philosophy

Immanuel Kant, in the ambition of envisioning a form of government based on his conception of innate rights, sought a common morality upon which to base a perfectly fair and just political system that abstracts from individual views and experiences; appealing to the natural moral sense of all human beings. This theory has long been criticized for its limitations, specifically those caused by its implicit rejection of alternative moral narratives as legitimate standards for political justification. Within this criticism itself, a variety of perspectives each pose unique challenges to traditional Kantian political liberalism; three of which are discussed here, along with the recommended conclusions suggested by each.

Exploring the Effectiveness of the FOCUS Program in Higher Education
Casey Moyer, Graduate
Sarah Hampton (co-author)
Dr. Lisa Avery, Social Work

There are many obstacles to student success in higher education. FOCUS, a federally funded program within TRiO seeks to provide support services to first generation, low-income students admitted to higher education. A mixed method analysis was employed to determine the effectiveness of FOCUS compared to non-FOCUS students admitted under Comprehensive Review as well as a qualitative exploration of student experiences and suggestions. Though no statistically significant effects were observed quantitatively, participant interviews yielded several significant themes in determining the success and opportunities for improvement of FOCUS.

Titian’s Elusive Reclining Nude
Angela Mutter, Undergraduate
Dr. Barbara Miller, Art

Many problems arise when analyzing Titian's painting *The Venus of Urbino* which precludes historians of art from knowing or understanding its meaning. First is the ambiguity of the patron. We do not know who commissioned this painting of a reclining female nude. Further, we can only conjecture about the identity of the figure represented. Is she the mythological goddess Venus, languidly gazing at us from her draped chaise-longue? Could she be a wealthy aristocrat's beautiful and intelligent courtesan, holding a bouquet of flowers? Is she real or is she an allegorical personification of love and beauty? It has been suggested by some scholars that the intended purpose of the painting is to commemorate a wedding. Building upon this idea, even though the exact patron and his reason for wanting the painting are unknown, I believe enough evidence exists to suggest a plausible theory, namely that the *Venus of Urbino* is an allegory of marital love and fidelity.
The Relationship between Neo-Personality Traits and Specific Substance Misuse
Tina Myers, Undergraduate
Carley Cysensky and Cindi Harding (co-authors)
Dr. Kayleen Islam-Zwart, Psychology

Some researchers theorize that instead of an inherited tendency for alcohol or drugs, that what is inherited is broad temperament, which results in thinking, feeling, and acting in certain characteristic behaviors (personality). Drugs are classified based on their physiological properties. For the purposes of this study, substances will be classified into subtypes of stimulants, depressants, and psychedelics. Substance abuse is defined in the DSM-IV-TR (American Psychiatric Association, 2000) as a maladaptive pattern of drinking or using illegal or legal drugs that leads to significant impairment or anguish in an individual’s life. The current study will be studying a wide range of substances and personality traits, to fill in what has been missing in previous studies. This project will examine categories of specific substances misuse using 200 undergraduate college students. In a group setting, participants will anonymously complete a Demographics Questionnaire, the NEO-PI-R (Costa & McCrae, 1992), and The Customary Drinking and Drug Use Record (Brown et al., 1998). Participants will be classified into groups based on self-reported behaviors. It is anticipated that individuals will differ in personality characteristics as a result of type of substance misuse.

César Chávez: Heritage, Language and Culture in the Classroom
Amanda Nickerson, Graduate
Dr. LaVona Reeves, English

In our society, we are exposed daily to new cultures and languages that enrich our communities, neighborhoods, and classrooms. With this range of diversity, educators should heighten their sense for cultural diversity and encourage their American and ESL students, alike, to open their hearts and minds when learning about this big world and the people who live in it. By integrating these people and their heritages, languages, and cultures from over world into classroom activities, educators will help to open the eyes of the students, and will also amplify their world awareness. This new awareness can then raise a curiosity to learn about the unknown or misunderstood cultures of our world which can, in turn, also reduce the possibility of typecasting. As a studying educator, I have prepared a Literature Focus Unit based on an autobiography about Mexican-American activist, César Chávez. This figure was selected intentionally for this curriculum to introduce prospective students a successful, dedicated, and highly respected man of Hispanic decent. Through this book, students will learn about Hispanic heritage, language, culture, and history, and will leave the course with a better understanding about a prominent and influential culture in our society.
The Development of Adolescent Literature: A Victorian Legacy

Susan Nield, Undergraduate  
*Dr. Beth Torgerson, English*

Increasingly, throughout the nineteenth century, children’s literature came into its own. The effort to educate the masses started the thrust of children’s literature as a genre. From Baden Powell’s *Boy Scout* manuals to primary religious tracts there began a great demand for books for children. In time, writers and publishers become aware that they could target two groups separated by age: teenagers and younger children. Thus, competition among the Victorian publishers started a creative boom in teen-aged reading material. From this came the *Penny Dreadful* and *Marvel Comics*. Teenage boys devoured swashbuckling novels, and adolescent magazines filled the streets and homes of Victorian England. The genre of children’s literature has continued for almost two hundred years. We have the Victorian writers and publishers to thank for their influence on the increase in literacy among all classes of youth through entertaining literature. This research paper will specifically cover the development of the targeted market newly distinguished as “adolescent literature”.

Building Classroom Communities through Journaling

Mana Okabe, Graduate  
*Dr. LaVona Reeves, English*

Second language writers often experience the feeling of anomie, a term first introduced by a French sociologist, Emile Durkheim. There have been difficulties translating the word because Durkheim used only the French *dereglement* to describe its meaning as moral disorder (Mestrovic, 1988). However, anomie is now often defined as “normlessness” or “social uncertainty or dissatisfaction” in second language acquisition literature. This is a report of original research (Okabe, 2008) involving journal writing done by ESL college students in an academic setting in the United States. The purpose of the study was to (1) provide them with the opportunity to write about feeling different and being in a new place and (2) offer strategies for coping with displacement in order to build a community of writers. Samples of the students’ journals will be analyzed, and the findings will be summarized. Suggestions for ways of helping second language learners feel more comfortable on campus will be provided.

Post-Colonial Fallout: Access to English Education for India's Untouchables

Kristopher Olsen, Graduate  
*Dr. Tracey McHenry, English*

Without a doubt, language is a powerful tool, but history demonstrates that not everybody is given the power to wield it. India’s notorious caste system, as well as the discrepancy between literacy rates for men and women, provide fascinating, if disheartening, insight into how equally English is distributed in that country. The research questions “What is Indian English?” “Who has access to English in India?” and “What are the perceptions of English’s status in India?” are explored. Its role as a lingua franca, a glue of sorts binding people from otherwise disparate language backgrounds, will also be discussed.
Conduct Disorder and Adolescent Inhalant Abuse: Affecting Our Children One “Huff” at a Time
Jolene Oss, Undergraduate
Thomas Talarico and Leandra Shaver (co-authors)
Dr. Kayleen Islam-Zwart, Psychology

Inhalant use among adolescence is on the rise. Two-million teenagers in the United States have inhaled a substance such as glue, gasoline, or spray paint to get high (National Household Surveys on Drug Abuse, 2000, 2001). Adolescent inhalant users are significantly more likely than other individuals to show evidence of conduct disorder (Sakai, Mikulich-Gilbertson, & Crowley, 2006). Individuals with conduct disorder are characterized by disruptive behaviors marked by repetitive and persistent violations of the rights of others. It was hypothesized that adolescents with conduct disorder would be more likely to use inhalants at an earlier age, over a longer period of time, and more frequently than adolescents without conduct disorder. The present study utilized archival data collected as part of the National Comorbidity Survey (Kessler, 2000). Results show that those with conduct disorder used inhalants at an earlier age, and more frequently over a longer period of time than those without conduct disorder. This suggests prevention and treatment strategies need to be incorporated at an earlier age, especially for adolescents with conduct disorder.

