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.

“Learn from yesterday, live for today, hope for tomorrow. The important thing is not to stop questioning”

Albert Einstein
Eastern Washington University
14th Annual Student Research & Creative Works Symposium

Day One
Tuesday, May 17, 2011
4:30 p.m. – 9:10 p.m.
Fine Arts Complex

4:30 p.m. Welcome Speech from Lynn Briggs, Dean of the College of Arts, Letters & Education
Presenter Check-In Begins
Art Building, Lobby and Entrance

4:30 - 8:00 p.m. Appetizers and Refreshments
Art Building, Lobby

4:30 - 9:00 p.m. Art & Visual Communication Design Exhibits
Art Building, Gallery and Lobby

5:00 - 6:20 p.m. Music Composition Presentations
Art Building, Gallery

6:20 - 9:10 p.m. Film with Music Presentations
Radio-Television (RTV) Building, Room 123

5:00 - 8:55 p.m. Creative Writing
Communications Building, Room 225

5:00 - 6:20 p.m. Theatre Presentations
University Theatre, 2nd Floor Studio
Eastern Washington University
14th Annual Student Research & Creative Works Symposium

Day Two
Wednesday, May 18, 2011
8:00 a.m. – 4:50 p.m.

Welcoming Reception, Hargreaves Hall Room 201

8:00 - 8:50 a.m. Opening Remarks from President Rodolfo Arévalo
Keynote Address, “The Struggle for Research Success: Pushing the Rock of Sisyphus,” by Grant Forsyth from the Department of Economics
Breakfast refreshments
Hargreaves Hall, Room 201

♦♦♦♦

Presentations, Senior Hall

8:30 a.m. Presenter Check-In Begins
Senior Hall Entrance

9:00 a.m. - 3:30 p.m. Information Tables: EWU Library, Graduate Studies, HPPV Competition, McNair Scholar Program, NCUR, Service Learning
Senior Hall Lobby and 2nd Floor Lounge

9:00 a.m. - 1:30 p.m. Morning Oral Presentations
Rooms 101, 124, 201, 203, 204, 221, 243, 306

10:00 a.m. - 12:00 p.m. Morning Poster Presentations
2nd Floor Lounge and Rooms 302/304

1:00 - 4:50 p.m. Afternoon Oral Presentations
Rooms 101, 124, 201, 203, 204, 221, 243, 306

1:00 - 3:00 p.m. Afternoon Poster Presentations
2nd Floor Lounge and Rooms 302/304
2011 Inspirational Quote

Albert Einstein

“Learn from yesterday, live for today, hope for tomorrow. The important thing is not to stop questioning.”

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. This year the Symposium Planning Committee chose the above mentioned quote by Albert Einstein to exemplify this mission.

Born on March 14, 1879, in Ulm, Württemberg, Germany, physicist Albert Einstein is perhaps best known for his special and general theories of relativity and for his widely famous, yet oft-misunderstood, $E=mc^2$ equation. In spite of his successes, education did not always come easy to Einstein who struggled with speech as a child and did so poorly in school that his headmaster once commented, “He’ll never make a success of anything.”

Einstein’s school years were also a time of rebellion, leading him to be suspicious of authority and of the contemporary status quo. This attitude of dissent influenced Einstein to constantly question accepted standards of thought. Combining his drive to question with his talent in mathematics, Einstein found a passion for physics that would eventually lead him to become one of the most famous scientists in modern history.

For Einstein, questioning the way that things work became a defining quality of his career and a principle that he hoped to impress upon others.
Symposium Sponsors

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

Special thanks to

President Rodolfo Arévalo  Provost Rex Fuller
Grant Forsyth  Dean Lynn Briggs  Leslie Swannack

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Print Services, Sound Production, Paint Shop

Spokane Teachers Credit Union
for their generous donation toward the honorarium, t-shirts and other symposium expenses

And to all students, mentors, faculty and volunteers
who have continually worked to make the symposium a success

♦♦♦♦

If you would like to contribute to the Symposium Foundation, envelopes are available at
the Symposium Office, located in 217B Showalter Hall

Please make checks payable to: EWU Foundation for Student Research & Creative Works
Symposium
Symposium Committee Members

Mark Baldwin, Associate Vice Provost for Programs, Undergraduate Studies
Helen Bergland, Faculty Support & Student Learning Assessment Coordinator, Undergraduate Studies
Larry Briggs, Associate Vice President, Enrollment Services
Ron Dalla, Vice Provost, Graduate Education, Research, Academic Planning & Evaluation
Brian Donahue, Interim Director, Graduate Studies
Cynthia Dukich, Counselor/Academic Coordinator, McNair Scholars Program
Greg DuMonthier, Assistant Professor, Art
Tiffany Fulkerson, Symposium Coordinator, Symposium Office
Ruth Galm, Executive Director, Office of Grant & Research Development
Sara Goff, Assistant Professor, Theatre
Nikki Graham-Brown, Symposium Assistant Coordinator, Symposium Office
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Kristine Hwang, Assistant Professor, Engineering & Design
Sarah Keller, Professor, Anthropology
Julie Marr, Advisor/Recruiter, Graduate Studies
Karen McKinney, Director, McNair Scholars Program
Jonathan Middleton, Professor, Music
Pete Porter, Associate Professor, Electronic Media & Film
Julia Smith, Associate Professor, Anthropology
Rayette Sterling, Librarian II, EWU Libraries
Devon Tinker, Assistant Director, Bookstore & PUB Operations
Rachel Toor, Assistant Professor, Creative Writing, Inland Northwest Center for Writers

McNair Scholar Participants and Faculty Mentors*

Cassandra Aguilar, Psychology
Helen Arega, Kelly Coogan-Gehr, Women's and Gender Studies
Gabriel Chávez García, Sean Chabot, Sociology
Cheryl Dykstra-Aiello, Karen Carlberg, Biology
Enver Guseynov, Majid Sharifi, Government
Nathan Lewis, Robin O'Quinn, Biology
Amunoo Mohamed, Patricia Chantrill, Communication Studies
Andrew Ruud, Ron Gentle, Mathematics
Maira Sanchez, Amani El-Alayli, Psychology
Elizabeth Schriner, Kelly Coogan-Gehr, Women's and Gender Studies
Yvonne Sherwood, Pui-Yan Lam, Sociology

*Visit the McNair Scholar Program information table for more information
Information Tables

Academic Service Learning

Faculty, students and staff will be on hand to talk about their service-learning experiences and to offer information, resources and handouts. There will also be student artifacts, posters, books and journals at the booth for visitors to browse through.

EWU Libraries

Come and learn how to optimize your research time. Library student employees will be available to discuss the types of services and resources the library has to offer students. Learn how to get research assistance from a librarian (in-person, via email or chat). Find out how you can use RefWorks to help manage citations when writing a paper. There will also be information on upcoming library events such as Books2Eat, Eagles Who Read to Lead and other EWU Libraries sponsored events.

Graduate Studies

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, EWU hosts the annual Intercollegiate Human Powered Paper Vehicle (HPPV) Engineering Competition. 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. 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, established in 1987, is the nation’s largest conference dedicated to undergraduate research and creative activity. This year, 30 EWU students representing various disciplines participated in the 25th annual conference at Ithaca College in New York. An NCUR volunteer will be available to discuss this year’s conference and provide information about the 2012 NCUR, to be held at Weber State University in Ogden, Utah.
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Keynote Speaker

Welcoming Reception ◆ Hargreaves Hall, Room 201 ◆ 8:00 – 8:50 a.m.

Grant Forsyth, PhD
Department of Economics

The Struggle for Research Success: Pushing the Rock of Sisyphus

Upon starting graduate school, establishing and maintaining a successful research agenda is often the most challenging aspect of an academic career. This keynote address will discuss the lessons learned by one academic economist doing both traditional and policy-oriented research since finishing his PhD in 1996. Following the tradition of the “Birds and Bees” talk given to budding adults, this address is focused towards budding academics who will be facing the trials and tribulations of getting their creative works started, finished, and validated by their peers inside and outside of academia. The goal is to impart a realistic picture of doing research so that young academics are better prepared for long-run success.

Biography

Dr. Forsyth is a Professor of Economics at EWU. He grew up in Ellensburg, Washington where he received his BA in Economics from Central Washington University (1988). He received his MBA in Finance from the University of Oregon (1990), and his PhD in Economics from Washington State University (1996). Before coming to EWU in 1999, he worked for nearly three years in the Czech Republic as an academic and private sector economist. His research interests include banking and regional and international economic development. In addition to being a frequent commentator on the Inland Northwest’s economy, he also serves on the Governor’s Council of Economic Advisors and the Spokane Mayor’s Council on Economic Policy and Forecasting.
Creative Works Presentation Schedule

Tuesday, May 17, 2011
Time: 4:30 – 9:10 p.m.

4:30 - 9:00 p.m.  Session 1: Art and Visual Communication
                 Design Exhibits*
                 Art Building: Gallery and Lobby

5:00 - 6:20 p.m.  Session 2: Music Composition
                 Art Building: Gallery

6:20 - 9:10 p.m.  Session 3: Film with Music
                 Radio-Television (RTV) Building: Room 123

5:00 - 8:55 p.m.  Session 4: Creative Writing
                 Communications Building: Room 225

5:00 - 6:20 p.m.  Session 5: Theatre
                 University Theatre: 2nd Floor Studio

*The Symposium Art and Visual Communication Design Exhibits will remain on display in the Art Building Gallery and Lobby throughout the day on Wednesday, May 18, 2011.
# Creative Works Session 1: Art and Visual Communication Design Exhibits

**Art Building, Gallery and Lobby, 4:30-9:00 p.m.**

<table>
<thead>
<tr>
<th>Time</th>
<th>Artist</th>
<th>Title</th>
<th>Mentor</th>
</tr>
</thead>
<tbody>
<tr>
<td>4:30 to 9:00</td>
<td>Kate Bohnet</td>
<td>Ship to Sea</td>
<td>Jenny Hyde</td>
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<tr>
<td></td>
<td>Kate Bohnet</td>
<td>Untitled</td>
<td>Greg DuMonthier</td>
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<tr>
<td></td>
<td>Laura Kaschmier</td>
<td>Ephemeraally Digitized</td>
<td>Jenny Hyde</td>
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<td></td>
<td>Tara Clemons</td>
<td>Pieceful</td>
<td>Greg DuMonthier</td>
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<td></td>
<td>Joseph Loring</td>
<td>Audiobility</td>
<td>Greg DuMonthier</td>
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<tr>
<td></td>
<td>Kelley Lancelaster</td>
<td>Forced Intuition</td>
<td>Tom Askman</td>
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<tr>
<td></td>
<td>Katelyn McDonnell</td>
<td>A Thousand Faces</td>
<td>Tom Askman</td>
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<tr>
<td></td>
<td>Jon Faulks</td>
<td>Unbridled</td>
<td>Greg DuMonthier</td>
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<tr>
<td></td>
<td>Elizabeth Lancelaster</td>
<td>Kindergarten</td>
<td>Jenny Hyde</td>
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<tr>
<td></td>
<td>Melissa Tolman</td>
<td>Functional Art</td>
<td>Chris Tyllia</td>
</tr>
<tr>
<td></td>
<td>Inga Ilich</td>
<td>Thank Goodness My Zada Mucci Heels Have Asteroid Traction</td>
<td>Jenny Hyde</td>
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<tr>
<td></td>
<td>Allie Sweitzer</td>
<td>Tying Rocks to Clouds</td>
<td>Tom Askman</td>
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<tr>
<td></td>
<td>Robin Milligan</td>
<td>Poison Bottles</td>
<td>Chris Tyllia</td>
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<td></td>
<td>Kelsey Vance</td>
<td>9/11</td>
<td>Tom Askman</td>
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<td>Ted Means</td>
<td>Discord</td>
<td>Jamie Hahn</td>
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<td></td>
<td>Andrew Taylor</td>
<td>Covered in Characters</td>
<td>Chris Tyllia, Elisa Nappa</td>
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<tr>
<td></td>
<td>Anna Fry</td>
<td>Difference &amp; Similarity</td>
<td>Jamie Hahn</td>
</tr>
<tr>
<td></td>
<td>Merrilee Schulz</td>
<td>I Just Wanna Drink</td>
<td>Chris Tyllia</td>
</tr>
<tr>
<td></td>
<td>Sarah Alderete</td>
<td>Guinea Pigs in Da House</td>
<td>Elisa Nappa</td>
</tr>
<tr>
<td></td>
<td>Beth Karper</td>
<td>Lady Danville Poster Series</td>
<td>Kristine Hwang, Jenny Hyde</td>
</tr>
<tr>
<td></td>
<td>Leesandro Garcia</td>
<td>Annual Report Book Cover Sleeve</td>
<td>Kristine Hwang</td>
</tr>
<tr>
<td></td>
<td>Kelly Baxter</td>
<td>Red Cross Annual Report</td>
<td>Kristine Hwang</td>
</tr>
<tr>
<td></td>
<td>Andrew Haas</td>
<td>Alternative Letterpress</td>
<td>Mindy Breen</td>
</tr>
<tr>
<td></td>
<td>Steven Johnson</td>
<td>Nuclear Fallout</td>
<td>Mindy Breen</td>
</tr>
<tr>
<td></td>
<td>Amanda Stanford</td>
<td>Baroque Network 2011: Space Odyssey Screen Print on T-Shirt</td>
<td>Mindy Breen</td>
</tr>
<tr>
<td></td>
<td>Jessica Spurr</td>
<td>Oil</td>
<td>Mindy Breen</td>
</tr>
</tbody>
</table>
Creative Works Session 2: Music Composition  
Art Building, Gallery, 5:00-6:20 p.m.

<table>
<thead>
<tr>
<th>Time</th>
<th>Composer</th>
<th>Title</th>
<th>Mentor</th>
</tr>
</thead>
<tbody>
<tr>
<td>5:00</td>
<td>Nicholas Bailey</td>
<td>Planetary Evolution</td>
<td>Jonathan Middleton</td>
</tr>
<tr>
<td>5:20</td>
<td>K. Michael Fox</td>
<td>Realizations</td>
<td>Jonathan Middleton</td>
</tr>
<tr>
<td>5:40</td>
<td>Davis Hill</td>
<td>String Quartet in E Minor</td>
<td>Don Goodwin</td>
</tr>
<tr>
<td>6:00</td>
<td>Davis Hill</td>
<td>Odysseus on His Return to an Empty Ithaca</td>
<td>Don Goodwin</td>
</tr>
</tbody>
</table>

Creative Works Session 3: Film with Music  
RTV Building, Room 123, 6:20-9:10 p.m.

<table>
<thead>
<tr>
<th>Time</th>
<th>Filmmaker/Composer</th>
<th>Title</th>
<th>Mentor</th>
</tr>
</thead>
<tbody>
<tr>
<td>6:20</td>
<td>Doug Alt, Writer/Director, Ricardo Montesinos, Film Score</td>
<td>Sweet Revenge</td>
<td>Sarah Lee Monroe, Don Goodwin</td>
</tr>
<tr>
<td>6:40</td>
<td>Alex Quam, Writer/Director, Davis Hill, Film Score</td>
<td>Brick</td>
<td>Sarah Lee Monroe, Don Goodwin</td>
</tr>
<tr>
<td>7:00</td>
<td>Seth Mead, Writer/Director, K. Michael Fox, Film Score</td>
<td>The Sandwich</td>
<td>Sarah Lee Monroe, Jonathan Middleton</td>
</tr>
<tr>
<td>7:20</td>
<td>Dave Kotlan, Writer/Director, Tyler Dines, Film Score</td>
<td>Toast</td>
<td>Sarah Lee Monroe, Don Goodwin</td>
</tr>
<tr>
<td>7:40</td>
<td>Break</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7:50</td>
<td>Milton Harper, Writer/Director, John Bewley-Caldwell, Film Score</td>
<td>Divided We Fail</td>
<td>Sarah Lee Monroe, Jonathan Middleton</td>
</tr>
<tr>
<td>8:10</td>
<td>Sage Bilderback, Writer/Director, Michael Gerety, Film Score</td>
<td>Untitled Paper Planes Murder Project</td>
<td>Sarah Lee Monroe, Don Goodwin</td>
</tr>
<tr>
<td>8:30</td>
<td>John Rogers, Writer/Director, Nicholas Bailey, Film Score</td>
<td>Jack’s Freshman Obsession</td>
<td>Sarah Lee Monroe, Jonathan Middleton</td>
</tr>
<tr>
<td>8:50</td>
<td>Chelsea Brauner, Writer/Director, Henry McNulty, Film Score</td>
<td>Two Sugars</td>
<td>Sarah Lee Monroe, Jonathan Middleton</td>
</tr>
</tbody>
</table>
# Creative Works Session 4: Creative Writing

Communications Building, Room 225, 5:00-8:55 p.m.

<table>
<thead>
<tr>
<th>Time</th>
<th>Author</th>
<th>Title</th>
<th>Mentor</th>
</tr>
</thead>
<tbody>
<tr>
<td>5:00</td>
<td>Matthew Furst</td>
<td>“Creative Non-Fiction—A Reading”</td>
<td>Rachel Toor</td>
</tr>
<tr>
<td>5:10</td>
<td>Melissa Gren</td>
<td>“In the Rain”</td>
<td>Rachel Toor</td>
</tr>
<tr>
<td>5:20</td>
<td>Rachel Hartley-Smith</td>
<td>“Creative Nonfiction, Select Pieces”</td>
<td>Rachel Toor</td>
</tr>
<tr>
<td>5:30</td>
<td>Alison Terhune</td>
<td>Untitled</td>
<td>Rachel Toor</td>
</tr>
<tr>
<td>5:40</td>
<td>Tessa Trow</td>
<td>“Creative Writing/Working Title”</td>
<td>Rachel Toor</td>
</tr>
<tr>
<td>5:50</td>
<td></td>
<td>Break</td>
<td>Rachel Toor</td>
</tr>
<tr>
<td>5:55</td>
<td>Sam Edmonds</td>
<td>Untitled</td>
<td>Rachel Toor</td>
</tr>
<tr>
<td>6:05</td>
<td>Dave Andersen</td>
<td>“Undecided”</td>
<td>Rachel Toor</td>
</tr>
<tr>
<td>6:15</td>
<td>Brittney Andrade</td>
<td>“Memories”</td>
<td>Rachel Toor</td>
</tr>
<tr>
<td>6:25</td>
<td>Cody Heilman</td>
<td>“A Work of Creative Nonfiction”</td>
<td>Rachel Toor</td>
</tr>
<tr>
<td>6:35</td>
<td>Marshall Cain-Wardlaw</td>
<td>“A Short Piece of Creative Non-Fiction”</td>
<td>Rachel Toor</td>
</tr>
<tr>
<td>6:45</td>
<td></td>
<td>Break</td>
<td>Rachel Toor</td>
</tr>
<tr>
<td>6:50</td>
<td>Heather Campbell</td>
<td>“Creative Nonfiction Piece”</td>
<td>Rachel Toor</td>
</tr>
<tr>
<td>7:00</td>
<td>Kimberly Ribbens</td>
<td>“Creative Nonfiction—A Reading”</td>
<td>Rachel Toor</td>
</tr>
<tr>
<td>7:10</td>
<td>Colleen Davies</td>
<td>“The Things I Love”</td>
<td>Rachel Toor</td>
</tr>
<tr>
<td>7:20</td>
<td>Christopher Dorsey</td>
<td>“Creative Writing”</td>
<td>Rachel Toor</td>
</tr>
<tr>
<td>7:30</td>
<td>Tanya DeBuff</td>
<td>“Passing It Down”</td>
<td>Rachel Toor</td>
</tr>
<tr>
<td>7:40</td>
<td></td>
<td>Break</td>
<td>Rachel Toor</td>
</tr>
<tr>
<td>7:45</td>
<td>Tyler Coulston</td>
<td>“An Original Work of Fiction”</td>
<td>Rachel Toor</td>
</tr>
<tr>
<td>7:55</td>
<td>Emily Craner</td>
<td>“Work of Creative Non-Fiction”</td>
<td>Rachel Toor</td>
</tr>
<tr>
<td>8:05</td>
<td>Kyle Dunn</td>
<td>“Creative Writing Untitled”</td>
<td>Rachel Toor</td>
</tr>
<tr>
<td>8:15</td>
<td>Lindsay Williams</td>
<td>“On the Other Side of the Glass”</td>
<td>Christopher Howell</td>
</tr>
<tr>
<td>8:25</td>
<td>Rost Olsen</td>
<td>Excerpts from “Whistled Verses on Emerson Way”</td>
<td>Jonathan Johnson, Christopher Howell</td>
</tr>
<tr>
<td>8:35</td>
<td>Hannah Heilman</td>
<td>“Spacey, Eastwood, Tennis and Rabbits”</td>
<td>Christina Valeo</td>
</tr>
<tr>
<td>8:45</td>
<td>Frances Won</td>
<td>“Dowry”</td>
<td>Jonathan Johnson, Christopher Howell</td>
</tr>
<tr>
<td>Time</td>
<td>Designer/Performer</td>
<td>Title</td>
<td>Mentor</td>
</tr>
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</tr>
<tr>
<td>5:00</td>
<td>Justin Schlabach</td>
<td>Scenic Painting</td>
<td>Shana Joslyn</td>
</tr>
<tr>
<td>5:10</td>
<td>Raine Palmer, Teko Dumoulin, Chailee Friant</td>
<td><em>Smoke Scenes</em> Written by Nick Zagone</td>
<td>Sara Goff, Jeffrey Sanders</td>
</tr>
<tr>
<td>5:25</td>
<td>Carly Botts, Baily Hollis, Stuey Carlson, Adrianne Wilson</td>
<td><em>Beer Girl</em></td>
<td>Sara Goff</td>
</tr>
<tr>
<td>5:40</td>
<td>Chailee Friant, Justin Schlabach</td>
<td>A Scene from <em>Waiting for Lefty</em></td>
<td>Sara Goff, Jeffrey Sanders</td>
</tr>
<tr>
<td>5:50</td>
<td>Faith Mitchell</td>
<td>Audition Package #1: <em>Mormon Mother/Cassandra</em></td>
<td>Jeffry Sanders, Sara Goff</td>
</tr>
<tr>
<td>5:55</td>
<td>Melissa Gren</td>
<td><em>Stepsisters’ Lament</em></td>
<td>Sara Goff, Jeffrey Sanders</td>
</tr>
<tr>
<td>6:00</td>
<td>Chailee Friant, Chelsey Miles, Rebecca Spining, Jessica Gaulke, Justin Schlabach, Cody Bray, Jarvis Lunalo, Martin Sanks</td>
<td>Musical Theatre Dance from <em>Hair—The Musical</em></td>
<td>Sara Goff, Jeffrey Sanders</td>
</tr>
<tr>
<td>6:10</td>
<td>Paden Vance, Rebecca Spining</td>
<td>Scene from <em>Dearly Departed</em> by David Bottrell and Jessie Jones</td>
<td>Jeffrey Sanders</td>
</tr>
</tbody>
</table>
Oral & Poster Research Presentation Schedule

Wednesday, May 18, 2011
Time: 9:00 a.m. – 4:50 p.m.