Willie Will (Feat. Jazz Digga) – “God’s Will” Music Video
PawLy P, Undergraduate
Tom Mullin, Electronic Media & Film

PawLy P presents the music video for God’s Will from rapper Willie Will’s new album with the same title. For more information please visit www.myspace.com/williewill

Creating a Community through Music: Marian Anderson & ESL Students
Mary Parker, Graduate
Dr. LaVona Reeves, English

This is a presentation of the results of data collected for a master's thesis project in which ESL college level writers visited an orchestral choir class in conjunction with reading the biography, A Voice that Challenged a Nation: Marian Anderson. Findings suggest that ESL writers/college students feel less isolated when they can read about Marian's studies abroad, language study, and challenges with discrimination against blacks during 20th century. Performance clips and students' journals will be shared as well as a collaborative project with a music professor and his choir members/students. All found it mutually affirming and extremely beneficial.
Potential Ramifications of Knee Stiffness during Landing on Injury Risk and Jump Performance in Female Athletes
Kristen Parkin, Graduate  
Dr. Ryan Mizner, Physical Therapy  
Dr. Darl Vander Linden, Physical Therapy

A knock-kneed jump landing position has been associated with increased knee injury risk in female athletes. Our primary purpose was to examine the relationship of knee bending stiffness and knock-kneed positioning (known as valgus) of female athletes during a drop and jump task. The secondary purpose was to determine if an expected decrease in knee stiffness after instruction would negatively impact jump height. Twenty female athletes’ knee motion was analyzed using a 3-D motion-capture system. Subjects performed three trials and were then instructed to “land softer” in three additional trials. Peak knee stiffness and knee valgus pre- and post-instruction were calculated. Knee stiffness and knee valgus were positively correlated (p<0.05). After instruction, subjects had decreased knee valgus and knee stiffness, but no decrease in jump height. If the athlete is not absorbing force by bending the knee, forces may need to be absorbed by moving into knee valgus which may lead to the increased knee injury risk in female athletes. Despite the changes in knee stiffness post-instruction, subjects’ jump height performance did not decrease as expected.

Professors Terms of Address
Shawn Pattison, Undergraduate  
Dr. Amani El-Alayli, Psychology

Terms of address college students use to refer to male & female professors differ based on several factors. This study examines how students address their professors when speaking to them directly and indirectly when speaking about them with their peers. Various factors may account for these gender differences in terms of address including: student sexism, professor formality, and student interaction with the professor. We successfully replicated findings from previous research by (Rubin, 1981; Takiff, Sanchez, & Stuart (2001) that male faculty were more likely to be referred by more formal terms of address (e.g. “Dr. X” or “Professor X”) and that female faculty are more likely to be referred to by first name. We also examined some mediating variables including: professors’ age, apparent warmth, clothing style, and degree of interaction.

Life for a Life
Nicholas Pearson, Undergraduate  
Tom Mullin, Electronic Media & Film

This film is a music video featuring two songs from The VanMartes Project. The story follows a young couple dealing with getting pregnant.
Coca Relations between the United States and Bolivia
Megan Peluso, Undergraduate
Dr. Julia Smith, Anthropology

Coca is a traditional South American plant used to produce cocaine. The United States Congress and the DEA want Bolivia to stop growing coca, despite the fact that growing coca is legal in Bolivia. They are afraid the coca will enter in the drug industry. Chewing the coca plant is a long held tradition in Bolivia used to reduce the pain of hunger and help people work efficiently at high altitudes. For this country coca is also a huge cash crop which brings in millions of dollars to an informal sector of the economy. Both sides of this debate do not show respect or understanding towards one another. With the U.S eradication point of view on the drug industry and Bolivia unable to acknowledge the fact that much of the coca grown in Bolivia goes towards the production of cocaine, neither side can reach an agreement. Without both sides considering this information from each country’s point of view and status no potential agreement will be made.

Orange Blossoms
Jill Pendleton, Undergraduate
Don Goodwin, Music

An analysis of the creative process behind the piano/cello duet: Orange Blossoms, based on an ancient poem.

Depression and Age in Relation to Intraversion Versus Extraversion
Erica Peterson, Undergraduate
Michelle Livengood, Noelle O’Neill, and Laura Preciado (co-authors)
Dr. Kayleen Islam-Zwart, Psychology

It is often assumed that depressed individuals are more likely to be introverted rather than extraverted. Research suggests that people in a young age group tend to be more extroverted than people in an older age group. However, research on this subject is limited. The purpose of the present study is to investigate whether depressed individuals in specific age groups are more likely to be introverted compared to those without depression. This study utilizes archival data collected as part of the National Comorbidity Survey (Kessler, 2000). Our findings suggest that depressed individuals within all age groups are more likely to be introverted rather than extraverted. Additionally, as expected, younger individuals demonstrated higher levels of extraversion compared to older adults.
Towards the First Completely Biodegradable Baby Diaper: Preparation of N1,N1'-(alkane-1,4-diyl)bis(N1-(3-aminopropyl)propane-1,3-diamines) by the Catalytic Hydrogenation of 3,3',3'',3''''-(alkane-1,4-diylbis(azanetriyl))tetrapropanenitriles

Elmira Peyman, Undergraduate
Dr. Travis Denton, Chemistry/Biochemistry

Today, 95% of families use disposable baby diapers, therefore 5,000 to 8,000 diapers per child are single use, petroleum based, non-biodegradable products that include, but are not limited to, plastics, adhesives and superabsorbent gels. These baby diapers get sent to municipal landfills at the rate of 3.5 million tons per year, accounting for 1.4% of all municipal solid waste generation. A need exists to produce baby diapers, with the same efficiency of moisture capacity of today’s environmentally catastrophic diapers, which are safe for the environment. It is a goal of our research group to produce biodegradable, polymeric materials, from renewable resources that have individual properties as to create an all biodegradable baby diaper. The preparation of tetraamines, to be used as polymer cross linkers, towards the goal of making superabsorbent gels, will be discussed.

Spirit Awakening
Ty Pfundheller, Undergraduate
Don Goodwin, Music

Spirit Awakening is a tale about a wondering spirit. The journey begins when the spirit is a young adult full of confidence and passion taking the world by storm. Although confident and full of flair there is an underlying sense of soul searching throughout this piece until the very end and you finally get a sense of coming home. The instrumentation consists of piano, cello, and flute, and is set to a more contemporary chamber style.

A Survey of the Fish Community within North Twin Lake, Ferry County, Washington 2007
Cassandra Pharr, Undergraduate
Dr. Allan Scholz, Biology

A fish survey of North Twin Lake, Ferry County, Washington was conducted in 2007. Fish were collected by a combination of electrofishing, gill netting, fyke netting and minnow traps. Analyses included assessment of relative abundance of fish, fish growth rates, and fish food habits. Lengths, weights and stomach contents were collected from a representative sample of each species. A total of 650 fish were caught, comprised of 4.5% redside shiner (Richardsonius balteatus), 57.1% golden shiner (Notemigonus crysoleucas), 23.1% of rainbow trout (Oncorhynchus mykiss), 12.5% brook trout (Salvelinus fontinalis) and 2.9% largemouth bass (Micropterus salmoides). Food habits of rainbow trout consisted of Coenagrionidae (damselflies) and Chaoboridae (midges). Food Habits of brook trout consisted of Libellulidae (dragonflies), Planorbidae (snails) and Phryganeidae (caddisflies). Food Habits of large mouth bass consisted of Coenagrionidae (damselflies) and Gammaridae (scuds). Food habits of golden shiner consisted of Sphaeriidae (clams), Daphniidae (Daphnia), and Hyalellidae (scuds). Average weight and total lengths were the following: rainbow trout = 254 mm, 177 g, brook trout = 219 mm, 100 g, largemouth bass = 294 mm, 300 g, golden shiner = 160 mm, 48 g.
Towards Tumor Cell Targeted, Non-Viral Gene Delivery Agents. Preparation of Polyhydroxypolyamines by the BH3-THF Mediated Reduction of Polyhydroxypolyamides

Whitney Pinches, Undergraduate
Dr. Travis Denton, Chemistry/Biochemistry

A need exists to find a chemotherapeutic agent (in our case, a tumor cell specific gene transfection reagent with minimal or no side effects) to unambiguously target cancer cells. It is of unparalleled importance to develop non-viral, tumor targeting gene delivery agents capable of delivering a highly toxic cargo to the tumor cells while minimally affecting the surrounding, essential, healthy and fast growing cells of the human body. In light of this, novel polyamines must be strategically developed for use as the DNA transport vectors. The objective of our research is to develop and optimize methods for the preparation of polyhydroxypolyamines by the BH3-THF mediated reduction of polyhydroxypolyamides. The results of these experiments will be discussed.