Senior Hall

9:00 a.m. - 1:30 p.m.  **Morning Oral Sessions: 1-9**
Rooms 101, 124, 201, 203, 204, 221, 243, 306

10:00 a.m. - 12:00 p.m.  **Morning Poster Session**
2nd Floor Lounge and Rooms 302/304; Groups 1-5
*Presenters will be available to discuss their posters during each session*

1:00 - 4:50 p.m.  **Afternoon Oral Sessions: 10-19**
Rooms 101, 124, 201, 203, 204, 221, 243, 306

1:00 - 3:00 p.m.  **Afternoon Poster Session**
2nd Floor Lounge and Rooms 302/304; Groups 6-10
*Presenters will be available to discuss their posters during each session*
## Oral Session 1: Biology
### Room 101, 9:00 a.m.-1:30 p.m.

<table>
<thead>
<tr>
<th>Time</th>
<th>Author</th>
<th>Title</th>
<th>Mentor</th>
</tr>
</thead>
<tbody>
<tr>
<td>9:00</td>
<td>Nathan Lewis</td>
<td>Survey of Literature Related to Current Topics on Human Evolution</td>
<td>Robin O’Quinn</td>
</tr>
<tr>
<td>9:20</td>
<td>Jessica Allen</td>
<td>Two Variable cpDNA Markers Suitable for Phylogeny Reconstruction in Claytonia</td>
<td>Robin O’Quinn</td>
</tr>
<tr>
<td>9:40</td>
<td>Terence Stephens</td>
<td>Sequencing rbcL and matK Gene Loci of <em>Jatropha curcas</em></td>
<td>Prakash Bhuta, Suzanne Schwab</td>
</tr>
<tr>
<td>10:00</td>
<td>Carolyn Connelly</td>
<td>Impacts of Urbanization and Aquifer Recharge on Spokane River Macroinvertebrates</td>
<td>Camille McNeely</td>
</tr>
<tr>
<td>10:20</td>
<td>Lucy Morgan</td>
<td>Determining the Effects of Novel Disinfectant Solutions on Microbial Growth</td>
<td>Sidney Kasuga, Andrea Castillo</td>
</tr>
<tr>
<td>10:40</td>
<td>Gayle May</td>
<td>The Effects of Diethylstilbestrol on Myometrial Contractility in Mice</td>
<td>Karen Carlberg, Joanna Joyner-Matos</td>
</tr>
<tr>
<td>11:00</td>
<td>Break</td>
<td></td>
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</tr>
<tr>
<td>11:10</td>
<td>Cheryl Dykstra-Aiello</td>
<td>Effects of Exercise on Pain Sensitivity with Respect to Age and Gender in Sprague-Dawley Rats</td>
<td>Karen Carlberg</td>
</tr>
<tr>
<td>11:30</td>
<td>Alix Blake</td>
<td>Assessment of Northern Pikeminnow Age/Growth, Population and Diet in the Sanpoil Arm of Lake Roosevelt</td>
<td>Allan Scholz</td>
</tr>
<tr>
<td>11:50</td>
<td>Shane Harvey</td>
<td>Diet and Bioenergetics of Northern Pike in Box Canyon Reservoir, Pend Oreille River, Washington</td>
<td>Alan Scholz, Margaret O’Connell</td>
</tr>
<tr>
<td>12:10</td>
<td>Aaron Clausen</td>
<td>Dam Effects on Riparian Vegetation along Elwha River, Washington</td>
<td>Rebecca Brown</td>
</tr>
<tr>
<td>12:30</td>
<td>Brandy Reynecke</td>
<td>Examining the Effect of Control Methods for Invasive Grasses on Mima Mounds at Turnbull National Wildlife Refuge, WA</td>
<td>Rebecca Brown, Robin O’Quinn</td>
</tr>
<tr>
<td>12:50</td>
<td>Christopher Dwight</td>
<td>Impacts of Hunting on Elk Movement at Turnbull National Wildlife Refuge</td>
<td>Margaret O’Connell</td>
</tr>
<tr>
<td>1:10</td>
<td>Savanah Hobbs</td>
<td>Effects of Predator Urine on Determining Ungulate Browsing of Aspen on Turnbull National Wildlife Refuge</td>
<td>Margaret O’Connell</td>
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</tbody>
</table>
# Oral Session 2: English I
## Room 124, 9:00 a.m.-12:50 p.m.

<table>
<thead>
<tr>
<th>Time</th>
<th>Author</th>
<th>Title</th>
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<tbody>
<tr>
<td>9:00</td>
<td>José Cortez</td>
<td>Eco-Melos: Local Membership in the First-Year Ecocomposition Course</td>
<td>Dana Elder</td>
</tr>
<tr>
<td>9:20</td>
<td>Arnee Flores</td>
<td>The Archetypal Nature of 20th Century Children’s Literature</td>
<td>Logan Greene</td>
</tr>
<tr>
<td>9:40</td>
<td>Daniel Brasher</td>
<td>The Rhetoric of the Metaphor of Navigation in Digital Media</td>
<td>Teena Carnegie</td>
</tr>
<tr>
<td>10:00</td>
<td>Sara Barrett</td>
<td>Protecting the American Family: A Brief History of the 20th Century Censorship in the Arts</td>
<td>Paul Lindholdt</td>
</tr>
<tr>
<td>10:20</td>
<td>Amy Allen</td>
<td>Hamlet and Henchard: A Study of Tragic Figures</td>
<td>Beth Torgerson</td>
</tr>
<tr>
<td>10:40</td>
<td>Heather Campbell</td>
<td>Chucked from the Vegetable Patch of Life: Death by Gardener in Maxine Kumin’s “Woodchucks”</td>
<td>Judith Logan</td>
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<tr>
<td>11:00</td>
<td>Break</td>
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<tr>
<td>11:10</td>
<td>Allison Armfield</td>
<td>Thor’s Thistles</td>
<td>Judith Logan</td>
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<tr>
<td>11:30</td>
<td>Sondra Belfry</td>
<td>The Impact of Manic Depression on John Berryman’s Poetry</td>
<td>Paul Lindholdt</td>
</tr>
<tr>
<td>11:50</td>
<td>Jeffrey Gerhardstein</td>
<td>Poetic Fallout: The Relationship of Art to Nuclear Weapons</td>
<td>Christina Valeo Paul Lindholdt</td>
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<tr>
<td>12:10</td>
<td>Adrienne Kilbourne</td>
<td>Irving Shakes Up Shakespeare</td>
<td>Judith Logan</td>
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<tr>
<td>12:30</td>
<td>Max Hohner</td>
<td>Class over the Individuals: Education, Religion and Selfhood in Hardy’s <em>The Return of the Native</em></td>
<td>Beth Torgerson Anthony Flinn</td>
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</tbody>
</table>
## Oral Session 3: Engineering and Design
### Room 201, 9:00-11:50 a.m.

<table>
<thead>
<tr>
<th>Time</th>
<th>Author</th>
<th>Title</th>
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<tbody>
<tr>
<td>9:00</td>
<td>William Persons</td>
<td>SeaPerch—A Small STEM Research Project Which Is Making a Big Impact</td>
<td>William Loendorf</td>
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<td></td>
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<td></td>
<td>Donald Richter</td>
</tr>
<tr>
<td>9:20</td>
<td>Laura Alexis Gonzalez, James Nelson,</td>
<td>Commemorative Foosball Table</td>
<td>Terence Geyer</td>
</tr>
<tr>
<td></td>
<td>Rochelle MacDonald</td>
<td></td>
<td></td>
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<tr>
<td>9:40</td>
<td>Brandy Rinkel</td>
<td>Commemorative Receiver Hitch Cover</td>
<td>Terence Geyer</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Ethan Churchill</td>
</tr>
<tr>
<td>10:00</td>
<td>Joshua Seagrave</td>
<td>Finite Element Analysis of a Common Passenger Radial Tire with and</td>
<td>N.M. Awlad Hossain</td>
</tr>
<tr>
<td></td>
<td></td>
<td>without a Steel Belt</td>
<td></td>
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<tr>
<td>10:20</td>
<td>Break</td>
<td></td>
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<tr>
<td>10:30</td>
<td>Daryl Smith, Kevin Chumbley, Joshua</td>
<td>Automated Light Bulb Testing and Packaging</td>
<td>Donald Richter</td>
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<td></td>
<td>Seagrave, Sean Morden</td>
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<tr>
<td>10:50</td>
<td>Saleh Tafesh, Steven Butterfield</td>
<td>Finite Element Analysis to Study the Static and Dynamic Response of</td>
<td>N.M. Awlad Hossain</td>
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<td>Wind Turbine Blades</td>
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<tr>
<td>11:10</td>
<td>Brandon VanTassel</td>
<td>Study of Off-Road Suspension System</td>
<td>N.M. Awlad Hossain</td>
</tr>
<tr>
<td>11:30</td>
<td>Bryan Woodbury, Joshua Seagrave,</td>
<td>“Paper View”: Human Powered Paper Vehicle Competition Concept and</td>
<td>N.M. Awlad Hossain</td>
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<td></td>
<td>Kevin Chumbley, Daryl Smith</td>
<td>Design</td>
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</table>
Oral Session 4: Sociology and Social Work  
Room 203, 9:00 a.m.-11:00 a.m.

<table>
<thead>
<tr>
<th>Time</th>
<th>Author</th>
<th>Title</th>
<th>Mentor</th>
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</thead>
<tbody>
<tr>
<td>9:00</td>
<td>Dori Simpson</td>
<td>Child Interpreters: The Effects on Children and Their Parent-Child Relationships</td>
<td>Miyuki Vamadevan Arimoto</td>
</tr>
<tr>
<td>9:20</td>
<td>Meghan Elder</td>
<td>Searching for a Needle in a Haystack: Influencing Factors in Residence Choice among Intravenous Drug Users</td>
<td>Pui-Yan Lam Sean Chabot</td>
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<tr>
<td>9:40</td>
<td>Amanda Bernhart</td>
<td>Understanding Islamophobia</td>
<td>Pui-Yan Lam</td>
</tr>
<tr>
<td>10:00</td>
<td>Yvonne Sherwood</td>
<td>Transcending Sovereignty? A Literature Review of the Identity Community’s Descriptions and Prescriptions of the Fractured and Fluid Self</td>
<td>Pui-Yan Lam Kelly Coogan-Gehr</td>
</tr>
<tr>
<td>10:20</td>
<td>Angelica Hill</td>
<td>Globalization and the Development of a Culture of Impunity</td>
<td>Martin Meraz-Garcia Sean Chabot</td>
</tr>
<tr>
<td>10:40</td>
<td>Gabriel Chávez Garcia</td>
<td>The Costs of Success: Power Relations and Chicana/o Winners in Mainstream Schools</td>
<td>Sean Chabot</td>
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Oral Session 5: Chicano Education  
Room 203, 11:10 a.m.-12:50 p.m.

<table>
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<tr>
<th>Time</th>
<th>Author</th>
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<th>Mentor</th>
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<tbody>
<tr>
<td>11:10</td>
<td>Solomon Askenaw</td>
<td>The Evolution of Chicano Identity</td>
<td>Martin Meraz-Garcia</td>
</tr>
<tr>
<td>11:30</td>
<td>Jose Francisco Navarro</td>
<td>Post-Secondary Education for Undocumented Students: Right or Privilege?</td>
<td>Martin Meraz-Garcia Christina Torres-Garcia</td>
</tr>
<tr>
<td>11:50</td>
<td>Grace Cooper</td>
<td>Ritchie and Selena: Bringing Chicanos into the Mainstream</td>
<td>Christina Torres-Garcia</td>
</tr>
<tr>
<td>12:10</td>
<td>Micah Bockstruck</td>
<td>Check All That Apply: Gay, Latino, Male</td>
<td>Martin Meraz-Garcia</td>
</tr>
<tr>
<td>12:30</td>
<td>Madison Hilpert</td>
<td>The Stereotypical Philosophy</td>
<td>Christina Torres-Garcia</td>
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</table>
# Oral Session 6: Psychology

**Room 204, 9:00 a.m.-1:30 p.m.**

<table>
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<tr>
<th>Time</th>
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<th>Mentor</th>
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<tbody>
<tr>
<td>9:00</td>
<td>Corrina Joel</td>
<td>Autism Around the World</td>
<td>Lori Miller</td>
</tr>
<tr>
<td>9:20</td>
<td>Molly Kalamarides, B.Milliron, A.Hamilton R.Backstrom</td>
<td>Emotion Recognition Patterns among People with Varying Levels of Borderline Personality Traits</td>
<td>Kayleen Islam-Zwart</td>
</tr>
<tr>
<td>9:40</td>
<td>Wylie Rhoads, Daniel Timofeyev, Samantha Barrett, Faith Golden</td>
<td>Utility of Content Analysis in Middle School Journals in Predicting Anxiety and Depression</td>
<td>Susan Ruby</td>
</tr>
<tr>
<td>10:00</td>
<td>Jason Wiese, Michelle Whitlow, Brittany Myers, Megan Korst, Brooke Flodin</td>
<td>Do Parenting Styles Influence the Development of a Machiavellian Personality?</td>
<td>Kurt Stellwagen</td>
</tr>
<tr>
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<td>William Williams</td>
</tr>
<tr>
<td>10:20</td>
<td>Trevor Cole</td>
<td>The Effect of a Brief Self-Compassion Intervention on Happiness and Psychopathology Correlates</td>
<td>Russell Kolts</td>
</tr>
<tr>
<td>10:40</td>
<td>Garrett Paeschke, Kristen Zangar</td>
<td>Measuring Gender: The Challenges of Translating Hormones to Behavior</td>
<td>Theresa Martin</td>
</tr>
<tr>
<td>11:00</td>
<td>Break</td>
<td></td>
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<tr>
<td>11:10</td>
<td>Cassandra Aguilar</td>
<td>Lack of Relationship between Working Memory and Verbal Time Estimation</td>
<td>Jonathan Anderson</td>
</tr>
<tr>
<td>11:30</td>
<td>Trisha Lykins, Christina Shively</td>
<td>Interpreting Non-Verbal Communication: Do Psychology Students Have Superior Interpersonal Perception Compared to Students in Other Majors?</td>
<td>Amani El-Alayli</td>
</tr>
<tr>
<td>11:50</td>
<td>Koby Binks, Jonpaul Schry</td>
<td>Benefriends: Friends by Day, Lovers by Night</td>
<td>Theresa Martin</td>
</tr>
<tr>
<td>12:10</td>
<td>Yuliya Kushnerchuk</td>
<td>Faith in the Face of the University</td>
<td>Theresa Martin</td>
</tr>
<tr>
<td>12:30</td>
<td>Elizabeth Schriner</td>
<td>Dr. and Mrs. Professor: Why Do Students Use Less Formal Terms of Address for Female versus Male Professors?</td>
<td>Amani El-Alayli</td>
</tr>
<tr>
<td>12:50</td>
<td>Matt Johansen, Douglas Emerson</td>
<td>Are Muslims Treated Differently by Rental Agents When Seeking Housing?</td>
<td>Amani El-Alayli</td>
</tr>
<tr>
<td>1:10</td>
<td>Tara Weldon</td>
<td>Psychiatric Distress and the Housing Plans of Inmates upon Release</td>
<td>Kayleen Islam-Zwart</td>
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</table>
Oral Session 7: Communication Studies  
Room 221, 9:00-11:50 a.m.

<table>
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<tr>
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<th>Author</th>
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<th>Mentor</th>
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<tbody>
<tr>
<td>9:00</td>
<td>Ashley Baxter</td>
<td>Bioshock and Ideology: Turning the Cultural Studies Lens on Video Games</td>
<td>Heather Robinson</td>
</tr>
<tr>
<td>9:20</td>
<td>Rebekah Largent</td>
<td>A Picture Show at the End of the World</td>
<td>Heather Robinson</td>
</tr>
<tr>
<td>9:40</td>
<td>Patricia Chambers</td>
<td>Is It Live or Is It Memorex?: Lullaby in Time-Bound and Space-Bound Systems</td>
<td>Igor Klyukanov</td>
</tr>
<tr>
<td>10:00</td>
<td>Tara Weldon, Kimberlie V. Smith</td>
<td>Surviving and Recovering from Crisis: A Collaborative Auto-Ethnography</td>
<td>Susan Stearns</td>
</tr>
<tr>
<td>10:20</td>
<td></td>
<td>Break</td>
<td></td>
</tr>
<tr>
<td>10:30</td>
<td>Amunoo Mohamed</td>
<td>If We Better Socialize Our Children, We Can Help Them Survive in These Urban Neighborhoods</td>
<td>Patricia Chantrill, Angela Schwendiman</td>
</tr>
<tr>
<td>10:50</td>
<td>Carson Dipo, Jeremy Huntley</td>
<td>Giving Voice to Street Dependent Youth</td>
<td>Heather Robinson</td>
</tr>
<tr>
<td>11:10</td>
<td>Jaime Hollis</td>
<td>A Culture of Rape: The Legacy of Apartheid and Gender-Based Violence in South Africa</td>
<td>Heather Robinson</td>
</tr>
<tr>
<td>11:30</td>
<td>Ashley Meese</td>
<td>DOMA Domination: How Beneficial Are Your Benefits?</td>
<td>Elizabeth Kissling</td>
</tr>
</tbody>
</table>
## Oral Session 8: Anthropology
### Room 243, 9:00 a.m.-12:50 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>9:00</td>
<td>Melody Ramsey</td>
<td>Cahokia, Artifact Assemblage and Status</td>
<td>Sarah Keller</td>
</tr>
<tr>
<td>9:20</td>
<td>Lindsey Porter</td>
<td>Peruvian Skull Alterations</td>
<td>Sarah Keller</td>
</tr>
<tr>
<td>9:40</td>
<td>Brina Smith</td>
<td>Body Modifications among Pacific Northwest Coast Native Peoples</td>
<td>John Dorwin</td>
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<tr>
<td>10:00</td>
<td>Sowon Han</td>
<td>Han Bok: Traditional Korean Dressing</td>
<td>LaVona Reeves</td>
</tr>
<tr>
<td>10:20</td>
<td>Kayo Sakamoto</td>
<td>The Origin and Customs Related to the Japanese Summer Kimono, Yukata</td>
<td>LaVona Reeves</td>
</tr>
<tr>
<td>10:40</td>
<td>Abrar Al Maghribi</td>
<td>The Hijab in American Life and Literature</td>
<td>LaVona Reeves</td>
</tr>
<tr>
<td>11:00</td>
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<td><strong>Break</strong></td>
<td></td>
</tr>
<tr>
<td>11:10</td>
<td>Alyaa Malibari</td>
<td>Leadership Training Program for Girls in Saudi Arabia</td>
<td>LaVona Reeves, Kevin Pyatt</td>
</tr>
<tr>
<td>11:30</td>
<td>Abdul Al Dossary</td>
<td>Islamic Parenting: A Memoir</td>
<td>LaVona Reeves</td>
</tr>
<tr>
<td>11:50</td>
<td>Tiffany Krogstad</td>
<td>Language Ideologies and Class among African Americans in Spokane WA</td>
<td>Michael Zukosky</td>
</tr>
<tr>
<td>12:10</td>
<td>Michael Maynard</td>
<td>Living the Label: Low Socioeconomic Status and Education</td>
<td>Frederick Strange, Nanette Wichman</td>
</tr>
<tr>
<td>12:30</td>
<td>Elizabeth Kay</td>
<td>The Stigma Surrounding Tobacco Use</td>
<td>Sarah Keller</td>
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</table>
Oral Session 9: Government and Public Administration
Room 306, 9:00 a.m.-12:50 p.m.

<table>
<thead>
<tr>
<th>Time</th>
<th>Author</th>
<th>Title</th>
<th>Mentor</th>
</tr>
</thead>
<tbody>
<tr>
<td>9:00</td>
<td>Mark Balfe</td>
<td>Nietzsche’s “Overman”: Beyond the Prejudice</td>
<td>Thomas Hawley</td>
</tr>
<tr>
<td>9:20</td>
<td>Tracey Waring</td>
<td>Hospitality House: Empowering Communities for a Brighter Tomorrow</td>
<td>Robert Zinke</td>
</tr>
<tr>
<td>9:40</td>
<td>Roman Bohdan, Atania Gilmore, Gary Podris, Tamra Stark</td>
<td>Why Does Belgium Not Have a Government?</td>
<td>Harm-Jan Steenhuis</td>
</tr>
<tr>
<td>10:00</td>
<td>David Nderitu</td>
<td>The Culture of “Kitu Kidogo” in Kenya: How Should Kenya Deal with the Problem of Rampant Corruption?</td>
<td>Larry Luton</td>
</tr>
<tr>
<td>10:20</td>
<td>Max Szyszkowski</td>
<td>Orientalism and Occidentosis: A Discussion of Discourse between East and West, and How the Israeli-Palestinian Conflict Exemplifies This</td>
<td>Majid Sharifi, Vandana Asthana</td>
</tr>
<tr>
<td>10:40</td>
<td>Enver Guseynov</td>
<td>How America’s Securitization of Israel Could Lead to Insecurity in Egypt</td>
<td>Majid Sharifi</td>
</tr>
<tr>
<td>11:00</td>
<td>Break</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11:10</td>
<td>Mark Peckham</td>
<td>Divergent Discourses as an Impediment to Peaceful Negotiation: The Islamic Republic and the United States</td>
<td>Majid Sharifi</td>
</tr>
<tr>
<td>11:30</td>
<td>Abdulrahman Alhashim</td>
<td>Misconceptions about Saudi Arabia: The Government and the People</td>
<td>LaVona Reeves</td>
</tr>
<tr>
<td>11:50</td>
<td>Ethan Johnson</td>
<td>Dubai Inc</td>
<td>Majid Sharifi</td>
</tr>
<tr>
<td>12:10</td>
<td>Naima Neghmouche-Salah</td>
<td>Understanding AQIM in Algeria: How Does AQIM Fit within the Algerian Political and Social Structure?</td>
<td>Robert Sauders</td>
</tr>
<tr>
<td>12:30</td>
<td>Melissa Main</td>
<td>Globalization and Islamic Feminism in Iran</td>
<td>Majid Sharifi</td>
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</table>
# Oral Session 10: Biology II