XNA Game Development - NASA Space Race

Jeff Powell, Undergraduate
Stuart Steiner, Computer Science

Virtual worlds and massive multiplayer games have a solid threshold in the entertainment industry. These same genres are now pooling interest in educational and training venues. The National Aeronautics and Space Administration issued a request for information to develop and construct a NASA-based Massively Multiplayer Online learning game. This project’s objective is to create a game for the Xbox 360 using Microsoft’s XNA Game Development Studios while addressing the goals and requirements set forth by the NASA. This talk will discuss the effort to create such a game.

Memory Monitoring: Intact Memory Monitoring with Present Memory Deficit

Laura Preciado, Undergraduate
Dr. Jonathan Anderson, Psychology

Forgetfulness in individuals in the early stages of dementia has been of interest to experimental and applied scientists alike. One process that is important in memory functioning is the ability for individuals to have accurate knowledge of their memory. However, few studies have investigated meta-memory for individuals in the early stages of dementia. The purpose of this study is to investigate memory self-monitoring in individuals during the early stages of dementia. Confidence levels and feeling-of-knowing ratings were used to assess retrospective and prospective memory self-monitoring. 20 participants with very mild dementia were compared to 20 controls matched on age, education, and sex. Results revealed that memory self-monitoring abilities in individuals in the early stages of dementia are similar to those in healthy older adults.
Language Attitudes in Regional Japan
Alex Queen, Graduate
Dr. LaVona Reeves, English

Standardization of Japanese during the Meiji-era obliged the Tokyo prestige dialect to be the national language for all mainstream media, education, business, government, and other areas of the public realm, stigmatizing dialect in the process. However, the past thirty years has seen a revival of regionalism in Japan, a national crescendo of local traditions and rural dialect, reducing the stigma previously assessed with the “country-bumpkinness” of rural Japanese culture. This research analyzes the current perceived relative status of Tsugaru-ben (the dialect spoken in rural northern Honshu, the main island of Japan) in relation to Hyoujungo and prestige issues surrounding language standardization and regionalism in Japan. Differences between the Tsugaru dialect and Standard Japanese will indicate the linguistic distance between the two. Through surveying a sample population of native speakers of Tsugaru-ben and those outside the Tsugaru-ben speech community, the current trend in language attitudes concerning dialect will be explored. Current findings from both the Tsugaru-ben speech community and those of the Hyoujungo speech community will be critically analyzed.

Lucifer as Satan: The Development of an Association
Quinn Redfield, Undergraduate
Dr. Garrett Kenney, English

Satan is a well known figure in today’s world; however, I would like to suggest that some of the most common known details of this character have developed not out of biblical fact or original intent, but rather invented as a result of misreading and false connections. The entire story of the fall and use of the name Lucifer were not even implied initially. In fact, I’d go so far as to state that Satan and Lucifer were never meant to have any connection to one another at all and furthermore that there is no biblical support for the story of the fall. Given the fact that the term “lucifer” appears only once in the entire bible, as well as further cultural and historical contexts unearthed in my research, I have come to the conclusion that the original intent was to make a social commentary on a specific historical individual, and that the fall as well as, the now name of, Lucifer had no connection to the Devil. While I have no problem seeing the character of Lucifer as a development, and therefore acceptable element of western thinking, I wish to point out that this was not the original intent.

The Effects of General Anxiety Disorder on Perceptions of Infidelity in Marriage
Carly Reynolds, Undergraduate
Jessica Brophy, Lisette Cerenzia, and Kimberley Tolley (co-authors)
Dr. Kayleen Islam-Zwart, Psychology

This study examined the effects of General Anxiety Disorder (GAD) on problems in marriage. Research shows that GAD affects marriage negatively, and makes partners insecure about their relationship. We hypothesized that people with GAD are more likely to perceive their partners as committing infidelity. Results were analyzed using a 2(gender) x2(GAD or no GAD) ANOVA. These findings resulted in no significant interaction. Results found that people with GAD are more likely to perceive their partners as unfaithful. It was also found that women marry more times than men in a lifetime. This study utilized archival data collected as part of the National Comorbidity Survey (Kessler, 2000).
Control of Nosocomial Infection in Human Patient Associated Bloodstream Intravenous Catheter Usage
Claudine Richardson Fraser, Graduate
Dr. Sidney Kasuga, Biology

Nosocomial infections are infections resulting from human to human contact in a clinical setting. The use of catheters, for example, account for approximately 100,000 deaths per year. These types of infections are normally treated with antibiotics; however, this procedure potentially influences an increase in antibiotic resistant strains. Therefore, alternative procedures to prevent initial contamination are critical. This study examines the use of non-antibiotic chemical reagents to prevent catheter related blood stream infections. To determine the microbialcidal properties of reagents, 3 bacteria commonly known to be associated with catheter related blood stream infections (Staphylococcus aureus, Pseudomonas aeruginosa, and Bacillus cereus (vegetative)) will be selected and identified; exploring routine microbiological assays. Each bacterial species will be tested against four potentially bacterialcidal reagents; hydrogen peroxide, ethylenediaminetetraacetic acid (EDTA), sodium oxide, and ethyl alcohol in solution. Varying concentrations and combinations of these reagents will be examined in this study. In addition, the exposure time required to optimize the elimination of the bacteria from the catheter port will be determined. Current hospital antispectic procedures suggest that ethyl alcohol poses greater bacterialcidal effect.

It’s a BIG Job & a Critical One: Understanding the Disparities in Access to Health Care among Low Income Black and Hispanic Groups
Claudine Richardson Fraser, Graduate
Dr. Mary Ann Keogh-Hoss, Health Care Administration

Lack of universal health care in the U.S. has become an issue among those it aimed to help the most. Health care has turned into a money making market and as a result has created disparities among minority populations. Such disparities in health are often seen in low income Black and Hispanic communities. As a consequence, these minority groups have more general issues with accessing health care than non-Hispanic groups. These challenges have lead minority groups to feel mistrust of a system, that is nonchalant about the socioeconomic factors and cultural barriers that they are faced with daily. These points, as well as the dimension of a growing insensitive health care system, have made improving access to health care a big job. Yet, exploration of these points is critical in improving access among all populations, especially minority groups.

Where Communication and Collaboration Collide
Shira Richman, Graduate
Dr. Jonathan Johnson, Creative Writing

Throughout history poets have written poems to other poets. The Prelude, by William Wordsworth, was written to one of his friends, Samual Colleridge, and is Woodworth’s book length reflection in verse on his poetic vocation. Modern poets such as Marvin Bell and William Stafford, and Jim Harrison and Ted Kooser have also written poems to each other, forming books of poetic correspondence, Segues and Braided Creek, respectively. What does a specific addressee offer a poem? How are these literary dialogues born? At what point does communication become collaboration? These are some of the questions this discussion will address.
Jet Propelled Radio Controlled Boat
Charles Rodgers, Undergraduate
Terence Geyer, Engineering and Design

As a Senior Capstone project we have decided to build and produce a radio controlled "Jet Propelled" boat. As a team we decided that as a project we wanted something that would challenge our abilities in engineering. The project started off like most do "simple", then grew to a very challenging problem. The project has challenged our knowledge of fluid dynamics, robotics, computer aided design software, calculus, and all of our machining and manufacturing abilities. We have found that a jet drive is a lot more complicated than a normally propelled boat. The "Jet Drive" uses a impeller to create a suction of water that is then pushed through a smaller nozzle creating forward propulsion. Instead of using a ruder the steering of the boat is done by redirecting the outward flow of water. This project has been a difficult but fun and exciting task.