**Room 101, 2:00-4:30 p.m.**

<table>
<thead>
<tr>
<th>Time</th>
<th>Author</th>
<th>Title</th>
<th>Mentor</th>
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<tbody>
<tr>
<td>2:00</td>
<td>Forrest Ireland, Marina DeFrates, Lifen Guo</td>
<td>New World Paleolithic and Historic <em>Bison bison</em> Genomic Diversity</td>
<td>Randy James</td>
</tr>
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<td>Steve Fisk</td>
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<tr>
<td>2:20</td>
<td>Nicholas Negretti, Joe Lawhead, Ashley McElroy, Hailey Markum-Patti</td>
<td>Development of 16s Bacterial rRNA Sequence Library for <em>Apis mellifera</em> (Honey Bee)</td>
<td>Randy James</td>
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<td>Steve Fisk</td>
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<tr>
<td>2:40</td>
<td>Zac Groom</td>
<td>Bacterial Genome of <em>Rhodopirellula baltica</em> in the <em>Pacifastacus leniusculus</em> Crayfish</td>
<td>Randy James</td>
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<tr>
<td>3:00</td>
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<td><strong>Break</strong></td>
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<tr>
<td>3:10</td>
<td>Jonathon Smith, Dien Huynh</td>
<td>Genetic Introgression of Cyprinidae Fishes in Spokane Area Tributaries</td>
<td>Randy James</td>
</tr>
<tr>
<td></td>
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<td>Steve Fisk</td>
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<tr>
<td>3:30</td>
<td>Hannah Roberts, Jacob Ecklund, Alyssa Barton</td>
<td>An Analysis of Gene Flow within Eastern Washington Mule Deer Using SNP Haplotyping</td>
<td>Randy James</td>
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<td>Steve Fisk</td>
</tr>
<tr>
<td>4:50</td>
<td>Tyler Dennis, Nicole Hamlin, Dina Storozhenko</td>
<td>Analysis of Alu Recombination Rate in <em>Homo sapiens</em></td>
<td>Randy James</td>
</tr>
<tr>
<td></td>
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<td>Steve Fisk</td>
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<tr>
<td>4:10</td>
<td>Andrew Wordell, Celena Ward</td>
<td>SNP Halotype Analysis for the Identification of <em>Entaomeba gingivalis</em></td>
<td>Randy James</td>
</tr>
<tr>
<td></td>
<td></td>
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<td>Steve Fisk</td>
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</table>
## Oral Session 11: Economics and Management
### Room 124, 1:20-2:20 p.m.

<table>
<thead>
<tr>
<th>Time</th>
<th>Author</th>
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<th>Mentor</th>
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<tbody>
<tr>
<td>1:20</td>
<td>Benita Walker</td>
<td>The Direct and Social Costs of the Selection Bias in Favor of Males in India</td>
<td>Kelley Cullen</td>
</tr>
<tr>
<td>1:40</td>
<td>Anthony Austin-Walker</td>
<td>Post-Civil War Economic Inhibitions among African-Americans under Jim Crow Laws &amp; the Economic Developments They Achieved Despite These Implications</td>
<td>Kelley Cullen</td>
</tr>
<tr>
<td>2:00</td>
<td>Paul Milani, Ron Poplawski, Jr.</td>
<td>Required Vaccine Production Advancements to Battle the Next Global Pandemic</td>
<td>Harm-Jan Steenhuis</td>
</tr>
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</table>

## Oral Session 12: History
### Room 124, 2:30-4:30 p.m.

<table>
<thead>
<tr>
<th>Time</th>
<th>Author</th>
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<tbody>
<tr>
<td>2:30</td>
<td>Ty Omlin</td>
<td>The Memory of the Unknown</td>
<td>Georgia Bazemore</td>
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<tr>
<td>2:50</td>
<td>Lucas LeCaire</td>
<td>Dismantling Democracy: The Reign of the Thirty and the Failure of Spartan Hegemony in Athens in 404/3 B.C.</td>
<td>Georgia Bazemore</td>
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<tr>
<td>3:10</td>
<td>Kaili Payne</td>
<td>The Power of Prostitution: The Hetairai, Companionship and Autonomy in Classical Athens</td>
<td>Georgia Bazemore</td>
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<tr>
<td>3:30</td>
<td>Ian Reeves</td>
<td>In Defense of Eric Williams: Slavery, Industrialization and the Williams Thesis</td>
<td>Ann LeBar</td>
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<tr>
<td>3:50</td>
<td>Elizabeth McNutt, Tanya Bailey</td>
<td>Wild Wild Washington</td>
<td>J. William Youngs</td>
</tr>
<tr>
<td>4:10</td>
<td>Ethan Johnson</td>
<td>Juana la Persona</td>
<td>Jose Garcia-Sanchez</td>
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</table>
Oral Session 13: English II
Room 201, 1:00-4:50 p.m.

<table>
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<th>Time</th>
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<tbody>
<tr>
<td>1:00</td>
<td>Brandon Humphreys</td>
<td>Poe and Evil: An Interpretive Reading of “The Masque of the Red Death”</td>
<td>Judith Logan</td>
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<tr>
<td>1:20</td>
<td>Cody Henderson</td>
<td>Edgar Allen Poe: Captain of the Fun Police</td>
<td>Judith Logan</td>
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<tr>
<td>1:40</td>
<td>Ryan Weldon</td>
<td>Hell(o) (T)here: Catwoman, Feminism and Anti-Heroism</td>
<td>Logan Greene</td>
</tr>
<tr>
<td>2:00</td>
<td>Benjamin Burbank</td>
<td>Signifyin(g) in the Songs of the Marching Monkeys</td>
<td>Logan Greene</td>
</tr>
<tr>
<td>2:20</td>
<td>Sarah Murphy</td>
<td>The Necessity for the Cuckoo in the Nest: McMurphy’s Act of Salvation through Humor</td>
<td>Judith Logan</td>
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<tr>
<td>2:40</td>
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<td>Break</td>
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<tr>
<td>2:50</td>
<td>Paul Lee</td>
<td>Stabling the Hobby-Horse: Hume’s Conception of Sympathy and Its Implications for Communication in <em>Tristram Shandy</em></td>
<td>Matthew Binney</td>
</tr>
<tr>
<td>3:10</td>
<td>Aubra Godwin</td>
<td>Layeth She Her Hands: The Many Influences of Amy Denver’s Narrative in Toni Morrison’s <em>Beloved</em></td>
<td>Judith Logan</td>
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<tr>
<td>3:30</td>
<td>Denise Stripes</td>
<td>Unwitting Mephistopheles</td>
<td>Judith Logan</td>
</tr>
<tr>
<td>3:50</td>
<td>Courtney Harler</td>
<td>The Intertextuality of Emily Brontë’s <em>Wuthering Heights</em> and Edith Wharton’s <em>Ethan Frome</em>: Duty versus Desire</td>
<td>Beth Torgerson</td>
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<tr>
<td>4:10</td>
<td>Cori Smith</td>
<td>A “Fallen” King Arthur: Anne Brontë’s <em>The Tenant of Wildfell Hall</em> and Victorian Constructions of Masculinity</td>
<td>Beth Torgerson</td>
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<tr>
<td>4:30</td>
<td>Linda Khoury</td>
<td>Queering Emily Brontë</td>
<td>Beth Torgerson</td>
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## Oral Session 14: Women’s and Gender Studies
Room 203, 1:00-2:40 p.m.

<table>
<thead>
<tr>
<th>Time</th>
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<tbody>
<tr>
<td>1:00</td>
<td>Angel Cervantes</td>
<td>Zombie Feminism: What’s Masquerading as Feminist? Exploring Definitions and Contradictions</td>
<td>Mimi Marinucci</td>
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<tr>
<td>1:20</td>
<td>Maira Sanchez</td>
<td>Trabajo y Mas Trabajo: A Woman’s Work Is Never Done</td>
<td>Amani El-Alayli, Kelly Coogan-Gehr</td>
</tr>
<tr>
<td>1:40</td>
<td>Linda Khoury</td>
<td>Barbara McClintock: Undoing Gender through Science</td>
<td>Mimi Marinucci</td>
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<tr>
<td>2:00</td>
<td>Daniel Wallin</td>
<td>The Grail Goddess &amp; the Divine Feminine in Celtic Pagan Religion</td>
<td>Mimi Marinucci</td>
</tr>
<tr>
<td>2:20</td>
<td>Helen Arega</td>
<td>Who cares about Environmental Racism?: Exploring the Intersections of Public Health, Race and the Environment</td>
<td>Kelly Coogan-Gehr</td>
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</table>

## Oral Session 15: Chemistry, Biochemistry and Mathematics
Room 203, 2:50-4:10 p.m.

<table>
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<th>Time</th>
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<tbody>
<tr>
<td>2:50</td>
<td>Elyse Driver</td>
<td>Forensic Value of Magnetite Surface Micro-Textures from around Spokane</td>
<td>Peter Bilous</td>
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<tr>
<td>3:10</td>
<td>Marion Fossum</td>
<td>Forensic Light-Emitting Blood Detection Reagents</td>
<td>Peter Bilous</td>
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<tr>
<td>3:30</td>
<td>Bridget Mummey</td>
<td>Development of a New Class of Drugs for the Treatment of Alzheimer’s Disease</td>
<td>Travis Denton</td>
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<tr>
<td>3:50</td>
<td>Andrew Ruud</td>
<td>Cryptology and the Mathematics behind the Advanced Encryption Standard</td>
<td>Ron Gentle</td>
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</table>
### Oral Session 16: Philosophy
Room 204, 1:40-3:40 p.m.

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<th>Time</th>
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<tbody>
<tr>
<td>1:40</td>
<td>Nicholas Ettel</td>
<td>Locke: A Contemporary Interpretation of Ideas and Knowledge</td>
<td>Kevin Decker</td>
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<tr>
<td>2:00</td>
<td>Nita Rektor</td>
<td>The Ethics of Food Production</td>
<td>Kevin Decker</td>
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<tr>
<td>2:20</td>
<td>Rebekah Largent</td>
<td>The Death of Facts</td>
<td>Mimi Marinucci</td>
</tr>
<tr>
<td>2:40</td>
<td>Angel Cervantes</td>
<td>Ways of Knowing: Limited Reality, Expanded Truth</td>
<td>Mimi Marinucci</td>
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<tr>
<td>3:00</td>
<td>August Mattson</td>
<td>Language and Truth: Why Truth Isn’t Absolute</td>
<td>Kevin Decker</td>
</tr>
<tr>
<td>3:20</td>
<td>Bryan Butler</td>
<td>A Family Quarrel, from Rawls to Habermas</td>
<td>Terrance MacMullan</td>
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### Oral Session 17: Fine Arts
Room 221, 1:00-3:50 p.m.

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<tr>
<th>Time</th>
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<tbody>
<tr>
<td>1:00</td>
<td>Bai Ying “Will” Zhang, Yifan Hou</td>
<td>Poetry of the Tang Dynasty in China: Mother and Child</td>
<td>LaVona Reeves</td>
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<tr>
<td>1:20</td>
<td>Jessi Jaynes</td>
<td>Supernatural Reality: Meditative Practices and the Art of Caravaggio in Counter Reformation Italy</td>
<td>Barbara Miller</td>
</tr>
<tr>
<td>1:40</td>
<td>Ted Means</td>
<td>Artemisia’s Tragic Success</td>
<td>Barbara Miller</td>
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<tr>
<td>2:00</td>
<td>Bridget Freeman Wamsley</td>
<td>Louis XIV: How He Used the Baroque to Control the Aristocracy of France</td>
<td>Barbara Miller</td>
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<td>2:20</td>
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<tr>
<td>2:30</td>
<td>Laurel Newnham</td>
<td>The Female Gaze: Female Dynamics of Vision in Impressionist Painting</td>
<td>Barbara Miller</td>
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<tr>
<td>2:50</td>
<td>Sang Ho Lee</td>
<td>A Tale of Two Sisters</td>
<td>LaVona Reeves</td>
</tr>
<tr>
<td>3:10</td>
<td>Allen Duffy</td>
<td>Panels, People and PNGs: The Excruciating Minutia of Your Daily Life Would Be Exactly 82% More Digestible as a Diary Comic</td>
<td>Chris Tyllia</td>
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<td>Elisa Nappa</td>
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<tr>
<td>3:30</td>
<td>Lyudmilla Gordney</td>
<td>The Violin: Music as a Universal Language</td>
<td>LaVona Reeves</td>
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</table>
# Oral Session 18: English III (TESL)

**Room 243, 1:00-3:50 p.m.**

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<tbody>
<tr>
<td>1:00</td>
<td>Matthew Miner</td>
<td>The Global Citizen Award: Motivating Language Learners</td>
<td>LaVona Reeves</td>
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<td></td>
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<td>Megan Mulvany</td>
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<tr>
<td>1:20</td>
<td>Tera Ray</td>
<td>Ways of Knowing: An Ethnographic Study of Metacognition and Reflection in Multilingual Writers</td>
<td>LaVona Reeves</td>
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<td>Tracey McHenry</td>
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<tr>
<td>1:40</td>
<td>Sarah Sheldon</td>
<td>Learning a New Crop: A Vocational ESL Curriculum for the Biofuel Industry</td>
<td>Tracy McHenry</td>
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<td>LaVona Reeves</td>
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<td>2:00</td>
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<td>Break</td>
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<tr>
<td>2:10</td>
<td>April Ridgeway</td>
<td>Exploring the Ecuadorian Community EFL Classroom</td>
<td>LaVona Reeves</td>
</tr>
<tr>
<td>2:30</td>
<td>Michael Mentzer</td>
<td>Aria—The Song: Richard Rodriguez and Me</td>
<td>LaVona Reeves</td>
</tr>
<tr>
<td>2:50</td>
<td>Melissa Colorado</td>
<td>The Life of Corrie ten Boom Studied in an Original Curriculum</td>
<td>LaVona Reeves</td>
</tr>
<tr>
<td>3:10</td>
<td>Jeff Svoboda</td>
<td>Ansel Adams, Manzanar and U.S. History Benchmarks</td>
<td>LaVona Reeves</td>
</tr>
<tr>
<td>3:30</td>
<td>Saeed Alhamlan</td>
<td>Hey, Muslim Boy!</td>
<td>LaVona Reeves</td>
</tr>
</tbody>
</table>
### Oral Session 19: Physical Therapy, Occupational Therapy and Physical Education, Health & Recreation

**Room 306, 1:00-3:30 p.m.**

<table>
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<th>Time</th>
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<tbody>
<tr>
<td>1:00</td>
<td>Jennifer Eller, Jennifer Jordan</td>
<td>Efficacy of Teaching Critical Care Diagnostic Tests and Medical Equipment Using an Audio-Visual Self-Paced Format</td>
<td>Tanya LaPier, Megan Chatellier</td>
</tr>
<tr>
<td>1:20</td>
<td>Blake Novoa, Christine Olsen</td>
<td>Creating and Educational Series as a Component of a Participatory Ergonomics Program in the Grocery Industry</td>
<td>Dan Anton</td>
</tr>
<tr>
<td>1:40</td>
<td>Christine Olsen, Blake Novoa</td>
<td>The Use of 3D Static Strength Prediction Program (3DSSPP) as a Component of a Participatory Ergonomics Program in the Grocery Industry</td>
<td>Dan Anton</td>
</tr>
<tr>
<td>2:00</td>
<td>Zack Sinner, Mike Milanoski</td>
<td>Exposure to Hand-Arm and Whole Body Vibration in the Construction Trades</td>
<td>San Anton</td>
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<td>2:20</td>
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<td>Break</td>
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<tr>
<td>2:30</td>
<td>Benjamin Grover</td>
<td>Perceptions of Balance and Health among Community Dwelling Older Adults: Findings from a Qualitative Inquiry</td>
<td>Kimberly Cleary, Meryl Gersh</td>
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<tr>
<td>2:50</td>
<td>Jillian During, Mary Doornink, Diane Spotts, Nicki Kane and Randi Nuxoll</td>
<td>Spokane’s Dance for Parkinson’s Disease: A Case Study</td>
<td>Wendy Holmes</td>
</tr>
<tr>
<td>3:10</td>
<td>Christopher Hawley</td>
<td>Effects of Caffeine on a Computer-Based Neurocognitive Assessment</td>
<td>Jeffrey Kawaguchi</td>
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</tbody>
</table>
# Poster Sessions

**2nd Floor Lounge and Rooms 302/304**

**Groups 1-5:** 10:00 a.m.-12:00 noon  
**Groups 6-10:** 1:00 p.m.-3:00 p.m.

Presenters will be available to discuss their posters during each session

<table>
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<tr>
<th>POSTER #</th>
<th>PRESENTER</th>
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<th>MENTOR</th>
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<tbody>
<tr>
<td><strong>Group 1</strong></td>
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<tr>
<td><strong>2nd Floor Lounge</strong></td>
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<tr>
<td>1. Service Learning</td>
<td>Anne Paulin</td>
<td>Service Learning: Connecting Coursework, Community and Career</td>
<td>Molly Johnson</td>
</tr>
<tr>
<td>2. Service Learning</td>
<td>Nicholas Gabble</td>
<td>Service Learning: Learning in Context</td>
<td>Molly Johnson, John Neace</td>
</tr>
<tr>
<td>3. Service Learning</td>
<td>Karhonkwison Logan</td>
<td>Interning with Get Lit!</td>
<td>Molly Johnson</td>
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<tr>
<td>4. Service Learning</td>
<td>Amanda Erickson</td>
<td>Service Learning with the Inland Northwest Y</td>
<td>Molly Johnson</td>
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<tr>
<td>5. Service Learning</td>
<td>Codie Deyo</td>
<td>Service Learning: Connecting Education and Community</td>
<td>Steve Blewett, Molly Johnson</td>
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<tr>
<td>6. Service Learning</td>
<td>Sarah Campo</td>
<td>Spokane Father’s Day Centennial Celebration Campaign</td>
<td>Teena Carnegie, Molly Johnson</td>
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<td>7. Service Learning</td>
<td>Jared Walsh</td>
<td>Historic Downtown Cheney Partnership</td>
<td>Molly Johnson, Teena Carnegie</td>
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<tr>
<td>8. Service Learning</td>
<td>Marc Sandoval</td>
<td>Grant Writing for Friends of Turnbull</td>
<td>Molly Johnson</td>
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<tr>
<td>9. Service Learning</td>
<td>Brian Bair</td>
<td>Service to My School Bag</td>
<td>Molly Johnson</td>
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<tr>
<td><strong>Group 2</strong></td>
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<tr>
<td><strong>2nd Floor Lounge</strong></td>
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<tr>
<td>10. Physical Education, Health and Recreation</td>
<td>Ian Naccarato</td>
<td>Comparison of an Octopolar Bioelectrical Impedance Analyzer and an Ultrasound Analyzer to Air-Displacement Plethysmography for the Assessment of Body Composition</td>
<td>Wendy Repovich</td>
</tr>
<tr>
<td>11. Physical Education, Health and Recreation</td>
<td>Michelle Corder</td>
<td>Comparison of Ultrasound (US) Measure of Abdominal Fat Against the Trunk Measure of Percent Fat from an Octopolar Bioelectrical Impedance Analyzer (BIA)</td>
<td>Wendy Repovich</td>
</tr>
<tr>
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<td>Abstract</td>
<td>Presenter</td>
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<tr>
<td>A 19 Year Old Women’s Basketball Athlete with a Talus Stress Reaction: A Case Study</td>
<td>Erek Arnold, Jimmy Akiyama, Breann Booher</td>
<td></td>
<td>Jeffrey Kawaguchi</td>
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<tr>
<td>A 21 Year Old Collegiate Volleyball Player with Achilles Tendonitis</td>
<td>Katelyn Hill, Tara McLaughlin, Jared Blanc, Katie Bolles</td>
<td></td>
<td>Garth Babcock</td>
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<tr>
<td>Track Athlete Prior to and Following Bunionectomy Surgery</td>
<td>Heather Pence, Megan Jeffris, Amanda Laurita</td>
<td></td>
<td>Jeffrey Kawaguchi</td>
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<tr>
<td>Case Study: 19 Year Old Female Soccer Athlete with a Torn Meniscus with a Twist</td>
<td>Travis Laird, Shawna Crosley, Jamie Nikander, Kameron Curtiss</td>
<td></td>
<td>Garth Babcock</td>
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<td>Case Study: Male Athlete with a Sports Hernia</td>
<td>Joseph Kreilkamp, Liz Reinstein, Nicole Maiden</td>
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<td>Jeffrey Kawaguchi</td>
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<tr>
<td>Collegiate Basketball Player with Labral Tear and Bone Cyst</td>
<td>Irene Lowe, Yoshihiko Tsumekawa, Katie Johnson</td>
<td></td>
<td>Jeffrey Kawaguchi</td>
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<tr>
<td>A Track &amp; Field Athlete with UCL Tear and Resulting Tommy John Surgery</td>
<td>Julie Wight, Hiro Mikami, Whitney Kath, Melani Kelly</td>
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<td>Garth Babcock</td>
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<tr>
<td>A Football Player with Multiple Concussions: A Case Study</td>
<td>Carla Walter, Sayaka Yasui, Kyle Wiley</td>
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<td>Garth Babcock</td>
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<td>Tourette Syndrome in Two High School Athletes</td>
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| 41. Physical Therapy | Shauntae Perkins | Health Related Quality of Life in Community Dwelling Older Adults | Kimberly Cleary |
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Lack of Relationship between Working Memory and Verbal Time Estimation
Cassandra Aguilar
Jonathan Anderson, Psychology

Past research suggests that working memory is important in judging time intervals less than 30 seconds. The goal of the present studies was to investigate the role of working memory in making duration judgments using a verbal estimation paradigm. Study 1: Seventy-five neurologically normal individuals estimated time intervals of 10, 25, 45, and 60 seconds. Working memory was assessed by the WAIS-III Letter-Number Sequencing test. Controlling for age, a significant relationship emerged between working memory performance and absolute discrepancy scores at the 10, 25, and 45 s time intervals. Study 2: Seventy-four neurologically normal individuals completed the same time estimation task and an experimental working memory span task. This required participants to remember the correct sequence of letters, containing three to seven letters per set, while solving a series of math operations. Controlling for age, results revealed no significant relationships. Overall, these data suggest that time estimation accuracy was not related to majority of the measures of working memory performance.

Islamic Parenting: A Memoir
Abdul Al Dossary
LaVona Reeves, English

The author's father was educated in the United States and works as a civil engineer in Saudi Arabia. His mother is a retired teacher and principal. He reflects on their parenting and provides scenes from his childhood and early adulthood, focusing on the ways of Islam and parenting practices of educated parents in his country. At the same time, he presents research findings on social issues that relate to kinship relationships, religious teachings, and generation differences. Gender roles are shifting some in recent times, and he will discuss these as well as the emphasis on educating women. Finally, he will consider how his father was influenced by being educated in the United States and how he himself might be a different kind of father now that he is also being educated in this country.
The Hijab in American Life and Literature

Abrar Al Maghribi
LaVona Reeves, English

Abrar Al Maghribi left Iraq as a young child when the war first broke out, lived in Jordan as a refugee with her mother and siblings, and then came to the U.S. as a teen, graduating from high school in Kent. She discusses Islamic women's strengths across generations as well as their physical limitations, empowerment, adaptation, and cultural mores. She explains how she has had to adapt to living in the U.S., having been raised by a single mother in time of war, migrations, and hardship. She will problematize and personalize current concepts of the wearing of the scarf in the U.S. and show how she has retained some traditions and let others go in order to fit in on campus and in the Northwest, her permanent home now. In discussing the hijab, she adopts "emergent genres of research reporting [with] greater reflexivity in representing the personal shaping of the findings" while reading works of Islamic American women writers, Aseel and Kahf.