Case Study: Surgical Repair of a Complete Achilles Tendon Rupture
Leslie Rodriguez, Undergraduate
Katie Finnie, Chris Williams and Kimberley Tevis (co-authors)
Dr. Garth Babcock, Physical Education, Health and Recreation

Achilles tendon ruptures commonly occur when an athlete is forcefully pushing off and an over-stretch occurs in the tendon. When a complete rupture occurs, the athlete always needs surgery. A common evaluation technique is the Thompson Test, in which the athlete lies prone and the affected calf is squeezed. A positive sign for this test is a lack of plantarflexion in the affected foot. In this case study, treatment included surgery to reattach the tendon and immobilization including non-weight bearing for 4-6 weeks. The patient is currently participating fully in spring football practices without limitations.

The Effects of Communication Technology on Verbal Skills
Wendy Rosenau, Graduate
Dr. Amani El-Alayli, Psychology

As with all technological advances, the current explosion in communications technology raises the question as to whether there are undesirable consequences that may be derived from it. The present study examines the effects of technological communication on verbal skills hypothesizing that more texting, online chatting, and e-mailing would be associated with lower verbal skills in the areas of spelling and grammar, the identification of correct, incomplete, and run-on sentences, and the appropriate usage of commas and apostrophes. Results indicated that texting especially was associated with more errors in grammar, vocabulary, and the identification of run-on sentences. While similar results were found for chatting, e-mailing showed no relation with a decrease in verbal skills.

Bombing Heaven
Brandon Rosman, Undergraduate
Trevin Spencer (co-author)
Mindy Breen, Engineering & Design

Juxtaposition is a powerful method of communicating ideas. In this visual communication piece, juxtaposition is employed to engage viewers in a dialogue about artists and designers and methods of communication. Photography is juxtaposed with stencil art, war with corporate America, and soldiers with artists to make the viewer question assumptions about what they think they know.
The Biggest Theory Ever
Cristen Royce, Undergraduate  
Dr. Terrance MacMullan, Philosophy

There is a tension between mysticism and pragmatism in the writings of some prominent pragmatists in America. The Unitarian minister/philosopher, Ralph Waldo Emerson, believed that human intuition was the way to gain enlightenment. The famous logician, Charles Sanders Peirce, objected to this sort of epistemology and claimed that strict empiricism was the only valid method for obtaining truth. Their ideas were radically at odds with each other, but they did share some principles. Both believed in the value of experience in making meaning in the world. Both also strived to find an inclusive system of thinking that would counter metaphysical reasoning based on absolute a priori truths. Both were pragmatists. Enter William James, the eccentric American psychologist who successfully synthesized elements of their views into a form of pragmatism that is pluralistic, yet retains its philosophical and critical edge. He believed that the empiricism of Peirce could justify the mysticism of Emerson, if expanded to include religious experience. Through a brief exploration of the problems and hopes each thinker has expressed related to these forms of epistemology, this paper defends the position that pragmatism is a large enough theory to embrace mysticism without forsaking its empirical respectability.

A Cautionary Tale: A Study of Primary Documents Related to the Execution of John Billington, the Mayflower Murder
Pippin Rubin, Graduate  
Dr. William Youngs, History

Without the use of a time machine, historians are dependent on artifacts to study the distant past. Usually those artifacts take the form of written documents. The further back in time and the more obscure the event being studied is, the harder it is to obtain an abundance of relevant documents. In seeking information about the trial and execution of John Billington (which took place in Plymouth Colony in 1630), I discovered that the vast majority of secondary sources on the topic were based on one primary source, that of William Bradford who was governor of Plymouth Colony at the time of the execution. Using this case as an example, I explored the dangers historians face when they base all of their research off of one primary source.

An Investigation of Resources for Homeless Families in the Spokane Area
Dawn Ruebush, Undergraduate  
Dr. Pui-Yan Lam, Sociology

In 2007, there were 167,405 individuals in 82,208 households turned away from emergency shelter services throughout the state of Washington. The need for emergency housing for families in the greater Spokane area is rising at alarming rates. The intention of this research was to find emergency housing resources available for families in the Spokane area, more specifically, services that would not require families to separate in order to receive assistance. Qualitative and quantitative research methods were utilized to explore services available for families in the Spokane area currently struggling with homelessness. Several interviews with professionals working directly with families in our community were conducted. Statistical data was gathered through extensive research on government, state and local websites as well as brochures from non-profit organizations.
Paradoxical Quadriceps Muscle Activation in People with Knee Osteoarthritis Performing Curb-Climbing Tasks
Kevin Rupp, Graduate
Dr. Ryan Mizner, Physical Therapy

People with knee osteoarthritis face many functional deficits. An activity that has not been well studied is the negotiation of curbs which are common in the community. Our purpose was to determine the relative knee loads and the quadriceps muscle demands of curb negotiation in healthy older adults compared to people with knee osteoarthritis. Fourteen healthy adults and three individuals with unilateral knee osteoarthritis underwent an electromyographic and 3D motion analysis of ascending (up) and descending (down) a curb. In the healthy group the highest quadriceps muscle activation was observed in the lead leg going “up” and the trail leg going “down” conditions, which corresponded with the greatest torques placed on the knee. While these tasks still placed relatively large torques at the knee, they provoked the lowest quadriceps activations of the four curb conditions in the knee osteoarthritis group. This seemingly contradictory scenario suggests that there may be differences in motor control inherent in coping with knee osteoarthritis. Low muscle activation levels set the stage for relative muscular disuse patterns that could interfere with the often difficult task of restoring strength during rehabilitation.

The Relationship between Exercise Knowledge and Self-Efficacy, Motivation, Cognition, and Age in Patients Hospitalized with Cardiovascular Disease
Ashley Rysdam, Graduate
Dr. Tanya LaPier, Physical Therapy

Adoption of exercise is an important lifestyle modification for patients with cardiovascular disease (CVD). The purpose of this study was to determine if a relationship exists between exercise knowledge and other characteristics in patients with CVD, and to determine patient’s baseline knowledge of recommended exercise parameters. This study included 50 patients who were admitted to the hospital for a CVD related diagnosis from a regional medical center. Patient’s scores on an exercise knowledge test correlated with scores on the Self-efficacy for Exercise Behavior Scale, Self-motivation Scale for Compliance, and Telephone Interview of Cognitive Function, but not with scores on the Barnason Cardiac Efficacy Scale or age. Results suggest that patients with CVD who understand exercise guidelines have greater self-efficacy and motivation for adopting and maintaining exercise behaviors. Exercise knowledge was directly related to cognitive function but not to age or cardiac symptom self-efficacy. In addition, it appears that most patients do not understand the exercise parameters recommended for secondary prevention of CVD.

Harry Potter and the Power of House-Elves
Michelle Schultz, Graduate
Dr. Christina Valeo, English

Within her popular series of novels, J.K. Rowling presents several different species that are considered to be less important and less powerful than wizards, the dominant culture. While most of these sentient species such goblins and centaurs are shown to have worked against the wizards in favor of rights they believe they are entitled to, house-elves accept their “given” position as the servants of wizards, in most cases happily. House-elves are treated as though they are magically impotent and worthless when in all actuality they are possibly the most powerful magical race in the series. Each of the four main house-elf characters shows that as a species they are able to perform magic without relying on a wand or being formally taught; also, they are capable of interfering with complex wizarding magic without being traced by the Ministry of Magic as wizards are. By looking at the way house-elves use their magic, as well as their magical limitations, I will show that as a species, house-elves are equal to wizards in power.
Vinegar Flats: A Community in Transition
Robert Seale, Graduate
Dr. Dick Winchell, Urban and Regional Planning

The purpose of this paper and subsequent presentation is to provide a historical and current profile of the Hangman Creek/Vinegar Flats neighborhood. Nestled along Hangman Creek and bordered by basalt cliffs, the neighborhood of Vinegar Flats, originally named Staffords Addition, has undergone very little change in its 120 years. Originally established in 1888 as a blue collar, workers community, Vinegar Flats offers a unique identity and hidden landscapes. The community today, much like its previous inhabitants, shares a distinctive character of both rural and urban mentalities. My research has shown that these characteristics are what provide the community members of Vinegar Flats with a dedication to the arts, agriculture and a sustainable approach to living. With this in mind, the members of Vinegar Flats foresee a bright future and a renewed sense of Rural Urbanism.