Guinea Pigs in Da House

Sarah Alderete
Elisa Nappa, Art

My work has been mostly focusing on the utilization of a small creature, the guinea pig, in a way that surpasses the initial reaction of cute appeal. I have guinea pigs of my own, and they are a great source of inspiration for me. Their childlike expressions often spark feelings of nostalgia for my own youth, evoking memories of childhood, both light and dark. The guinea pig is a perfect effigy of such memories, as their cultural significance is as varied as the experiences of any childhood. In American culture, guinea pigs are both beloved pets and subjects in scientific experiments. This juxtaposition of those roles in society and the hypocrisy therein is what I portray; humanity kisses and kills what it most loves, and childhood falls into this category.

Hey, Muslim Boy!

Saeed Alhamlan
LaVona Reeves, English

This is a diary study of the author, who traveled with Europeans on a tour of the western United States. He discusses how he changed through interacting with the Europeans and how they treated him as the only Arabic speaker on the tour. The diary study and personal essay are situated within a theoretical framework of language acquisition through immersion in real-life communication while living with others whose first language is not English for the most part. In this setting, English becomes the lingua franca—the common language, yet it was not a neutral language since the Scandinavians had distinct advantages over others who had not studied English from childhood and whose language has little or nothing in common with the English language. The author, a native Arabic speaker from Saudi Arabia, discusses differences in communication styles of his fellow travelers and Americans' styles of communicating and interacting with foreign students.
Misconceptions about Saudi Arabia: The Government and the People
Abdulrahman Alhashim
LaVona Reeves, English

Though many Americans have a general idea of Saudi Arabia as an oil-rich country, they often do not know much about the government and the people. The purpose of the presentation is to provide an insider's view of the nation, the government, and the people, taking a emic critical ethnographic view. The author, a Saudi government-supported scholar, explains why the government provides international educational opportunities for both men and women, including married women with children who travel to the U.S. with children and their spouse in order to be educated at both the undergraduate and graduate levels. He also explains Islam's influence on the government, the law, and the culture.

Hamlet and Henchard: A Study of Tragic Figures
Amy Allen
Beth Torgerson, English

In my presentation, I compare/contrast the stories of two tragic figures: Hamlet from Shakespeare's Hamlet and Michael Henchard from Thomas Hardy's The Mayor of Casterbridge. In the structure of a tragedy, a tragic figure must rectify the wrongs of the world while inadvertently destroying his own morality in the process. Hamlet is eternally punished by his call to seek revenge upon his uncle, Claudius. Henchard is eternally punished for his original sin of selling his wife and daughter. The tales of Hamlet and Henchard are instigated by acts of betrayal and are further complicated by poor timing and inner-torment. Their tragic flaws of ambition, deceitfulness, and rashness are exaggerated and contribute to their decay of morality and position while they try to set their worlds right.

Two Variable cpDNA Markers Suitable for Phylogeny Reconstruction in Claytonia
Jessica Allen
Robin O'Quinn, Biology

Efforts are underway to characterize and catalogue Earth's biological diversity. To thoroughly understand biodiversity, systematists are working to reconstruct the evolutionary tree of life. Understanding evolutionary relationships among organisms can help us effectively address conservation issues. Our study focuses on Claytonia, a genus of flowers. The evolutionary relationships among most species of Claytonia are well understood, however the relationships within one section (sect. Claytonia) are still unresolved. Claytonia sect. Claytonia includes species that are narrowly distributed in western North America, and understanding the phylogeny of this section will allow us to assess whether some members should be evaluated for rarity associated with extreme endemism. Phylogeny reconstruction requires molecular markers that have a genetic variation to resolve species relationships. We have assessed sequence variation for two chloroplast DNA markers for four taxa in sect. Claytonia by constructing maximum parsimony and maximum likelihood trees. We are encouraged by the variation we see, and infer that these markers will be suitable for phylogeny reconstruction.
“Undecided”
Dave Andersen
Rachel Toor, Creative Writing

I will be reading a piece of creative nonfiction written in Professor Rachel Toor's Creative Writing 313 "Nonfiction Form & Theory" course.

Synthesis and Purification of Branched Chain α-Ketophosphonic Acids
Olin Anderson
Travis Denton, Chemistry and Biochemistry

Branched chain α-keto phosphonic acids (α-KPAs) are important research tools in the field of medicinal chemistry. Branched chain α-KPAs serve as competitive inhibitors of branched chain aminotransferase (BCAT), the enzyme responsible for the conversion of branched chain amino acids (BCAAs) to branched chain α-ketoacids (BCKAs). α-KPAs are also mechanism-based inhibitors of the branched chain α-ketoacid dehydrogenase complex (BCKDHC), the enzyme complex responsible for transformation of BCKAs to the corresponding branched chain-coenzyme-As (BC-CoAs). The BC-CoAs serve as sources of Acetyl-CoA and Succinyl-CoA which are necessary components of the tricarboxylic acid (TCA) cycle. The BCKA induced inhibition of BCKDHC causes a buildup of BCKAs which inhibit BCAT and prevent the metabolism of BCAAs. Selective inhibition of BCAT and BCKDHC is intended to allow scientists to study the roles of the individual amino acid metabolism pathways and, ultimately, the effects of different amino acid concentrations on various physiological processes. The results of the synthesis of new α-KPAs in high purity and yields from unstable precursors will be discussed.

“Memories”
Brittney Andrade
Rachel Toor, Creative Writing
Jonathan Johnson, English, Creative Writing

A nonfiction essay that was written in memory of my grandmother's recent passing.
Who Cares about Environmental Racism?: Exploring the Intersections of Public Health, Race, and the Environment
Helen Arega
Kelly Coogan-Gehr, Women's and Gender Studies

Environmental racism affects all communities around the United States, in particular "The American South," also known as the third world in the West, it is by far one of the most targeted regions. Household garbage and hazardous waste plants are intentionally using the American South as a dumping ground. There are numerous campaigns and agencies that specifically work on environmental issues, but oftentimes the variety of issues they choose are rather limited: for instance, air pollution and climate change. While these issues are very important, there are a number of environmental problems that remain largely overlooked. The environmental health risks of minority communities get easily overlooked in this formulation of the general public—a general public that is the audience of the country's most significant environmental health campaigns. This research seeks to examine to what extent do public health organizations that are conscious of environmental issues take into count environmental racism.

Thor's Thistles
Allison Armfield
Judith Logan, English

A thistle is not a well sought-after flower; it is not part of the bouquet one buys for his girlfriend on Valentine's Day or an anniversary, nor is it a sweet smelling flower someone would desire to pick and smell. Thistles are the weeds that farmers and gardeners alike struggle to rid their otherwise immaculate garden/field of. And generally, if one comes across a patch of thistles, it is a regrettable accident. They sting, they itch, and they are ugly; yet in Ted Hughes's poem "Thistles," a greater appreciation is gained for these unpopular weeds. He describes their tactic in invading lands, their thorny weapons, and their persistent efforts to seek revenge. Through figures of speech, imagery, and diction, Hughes describes the thistles as more than just a pain in the neck, but an admirable and valiant warrior.

A 19 Year Old Women's Basketball Athlete with a Talus Stress Reaction: A Case Study
Erek Arnold, Jimmy Akiyama and Breann Booher
Jeffrey Kawaguchi, Physical Education, Health and Recreation

A stress reaction is stress to the bone from repeated mechanical stress but no fracture is present. This differs from a stress fracture where there is an actual fracture to the bone. The authors of this poster explain what a stress reaction is and how to differentiate it from other bone injuries as well as treatment and rehabilitation of the injury. Included is a case study depicting a unique example of a stress reaction and the process of evaluation, diagnosis, treatment, rehabilitation and return to play.
The Evolution of Chicano Identity
Solomon Askenaw
*Martin Meraz-Garcia, Chicano Education*

In this paper I use empirical data deduced from student's interviews at the EWU campus and peer review scholarly sources to explore the evolving political and cultural identity of Chicanos and offer alternatives on who else may fit the rigid definition of Chicanismo. I first describe the tumultuous origins of this term starting in the 1960s as Mexican American activists engaged in El Movimiento (Chicano Civil Rights Movement). Second, I outline the changes in the negative connotation of the term used to describe Mexican immigrants that were perceived as out of touch with Anglo customs. Third, I outline how the reconceptualization of Chicanismo occurred as Mexican American activists redefined this negative connotation as a prideful representation of who they were. Finally, I explore how the influx of immigrants from other parts of the world may be forcing Chicano scholars to rethink Chicanismo in broader terms to include not only U.S. citizens of Mexican descent. For example, according to Jackson, "defining Chicano in terms of race is to incorporate racist tendencies into an ideology that fights against racism [and defines this term on] the basis of 'equality, self-determination, human rights, and social justice’" (2009, p. 324).

_Sweet Revenge_
_Doug Ault and Ricardo Montesinos_
*Sarah Lee Monroe, Electronic Media and Film*
*Don Goodwin, Music*

Branching away from the typical blood and gore usually associated with zombie movies, _Sweet Revenge_ follows the emotional change of a young man named Bryan as he prepares to fight off the hordes. After getting brutally embarrassed in class, Bryan holes up in his room oblivious to the ensuing chaos outside. When Bryan's tormenter returns as a reanimated corpse, it is time for Bryan to put away childish behavior and become a man. Starring Bryan Roach, Seth Mead, and Jesse Retan, _Sweet Revenge_ tells Bryan's tale of maturation and growth as he and Jesse compile survival supplies. While preparing, Bryan and Jesse engage in a discussion about the morality and ethics of the zombie apocalypse. In order to survive in this new world, Bryan must convince Jesse that the only option is to go on the offensive to keep the undead at bay.

Post-Civil War Economic Inhibitions among African-Americans under Jim Crow Laws & the Economic Developments They Achieved Despite These Implications
_Anthony Austin-Walker_
*Kelley Cullen, Economics*

This research reveals how the Post-Civil War establishment of Jim Crow laws inhibited the economic growth status among African-American populations in the United States and the economic developments they achieved despite these implications. Included in the presentation will be the examination of specific restraints including, but not limited to, education, the labor market and societal participation. A close examination of data showing various statistics among African-Americans’ economic status will be presented. Also, in this presentation there will be data showing various opportunity costs that were relevant to African-Americans in the Jim Crow Era. The analysis shows how African Americans flourished despite social and economic regulations which sought to constrain them by the establishment of schools, businesses and other institutions.
**Planetary Evolution**

Nicholas Bailey  
Jonathan Middleton, Music

*Planetary Evolution* is a musical piece written for the *Sound Spaces Ensemble*. The main idea of the piece is Amplitude/Volume hence "Planetary." It is to be performed on Fork Board (an instrument of my own invention), Zither, Zithitar, FX Piano, Patched Guitar (Mr. Bubbles), and PRTC. All the aforementioned instruments with the exception of the Zither, were designed and built by the members of Dr. Jonathan Middleton's Sound Spaces class.

**Service to My School Bag**

Brian Bair  
Molly Johnson, English

My poster will be based on the service learning project from my ENGL 407 grant and proposal writing class that centered on the nonprofit organization called CASA Partners (Court Appointed Special Advocate). My group members and I found a suitable organization that had similar, if not the same, goals that would sympathize with CASA partners. We then made a form that would help greatly in submitting an application to the organization. While our grant submission was different from other groups in that it was an online form application with specific questions that needed to be answered, I feel that this difference gave our group more experience in dealing with the little nuances of grant making by showing us that while some instructions are vague, they still want specific answers to their questions. We are better for it. Service learning seems to have many advantages over normal classroom lessons. For one, the students know that they have a real client that they have to prepare for. This by itself is a great motivational tool that raises a student's efforts. Through service learning projects like this one, students will become better prepared to face life's obstacles.