Familial Disharmony and Domestic Satire in the Works of Jane Austen
Amy Shank, Graduate
Dr. Christina Valeo, English

Jane Austen is too often considered a writer of conservative domestic fiction, upholding restrictions of a restrictive society. Readers tend to view her novels as idealized romances, without examining the family dynamics she portrays. These views do not take into account the complexity of either the society in which her novels are set or Austen’s ability as a writer. A close examination of Austen’s fictional families shows us how revolutionary Austen’s work is, and that what she was writing was not domestic fiction but domestic satire. Austen takes readers’ conceptions of “ideal” family life and turns them inside out to reveal the instability of family life. By examining the Elliot family of Austen’s novel *Persuasion*, I will show that her work is actually a critique of family life and that her ability to portray realistic families undermines the concept of an ideal family.

Verlan: Language Variation and Identity in France
Jennifer Shannahan, Undergraduate
Dr. Michael Zukosky, Anthropology

Verlan is an interesting language-game that has developed into a distinctive, changing dialect in French society. This paper is based upon fieldwork on language varieties in France during July of 2007, formal discussions with professors of French language and culture in France and the U.S., evaluations of French media, and literature review concerning verlan. From this research, I argue that verlan serves as a sociolinguistic window into the identity politics between national French society and the second-generation youth of France’s immigrant ethnic minorities whose language difference has been a point of exclusion and marginalization. As an improvised language that modifies its parent tongue, verlan demonstrates the broader conflicts and struggles within French society between these social groups, specifically the alienation of the second-generation immigrant youth. Developed as a response to society’s denial of their legitimacy in French culture, verlan exists as the youth’s most powerful tool toward establishing social and personal identity.
**Pontential for the Use of Digital Video Cameras to Aid in Knee Injury Prevention Screening of Female Athletes**

**Michael Shelton, Undergraduate**  
*Dr. Ryan Mizner, Physical Therapy*

Female athletes are more likely to experience knee injuries compared to male athletes. “Knock-kneed” postures with greater frontal plane torques is a factor related to knee injury risk. Affordable and easy-to-use methods of assessing leg posture and loading would be a valuable clinical tool to screen female athletes who are at risk for knee injury. We compared the reliability and validity of measuring knee posture in 35 female athletes during a drop vertical jump task using a digital camcorder, compared to high-cost multi-camera laboratory equipment. Photos were isolated from the camcorder (front view) while the athletes were in peak knee bend. We determined the frontal view knee angle and the ratio of the distance between ankle joints compared to distance between knee joints. A larger ankle-knee distance ratio had a higher correlation to potentially dangerous knee loading ($r=0.55$, $p<0.0001$) compared to the frontal view knee angle ($r=0.302$, $p<0.035$). Use of the ankle-knee distance ratio is preferred over knee angle for estimating potentially dangerous knee loading when screening female athletes for knee injury.

**The Chemical Ecology of the European Earwig**

**Elizabeth Simonson, Undergraduate**  
*Dr. Camille McNeely, Biology*

The European earwig, *Forficula auricularia*, is one of the few species of insects that exhibit maternal care of their young; when eggs are left unattended they die of fungal infection. *F. auricularia* produce 2-methyl-1,4-benzoquinone, a defense compound that has been suggested to have antifungal properties. The purpose of the present research is to determine if 2-methyl-1,4-benzoquinone and its constituent hydroquinone possess antifungal properties. We are testing the compounds against a Penecillium fungus isolated from soil inhabited by earwigs to determine the concentration that inhibits fungal growth. We will compare inhibitory concentrations to the concentration used by the insect for defense. We plant to determine whether earwigs are less sensitive to this compound than insects that do not produce it. Finally, we will determine if concentrations that inhibit fungal growth have negative impacts on plants as preliminary investigation into the compounds’ usefulness as an agricultural fungicide.

**Research Proposal: Urban Morphological Analysis of Rousse, Bulgaria**

**Donald Sims, Graduate**  
*Dr. Dick Winchell, Urban and Regional Planning*

This paper will apply the analytical urban planning model developed by M.R.G. Conzen to examine the development of Rousse, Bulgaria, where I served as a U.S. Peace Corps Volunteer from 2004 to 2006. The paper will describe the urban development of Rousse from its initial settlement and early role as a Roman town to the present with emphasis placed on the post WW II Soviet era construction styles. Rousse has a history of urban form structures and styles which will be documented and assessed using Conzen's techniques. During the Industrial Revolution Rousse played an important role in early European history since it lies at a key location on the European-Asian trade route as a border town on the Danube River where rail cars connect Europe and Asia. During the Communist-era Rousse was a trade, educational and industrial hub, and significant development of Soviet style apartments changed the form of the city dramatically. Since 1989 through the changes to a free market system Rousse’s economy has been hit hard, with a loss of population. These different historic patterns document a most unique urban morphology, the first completed of Rousse, Bulgaria, and offer insight to the future of the city.
Migration in China
Joel Soden, Graduate
Dr. Dick Winchell, Urban and Regional Planning

For the first time in the history of the world, more people lived in urban cities than in rural communities in 2007. Although the movement from the countryside to the city has been the trend, China’s recent industrial development has spurred a massive migration of rural workers looking for work in the big cities. This sudden mass of people to urban environments has created a number of problems. Aside from simply finding a place to put all of these migrants, the Chinese government faces issues never encountered before: Racism, classism, increased crime rates, and additional burdens on already overused infrastructure. How will China address these issues? What effect is this having on the nation as a whole? Is this situation unique or can China take a lesson from the past? What can be done to remedy these issues? Recently scholarly studies have identified some critical issues related to land use and immigration in China. Drawing on my own experiences in China and my impressions of the Hong Kong land use conference, I will explore the most critical issues facing China today.

Comparison of the Shoulder Kinematics And Muscle Activity between 1-Mason and 2-Mason Lift Teams Using 12 Inch Concrete Block
Kevin Spiegel, Graduate
Jennifer Hess (co-author)
Dr. Danil, Anton, Physical Therapy
Dr. Ryan Mizner, Physical Therapy

Due to the nature of their job, masons are at a high risk for shoulder injury. A proposed injury prevention measure is using a 2-mason lift team versus the standard 1-mason lift technique. Ten masons constructed walls of 12-inch concrete block (20kg) using these two techniques. Comparisons of shoulder motion and muscle activity were conducted using a three-dimensional motion capture system and surface electromyography. Analysis showed no significant difference in shoulder forward elevation, except at waist-height levels where masons elevated their arms more when working alone. Masons also elevated their arm out to the side more with the 2-mason technique at ground and chest levels. Shoulder muscle activity at ground level was not different between the techniques, but was significantly reduced using the 2-mason technique at waist level. Muscle activity was significantly increased using a 2-mason technique at chest level. It may be suggested that masons should use the 2-mason technique at waist level while continuing to use the 1-mason technique at chest level.

Jail Study
Kimberly Stankovich, Graduate
Dr. Kayleen Islam-Zwart, Women's/Gender Studies

As the population of prisons and local jails grow each year (Bureau of Justice Statistics, 2006) so does the number of visitors to these facilities. Though there have been many articles written about the demographics of these facilities but not many have been written about the demographics of the visitors. This observational study will try to find out who visits inmates at one local jail. One past article seems to point to a difference between women’s and men’s facilities and that women tend to visit men in prison while female family members, children, and friends tend to visit women in prison (Tewksbury & DeMichele, 2005; Fuller, 1998). Reni Bartlett found when children keep in touch with their mothers in prison it helps these children and their mothers reunite after release (2000). Furthermore, Jiang and Winfree found having this social support gave women a feeling of closeness to their own families and made their full indoctrination into the inmate subculture less likely (2006). If this concept works with women why isn’t it encouraged for men’s institutions? Therefore, this study has the possibility to be a foundation for further research for other investigations.
**Bird of Prey**  
*Drew Stern, Undergraduate*  
*Don Goodwin, Music*

*Bird of Prey* is an art song written around a poem by Jim Morrison. The song’s harmonies are much more ethereal as they are quartally based. Also, there are traces of exoticism in the piece such as the pentatonic vocal melody. Each stanza of poetry is set to a specific motive represented in the guitars and bass following and foreshadowing the text. Sound effects are utilized throughout the piece by the first guitar, which makes use of a delay effect pedal. An example of this effect is used in the beginning of the piece opening with an imitation of birds flying in the distance. In this presentation, *Bird of Prey* will be preformed and I will explain how I composed this piece.

**Lullaby for a Worried Mind**  
*Drew Stern, Undergraduate*  
*Don Goodwin, Music*

The piece “Lullaby for a Worried Mind” displays a more emotionally expressive side to my compositions. Written in sonata form, the work opens with a simple haunting melody in the piano which reoccurs numerous times in the piece. Throughout the song, the violin and the piano work together rhythmically to create forward motion that builds increasing tension until the end, where the violin frantically fades away and the piano resolves to a final simple yet beautifully melancholy sounding chord. In this presentation, the piece will be performed and I will explain my creative process used in this composition.

**The War on Drugs: The History of a Failed Policy**  
*Brad Thew, Undergraduate*  
*Dr. Ann LeBar, History*

Right now, America is in the middle of a war, a war we’ve been fighting for decades. It is a war that is fought on many different fronts, ranging from our classrooms to national borders, and it is a war that the United States has already lost. This war is infamously known as the War on Drugs, and the reason for its continuance is not clear. The United States has lost this war. We have become a nation in which millions of Americans are imprisoned on drug-related charges, and there is no end in sight because leaders seem unwilling to admit defeat. This examination of the War on Drugs provides a historical background on the war, focusing on the politics, economics, and hard facts, leading us to the grim fact that the War on Drugs has actually accelerated the proliferation of narcotics. Finally, the paper examines the moral backdrop of the war and demonstrates how the ideology of the war is based on antiquated Kantian philosophy, creating a situation which the United States can never win.
For-Profit or Nonprofit Hospitals, Which is Better for the U.S. Health Care Consumer?
Diana Thew, Graduate
Dr. Mary Ann Keogh-Hoss, Health Services Administration

As the hospital industry becomes more concerned with costs, quality and efficiency, there is more competition in all aspects. One of these areas of conflict is between nonprofit and for-profit hospitals where conversions, mergers and other forms of acquisitions and joint ventures are happening more often. Through conversions of nonprofits to for-profit ventures, the question has been raised, “Is the American health care consumer better off or not?” Presenting an overview of research addressing the question of conversions and presenting the data gathered, this paper suggests that Americans are not better off with for-profit hospitals. The cost savings methods used to create a profit for these hospitals often results in lower quality of care.

An Interdisciplinary Service-Learning Project
Carl Tibbetts, Undergraduate
Dr. Jeff Donnerberg, Engineering & Design

During winter quarter students form the Occupational Therapy (OT) and Engineering & Design (E&D) Departments work side-by-side in an interdisciplinary course titled Technology and Occupational Performance (OCTH 541). OT students begin working with a client that is impaired at the start of the quarter. They conduct an assessment of the client to accurately define their impairment. Once defined, OT students work with E&D students to design a needed apparatus for the client. E&D students then fabricate the apparatus according to the design criteria. The challenge was to design and fabricate a back pack manipulator for the client’s electric wheelchair. Design criteria included: a maximum cost of $60, powered by the wheelchair battery, easy to operate, and manipulate the back pack from the back to the side of the wheelchair. The apparatus used an electric window motor from a salvage yard to power a gearbox that reduced the speed and increased the torque. Mechanical lever arms were used to achieve the desired action and movement and two limit switches were employed to control the forward and backward motion.

Comparison of Knee Torque During the Four Conditions Associated with Curb Negotiation in Healthy Adults
John Toepke, Graduate
Dr. Ryan Mizner, Physical Therapy

Ascending and descending curbs is frequently encountered in community living adults and is a pain-provoking task for individuals with knee pathology. There is little research comparing torques and muscle activation during the curb negotiation phases of lead leg while ascending, trail leg while ascending, lead leg while descending or trail leg while descending a curb. The purpose of our study was to determine which curb task created the greatest knee torque and muscular demands. Thirteen healthy older adults were asked to go up and down a curb at their normal pace while evaluated with quadriceps muscle electromyography and a 3-dimensional motion analysis. The greatest torques at the knee in rank order were trail leg down, lead leg up, lead leg down and trail leg down, while greatest quadriceps muscle activity rank was lead leg up followed by trail leg down. Muscles are strongest during lengthening contractions which probably helps keep trail leg down from having the greatest activation levels. The tasks of lead leg up and trail leg down probably deserve special attention when evaluating patients with knee pathology.
Industrialización y Sus Consecuencias en las Mujeres de Juárez (Industrialization and Its Consequences on the Women of Juárez)
Ashley Troha, Undergraduate
Dr. José García-Sánchez, Spanish Education

Over the last ten years, more than 400 women have been killed in the border town of Juarez, Mexico. Juarez, located just 10 kilometers from El Paso, Texas, is currently experiencing industrialization as a result of a treaty passed for free commercial trade between Mexico and the United States (TLC). Today, there are over 200 American owned factories in which women make up the majority of the employees. Upon building the 100’s of factories, the people of Juarez were promised a better quality of life, however instead, the average pay for these women is $4.20 per day, they receive no benefits, they still live in extreme poverty, and they now face the fear of being killed daily. I researched whether or not the industrialization of Juarez was related to the killings that have taken place over the last decade. I found that the killings began at the same time as the factories were beginning to operate, and that often times the labor rights of women workers were violated which in some cases led to the deaths of women employees.

En los últimos 10 años más de 400 mujeres han sido asesinadas en la ciudad fronteriza, Juárez, México. Juárez, localizado a solo 10 kilómetros de la ciudad americana El Paso, Texas; esta creciendo industrialmente como resultado de la aprobación del tratado de libre comercio entre México y los Estados Unidos (TLC). Hoy en día, hay más de 200 maquiladoras que pertenecen a dueños americanos y la mayoría de los empleados de esas maquiladoras son mujeres. Cuando construyeron las maquiladoras, la gente de Juárez fueron prometidos que hubiera más trabajos y que sus vidas serían mejoradas, pero en vez, las mujeres reciben un salario de $4.20 por día, sin beneficios y viviendo en una pobreza sin fin con el temor de ser asesinadas día tras día. Yo investigué si hay una relación entre la industrialización de Juárez y los asesinatos de mujeres en la última década o no. Descubrí que los asesinatos empezaron al mismo tiempo que las maquiladoras empezaron a operar, y que frecuentemente los derechos laborales de las mujeres fueron violados y en unos casos las mujeres fueron asesinadas.

16S rDNA Analysis of the Microbial Community of Granite Lake
Robin Voigt, Graduate
Dr. Donald Lightfoot, Biology

Natural alkaline lakes have rarely been studied for their microbial communities. Extreme pH conditions ensure that the microbial communities that thrive in these conditions are unique due to their adaptation to their environment. Characterization of these communities will expand our knowledge of alkaline lakes, representing a snapshot of microbial diversity present in Granite Lake. I expect that many well characterized bacteria typically found in alkaline environments as well as some unidentified bacteria will be present in this environment. Using a molecular based approach, I will be examining 16S rDNA sequences from a clone library obtained by PCR amplification from the genomic DNA of lake bacteria. These sequences will be analyzed to determine the phylogenetic relationships among isolates and different communities within the lake. The structure of the communities will be compared using phylogenetic statistics to assess similarity of the sequence collections. Samples taken at three depths from five locations within the lake will provide three unique sub-communities to compare. The importance of any novel isolates discovered could lead to discovery of new physiological, metabolic, and adaptive traits that can be characterized for a more complete understanding of the microbial community.
Measuring Function and Disability in Patients with Cardiovascular Disease: Using the Late Life Function and Disability Instrument as a Self-Report Outcome Measure
Michele Waitt, Graduate
Dr. Tanya LaPier, Physical Therapy

Many self-report tools that measure function and disability are not sensitive to small changes in patients with cardiovascular disease (CVD). The Late Life Function and Disability Instrument (LLFDI) addresses these measurement limitations, however, it was initially developed to be used as an interview-based outcome measure. The purpose of this study was to determine if the LLFDI could be administered via self-report instead of by interview in patients with CVD. Patients recruited from an outpatient Cardiac Rehabilitation Program completed the LLFDI in a self-report format and again using an interview format 1-5 days later. We used descriptive statistics, correlations, and t-tests to analyze the data (P < 0.05). All LLFDI component scores obtained via self-report were significantly correlated (r = 0.77-0.95) with scores obtained via interview. The LLFDI should be considered a viable outcome measurement choice for patients with CVD because it can be administered via self-report and provides a sensitive measure of function and disability.

Kant and the Iraq War
Alex Wardian, Undergraduate
Dr. Kevin Decker, Philosophy

The war in Iraq is clearly morally controversial, but little has been said about what one of the most famous and influential modern philosophers, Immanuel Kant, might say in support of the war. After reading his powerful philosophical pieces, one might assume that Kant would disagree with the decision to go to war in Iraq. I, on the other hand, give a more refined look at Kant’s political statements that demonstrates the opposite view. There are many aspects to war and preemptive strike but I address the leading concerns and suggest how Kant would approach these tough moral issues.

XNA Game Development - Graphics
Johnathan Warner, Undergraduate
Stuart Steiner, Computer Science

The key to any modern video game is the computer graphics. In order to develop the graphics for the game, a programmer must consider many different topics. These topics include models, shaders, animation, character movement, and texturing. It is often thought that shaders and textures generate the best payoff for a little work. Using a combination of shaders and textures the simplest models can appear realistic. This talk will discuss the appropriate implementation of graphics as related to developing for the Xbox 360.
Grade III Ulnar Collateral Ligament Sprain of the Elbow: A Case Study
Tatsunori Watanabe, Undergraduate
Chelsea Lackey and Venessa Nersten (co-authors)
Dr. Jeffrey Kawaguchi, Physical Education, Health and Recreation

The ulnar collateral ligament (UCL) sprain of the elbow is one of the most common injuries among high school, collegiate, and Major League Baseball (MLB) pitchers (American Sports Medicine Institute [ASMI], 2008). The elbow UCL sprain could result from a traumatic valgus stress, or repetitive overhead-throwing motion (Houglum et al., 2005). The current study describes the typical signs and symptoms for a UCL sprain and differential diagnosis. Furthermore, it highlights the rehabilitation protocol, return to play criteria, and the surgical procedure for this injury; called “Tommy John Surgery”, named after a pitcher for the Los Angeles Dodgers. This case study spotlights a football player at Eastern Washington University (EWU) who sustained a grade III UCL sprain of the elbow at a preseason game on August 31st, 2007. It was initially treated by a head athletic trainer at EWU and an attending physician’s assistant with follow up evaluation by the team physician. The patient underwent an extensive rehabilitation for approximately 3 months, and now has successfully returned to play.

Potential Effects of the Invasive Brook Stickleback Fish on Columbia Spotted Frog on Turnbull National Wildlife Refuge
Brian Watkins, Graduate
Dr. Margaret O’Connell, Biology

Invasive fish species can impact aquatic communities through competition and predation. The Brook Stickleback is an invasive fish species present in ponds on Turnbull National Wildlife Refuge and poses a potential threat to its aquatic communities. For example, surveys by refuge personnel indicated sticklebacks cause tail wounding of Columbia spotted frog larvae. This study examined the potential effects of the Brook Stickleback on tadpole larvae on the refuge. I placed amphibian traps at ponds with and without stickleback to compare the relative abundance of spotted frog larvae in these ponds. Larvae were collected from other ponds, brought into the lab, and divided into three groups to examine the effects of tail wounding on metamorphosis. One group had 20% of the tail removed, the second had 40% removed, and the other served as the control. No Spotted frog larvae were trapped at ponds with stickleback present whereas larvae were abundant in ponds with no stickleback. Metamorphosis was delayed in larvae with tail wounds while it was not in the control group.

Health Care for the Connoisseur
Romeal Watson, Graduate
Dr. Mary Ann Keogh-Hoss, Health Services Administration

It’s an undeniable fact that anyone who has contributed to the well being of the United States has a right to receive adequate health care in this country. Citizen and non-citizens are both working in the most dangerous and unclean sorts of working conditions. Being so poorly treated, and so well hidden, the realities of the people who are sometimes the most deserving of adequate health care, go unacknowledged. Their wages are barely enough to afford rent, and yet it’s expected that these group find extra time and money to find health insurance. In this way, governmental benefit systems have become a powerful source of control over low income people (Cloward & Piven, 1972). This form of control often forces the working poor into haggling between adequate health care and safe affordable housing. Barbara Ehrenreich’s 2001 book entitled, Nickel and Dimed: On (Not) Getting By in America, provides a clear example of how life exists for the working poor. This presentation will discuss various healthcare obstacles as it relates to the 47 million uninsured Americans.
Foster Parents Perception of Concurrent Planning in Idaho Region I
Sheri Weistaner, Graduate
Larissa Lotton (co-author)
Dr. Lisa Avery, Social Work

Concurrent planning was originally designed and implemented only in cases with poor prognosis where an adoptive family had already been found. The State of Idaho has determined it will utilize concurrent planning in all dependency cases. To determine the strengths and challenges of this type of implementation, focus groups were conducted in the five northern counties of Idaho with 18 foster parents participating. Foster parents feel that concurrent planning would be more effective and efficient if communication was improved, foster parents were treated more as colleagues, safety concerns were addressed, and boundaries were respected. The small sample size and geographic isolation of this study may reduce the generalizability. There is a need for further study of concurrent planning as it is currently being implemented especially studies involving biological families.

Media, Personality and the Mind: How Violent Media and Personality Traits Affect Memory
Elizabeth Welch, Undergraduate
Dr. Kayleen Islam-Zwart, Psychology

Research has shown that violent media can influence cognitions (Bushman & Geen, 1990). Specifically, when violence increases, aggressive thoughts also increase. Research has also found that individuals who are exposed to violent cues (e.g., guns), aggressive behavior may increase (Anderson, Benjamin, & Bartholow, 1998; Bushman & colleagues, 1998; 2002). Along with media, specific personality traits (e.g., Antisocial Personality Disorder traits) have also been associated with violent behavior (American Psychological Association, 2000). The current study examined the effects of a brief violent media clip (e.g., less than one minute) on memory as well as the effects of specific personality traits on memory. Specifically, the study examined whether after being exposed to a violent media clip individuals would recall more violent words than before the media clip. Secondly, the study examined whether specific antisocial personality traits, affected the recall of violent words. Although significant results were not found in regards to memory and personality, significant results were discovered in regards to recall of violent words before and after the media clip (i.e., more violent words were recalled after the clip).

Baseline Developmental Status of Newborn Infants with Congenital Heart Defects
Mecque Whitcomb, Graduate
Riley Childers, Jayme Duncan, Ashli Jones, and Christine Soberg (co-authors)
Margaret Miller, Occupational Therapy

Congenital heart defects (CHD) are heart conditions that are present at birth and can affect any part or function of the heart. It is a fairly common defect with an incidence estimated to be 8.6 per 1000 and approximately 4400 babies born annually in the United States (Rogers, 2005). Infants with CHD are at risk for developmental delays due to many factors including physiologic compromise with decreased cardiopulmonary function, lack of typical experiences during critical periods, and risk for failure to thrive. The purpose of our study is to determine if newborn infants with CHD demonstrate altered neurodevelopmental and neurobehavioral status. Study Design. In this pilot study three male infants with CHD were assessed in the NICU at Sacred Heart shortly after birth. Over a two day period the infants were assessed using two standardized neurobehavioral and motor assessments: NICU Network Neurobehavioral Scale (NNNS) and Test of Infant Motor Performance (TIMP). The results of the assessments are currently being analyzed.
Pragmatism and Faith Side by Side
Joshua White, Undergraduate
Dr. Terrance MacMullan, Philosophy

It has been widely practiced that faith and pragmatism are two areas of life that cannot be contained within the same space. I disagree with this. In my presentation I will prove that pragmatism and faith can coexist and strengthen each other. For part one I will explain the ideas and practices of pragmatism and how they are applied to our lives and whether they allow for God; part two will consist of the practices of faith and how they are not rooted in “blind faith” but in concrete fact and doctrine; part three will consist of how the two can bind together to form a hardened bond of logic and morality.

Social Activism and Community: The Power of Social Justice in ESL Classrooms and Weblogs
Andrea Whittemore, Graduate
Katsuhide Tsuchiya (co-author)
Dr. LaVona Reeves, English

As students enter a global society, they will be faced with a myriad of social concerns, both international and familiar. By creating a dialogue about social change and awareness in the classroom, the focus moves beyond improving their language of acquisition to the larger world perspective of which they will become a part. This dialogue may start in the classroom, but it can be exponentially expanded through the highly-accessible medium of weblogs. Weblogging becomes a social exercise for students to communicate and explore social concerns in English, while stepping away from the molded and predictable exercises of practice modules in the classroom. By utilizing a practical and common social forum, students step into a dynamic and fluid conversation with worldly applicability.

In the Mouth of Madness: A Look into the Architecture of American Asylums
Blaine Wickham, Graduate
Dr. Charles Mutschler, History

At the turn of the twentieth-century insane or lunatic asylums, as people then and sometimes now refer to them, were a common sight. Today and for a variety of reasons, these massive places are, for the most part, dormant, hollow shells that are the sites of debauchery, graffiti and vandalism. Perhaps that is because society wants to forget about the places that are the settings of distant bad memories, stories of mistreatment that bordered on out-right abuse, electroshock therapy, lobotomies, current B-budget movies, and the list goes on. Maybe the populace had abandoned many of these places because they are a reminder of an archaic time in medicine that is better for society to forget. It is my intent to explain how these edifices came to be. By focusing on the architecture of the buildings and explaining the grounds, I hope to elucidate why I believe these buildings are uniquely American. Why the American society should not disregard them, but rather keep them as a reminder of our past to show how far America and the medical profession have progressed.
The Involvement of Commoners in the Traditional Mesoamerican Ballgame
Patrick Wilkinson, Graduate
Dr. Julia Smith, Anthropology

Archaeologists and historians have traditionally labeled the Mesoamerican ballgames, in their various forms, as activities limited to the elites. While there is considerable evidence to support elites dominating the game, new discoveries support the supposition that commoners too might have played and that the ballgame had enormous impact on their lives. I have reviewed the known sites in the Belize River Valley and have discovered patterns of construction techniques, architectural styles, and population ratios that show far more people were playing the ballgame than the two percent usually referred to as elites by anthropologists. In particular, as access to elite residential complexes became restricted in the Late Classic Period, new courts were constructed outside of the civic centers, and the only logical explanation for this is that they were constructed for non-elite use.

Globalism, the Cotton Textile Industry, and Child Labor
Laura Willis, Undergraduate
Dr. Julia Smith, Anthropology

The scandal surrounding the revelation that a GAP subcontractor utilized child labor in India for this year’s Christmas apparel makes it clear that child wage labor in textile manufacturing is not a thing of the past. This paper argues that the structure of the cotton textile industry, in which textile production is moved around the world, makes the use of child labor impossible to eliminate. The commodity chain approach facilitates the identification of the nodes in production in which complicated contractual relationships between United States companies and layers of contractors and subcontractors, combined with lax attention by government agencies concerned with increasing employment in poor countries, allow manufacturers to utilize child labor without fear of penalty. Without a radical reconstruction of the subcontracting system for producing textiles new regulations to eliminate child labor are unlikely to have a meaningful effect.

Volcanic Suite
Alexander Wolfe, Undergraduate
Don Goodwin, Music

Mr. Wolfe will be presenting his Volcanic Suite for brass quintet, a musical representation of the volcanoes of Washington. The movements of the piece tend to broadly follow A-B-A form. Mr. Wolfe will explain how the melodies for each A and B section have been derived by inserting the volcanoes’ names into two grids—one nominal and one intervallic—to turn the mountains’ monikers into sequences of notes which were then manipulated to become or inform the “A” and “B” melodies within each movement. The Eastern Washington University Honors Brass Quintet will be playing Mr. Wolfe’s composition.

A Comparison of Metaphysical and Analytical Interpretations of Hegel's Philosophy
Caleb Woodrow, Undergraduate
Dr. Kevin Decker, Philosophy

The aim of this paper is to compare traditional or “metaphysical” interpretations of Hegel’s philosophy with non-traditional or “analytical” interpretations. Specifically, Stephen Houlgate’s more traditional interpretation of Hegel’s philosophy is compared and contrasted with Terry Pinkard’s analytical interpretation.
Don’t Remind Me! How Thought Suppression Effects Open Memories
Ia Xiong, Undergraduate
Dr. Philip Watkins, Psychology

This study investigated how the tendency to suppress thoughts may affect the impact of recalling an unpleasant open memory. Participants took self-report measures including the white bear suppression inventory and the rumination on sadness scale. The participants were then asked to recall an unpleasant open memory and responded to more self-report measures. Results indicated that participants higher in suppression had a more negative impact when having to recall an open memory and their memories were more open and intrusive. This suggests that thought suppression may inhibit the processing of open memories, preventing them from getting resolved. Looking into possible interventions for those who have a tendency to suppress may be beneficial in improving well being.

Voices of Reason: Political Satire of John Milton and Miguel de Cervantes
Maegan Yapp, Undergraduate
Dr. Armand Garcia, History
Dr. Ann LeBar, History

This paper is a glimpse into 17th Century England and Spain in relation to empire building. An evaluation of the literary works, Paradise Lost, by John Milton and Don Quixote, by Miguel de Cervantes are used to display how these authors used political satire to criticize their respective governments. Milton chooses to use Paradise Lost as a method to convey his criticism toward the religious justification used by England for empire building. Cervantes chooses to use Don Quixote as a method to convey his criticism toward the elitist mentality that drives empire building in Spain. Critical interpretation of both literary texts also leads readers to believe that characters in each story are symbolic for the events and people of the 17th Century. This paper aims to give understanding to why these texts were a voice of reason during a chaotic period of political and religious events. Milton and Cervantes ushered in governmental criticism at a time when criticism toward governments was a cacophonous topic.

The Oddity of One
Tana Young, Graduate
Nance Van Winckel, Creative Writing

The oral tradition in poetry is thousands of years old. The spoken word in lyric form is powerful in its ability to convey an underlying essence of shared human experience. These original poems are a culmination of more than two years work. They examine longing, loss and our essential aloneness.
The Evolution of the Director through the Man Who Caught Kong
Bradford Yurkiw, Undergraduate
Tom Mullin, Electronic Media & Film

Over the course of film history, the cultural status of the film director has evolved from an unappreciated, but necessary profession, to icons of popular culture. This evolution can be observed in the portrayal of one of film’s most iconic fictional film directors, Carl Denham. Denham is better known as the man who captured Kong, the titular character in 1933, *King Kong*. *King Kong* is a unique film in terms of portraying directors because it is a cautionary tale and Denham is therefore a criticism of how a Director and therefore how leaders should be. However, *King Kong* has been remade twice since 1933, once in 1976 and once in 2005, and all three films have their own version of Carl Denham. In each version, the portrayal of the character is built on a specific historical context and subsequently has different goals and methods for achieving goals that are called into question because of the final outcome of the film. This gradual evolution of the character parallels the evolution of the film director’s status in society.

The Woman within Ellen Glasgow
Nancy Zook, Undergraduate
Dr. Judith Logan, English

Ellen Glasgow (1873-1945) was an American novelist, Southern Regionalist, and pioneer for women’s suffrage. Glasgow was a popular and prolific writer of her time; however, little was known about who she really was. She painstakingly wrote her autobiography over several years and took great care to assure the manuscript was protected and unaltered until posthumous publication. As Glasgow anticipated, her work and relationships were greatly distorted by critics. My essay argues that her words, as recorded in her autobiography and her letters, should be the basis of an honest and revealing portrait of Glasgow. Additionally, it is an important issue for assessments of all literary figures in maintaining literary integrity and authenticity regarding what authors have said about their own lives. An author’s life and works should not be manipulated in order to conform to the critic’s analysis or argument.
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