**Nietzsche's "Overman": Beyond the Prejudice**

Mark Balfe  
Thomas Hawley, Government

Friedrich Nietzsche's philosophy has long been the subject of a wide range of interpretations, and in some cases, controversy and misunderstanding. I will argue that his concept of the Überrusch, or "overman," has been among the most misunderstood concepts in Nietzsche's philosophy as a result of many different factors, not the least of which include the links to anti-Semitism began by his sister when he was mentally unstable at the end of his life. Additionally, I will argue that this concept is more tangible than many people believe it to be, because in fact there may be a historic example of such a person that Nietzsche himself admired, at least in some ways, that can assist in giving a more concrete example of this concept: Napoleon Bonaparte. In analyzing Napoleon, I will also attempt to show what has prevented past "overmen" candidates from truly reaching the full potential of this concept.
Use of Back Pain Classification for Treatment Planning for a Patient with Chronic Back Pain: A Case Report
Nicole Barhanovich
Patricia Nelson, Physical Therapy

Although low back pain (LBP) is prevalent, effective intervention protocols have not been found. Evidence is emerging that suggests treatment using a classification approach results in better outcomes compared to those that are not classification based. This case report will describe the treatment and outcomes seen in a patient with LBP using a classification system to guide treatment. The patient is a 63 year old male who presented with recurrent low back and left leg pain. After examination and classification, he performed an extension-oriented program for 5 weeks. Change in the Oswestry Disability Questionnaire post intervention was 6.89% and the Quebec Back Pain Disability Pain Scale change was 15 points, both indicating a significant reduction in disability. These findings support current research that suggests use of a low back classification system to guide treatment planning results in better outcomes.

Protecting the American Family: A Brief History of the 20th Century Censorship in the Arts
Sara Barrett
Paul Lindholdt, English

Using Tennessee Williams' A Streetcar Named Desire as my anticipatory set, I will explain how censorship regulating 20th century entertainment has evolved from the 1930s Production Code Association, which forced motion picture studios into self-regulation, to the parental advisory warning label, which branded musical albums as early as 1985. By the third decade of the 20th century, motion pictures became the most popular form of entertainment for adults and children in America. Consequently, efforts to regulate what could appear on the silver screen emerged with specific concern to what children would be exposed. Throughout the century, the motion pictures, the live stage, television, and musical groups have regarded sex, violence, and morality as popular subjects to celebrate, condemn, and explore. Whether in the third decade or the eighth decade of the 20th century, forces demanding censorship have been the Catholic Church, Protestant ministers, various women's organizations, citizens groups, municipal and state censorship boards, and parents. The point of my presentation will be to reveal who has called for censorship, how they succeeded, and whether protecting "family entertainment" has compromised artistic integrity.

Bioshock and Ideology: Turning the Cultural Studies Lens on Video Games
Ashley Baxter
Heather Robinson, Communication Studies

Since the 1970s, videogames as a mass-marketed form of entertainment have made their way into the homes and lives of millions of individuals around the world. These are unique interactive texts as well as cultural artifacts, which have not only created local and global gaming cultures, but also lend new meanings to specific concepts such as popular culture, aesthetics, identity, ideology and power. Moreover, just like movies or music, the video game is a medium that allows for creators and developers to perpetuate dominant ideologies. The following study is an attempt to gain a better understanding of the dominant ideological undercurrents of the video game Bioshock (2007). The main purpose is to better understand how ideology manifests within the story line, how this creates player limitations, and the consequences for the player.
Red Cross Annual Report  
Kelly Baxter  
Kristine Hwang, Engineering and Design

My Red Cross annual report will have a historical theme, to celebrate the long tradition of helping others. The report will have old photos, posters and a time line of important events.

The Impact of Manic Depression on John Berryman's Poetry  
Sondra Belfry  
Paul Lindholdt, English

Manic depression is a disorder that can result in periods of intense energy, hyperactivity, promiscuity, and reckless behavior. On the other hand, it can also mean long bouts of melancholy, fatigue, and total withdrawals from the outside world. Throughout history, artists and creative minds seem to have been especially impacted by manic depression. I looked at one artist in particular—John Berryman. By researching Berryman's biography and poetry, I was able to explore the effect that manic depression had on his writing. Mental illness influenced both the poetic structure and word choice, as well as his writing process. Approaching Berryman's complex work from a psychological perspective adds clarity and understanding.

Understanding Islamaphobia  
Amanda Bernhart  
Pui-Yan Lam, Sociology

Islamophobia is the term used to describe prejudice toward Arabs and Muslim Americans. In my literature review, I examined the pre-9/11 social context that permitted such hostility to flourish following the attacks and compared the extent of such prejudice to the rest of the Western world. Additionally, I conducted a campus survey asking students about their views and actions toward Arab and Muslim Americans. These responses were analyzed to examine how a respondent's personal knowing of a Muslim American and attitudes toward the recent Middle East revolutions impacted his/her responses.

Untitled Paper Planes Murder Project  
Sage Bilderback and Michael Gerety  
Sarah Lee Monroe, Electronic Media and Film  
Don Goodwin, Music

Lt. Clarke (Doug Ault) must wade through a sea of subterfuge to discover the truth regarding the murder of Greg Zeud (Garrett Jutte). He is joined in his search by agent Nestor Flynn (John Rogers), who follows his own mysterious agenda. The suspects (Gabriel Cortez Jr., Sage Bilderback) are in custody, and they need the truth beaten out of them. Untitled Paper Planes Murder Project aims to examine questions about the value of art and circumstance.
Benefriends: Friends by Day, Lovers by Night
Koby Binks and Jonpaul Schry
Theresa Martin, Psychology

The aim of our study is to investigate prevalence, perception, psychological effects, and reasons for EWU students to engage in friends with benefits relationships (FWBR). In our presentation, we will be reviewing key points and findings from current literature, discussing our survey development and describing the rationale and issues for our study currently under construction. A sub-focus of the study is to determine the negotiation techniques of FWBRs and how the partnership is initiated.

Assessment of Northern Pikeminnow Age/Growth, Population and Diet in the Sanpoil Arm of Lake Roosevelt
Alix Blake
Allan Scholz, Biology

The Sanpoil predation contract was designed to model kokanee O. nerka and rainbow trout O. mykiss predation levels by not only smallmouth bass M. dolomieu and walleye S. vitreus, but also by northern pikeminnow Ptychocheilus oregonensis. We used Capture program in Mark software to analyze northern pikeminnow populations, and Wisconsin Fish Bioenergetics 3.0 to determine potential salmonid consumption. Northern pikeminnow in the Sanpoil didn't consume salmonids, so we used data collected in Lake Roosevelt and ran a hypothetical model. By multiplying the potential consumption by the population, we have determined that the northern pikeminnow in the Sanpoil could potentially consume 1,960 salmonids. We also determined that walleye and smallmouth bass potentially consumed 87% of the northern pikeminnow population. We concluded that predation by walleye and smallmouth bass aren't allowing northern pikeminnow to reach a size large enough to consume salmonids (279 mm). Therefore, no program is necessary to control northern pikeminnow predation but an effort to restore native cyprinid populations is needed.

Noise Induced Stress Response in Walleye (Sander vitreus)
Alix Blake, Grant Silver and Aaron Mettler
David Daberkow, Biology

Underwater noise induced stress is detrimental to mammals as well as fish. Here, this concept was investigated in walleye by measuring stress caused by three different frequencies and monitoring their opercular movement. Each fish (n = 6) was exposed to 300 Hz, 2150 Hz, and 4000 Hz for 3 minutes. Each fish was allowed 10 minutes of recovery time between the frequencies. For the first trial, there was a significant difference comparing the average opercular rate per 15 seconds before and after inducing 300 Hz (p = .03), 2150 Hz (p = .002), and 4000 Hz (p = .002). For the second trial, there was significance found comparing opercular rate per 15 seconds before and after inducing 300 Hz (p = .05), 2150 Hz (p = .01) and 4000 Hz (p = .02). The combined data from both the trials, comparing the average opercular rate per 15 seconds before and after inducing 300 Hz (p = .02), 2159 Hz (p = .005) and 4000 Hz (p = .001). The results suggest that there is a behavioral startle (freezing) response after inducing sound underwater, which would potentially cause long term physiological stress and/or decreased fitness.
Check All That Apply: Gay, Latino, Male
Micah Bockstruck
Martin Meraz-Garcia, Chicano Education

In my research paper using empirical data that includes, surveys, peer review scholarly sources, media outlets (both in print and electronic) and interviews, I will address the topic of Homosexuality within the Latino community. Since this is a complex and often taboo topic for Latinos, several components will be addressed including raising awareness and debunking some of the negative stereotypes and myths surrounding this topic. Additionally, I will explore the experiences of GLBTQ Latinos within the U.S.; specifically: the role of the Catholic Church, the role and relationship of the family, health related issues such as HIV/AIDS and STIs, and the occurrence of secret male-male relationships among married Latinos. I will look at the role, if any, this group of individuals plays in U.S. politics. Furthermore, I will develop a clear and accurate description of homosexuality within the Latino community in the present day, and why it is such a complex and often taboo subject. Finally, this work will help us understand what it means to be gay and Latino in the U.S. and what specific obstacles this little discussed group faces in their daily lives.

Why Does Belgium Not Have a Government?
Roman Bohdan, Atania Gilmore, Gary Podris and Tamra Stark
Harm-Jan Steenhuis, Management

International business environments can be plagued with misunderstandings because of cultural differences. National cultures are complex and include concepts such as how language is used to express thoughts, how the flow of time is interpreted, and the priority placed on social values and norms. Clearly, understanding a national culture gives insight to a country’s values and perceptions. The country of Belgium however does not have a unifying national culture. Belgium has a cultural rift so deep that it threatens to tear the country apart. The country is divided between a northern Dutch speaking region, Flanders, and a southern French speaking region, Wallonia. However, the differences are deeper than just language. The Flemish are more task oriented and highly organized planners while the Walloons are more people-oriented and flexible. Tension between the Flemish and the Walloons has led to gridlock: Belgium has not had a government since their elections last June. This raises the question: how can a country be prosperous with such a deep cultural rift? There may be lessons to be learned from Belgium in how to compromise and work towards mutual goals in spite of pronounced differences. Or, conversely, it may be concluded that compromise seems unlikely.

Ship to Sea
Katie Bohnet
Jenny Hyde, Art

I wish I were a mermaid.

Untitled
Katie Bohnet
Greg DuMonthier, Art

I hope you like it.
We will be presenting a 10 minute play from our Directing II class called *Beer Girl*. It is a play about hard times in relationships and finding love.

The Rhetoric of the Metaphor of Navigation in Digital Media  
*Daniel Brasher*  
*Teena Carnegie, English*

The way we perceive and relate to the world around us is not solely a logical endeavor but based on substitutions expressed by metaphors. Lakoff and Johnson describe this as "though the ability to comprehend experience through metaphor was a sense, like seeing, touching… with metaphor providing the only way to perceive and experience much of the world." In digital media, Kuhn describes metaphor as mapping a familiar source concept onto a more abstract target domain. Navigation as a metaphorical term is used to describe how we get around in digital media and access information. Considered an orientational metaphor based on spatial perception, navigation describes perceived movement in a given environment. In this presentation, I examine how the metaphor of navigation rhetorically influences our ability to understand and interact with digital media. I begin by examining how metaphor functions rhetorically by constructing meaning between the user and digital media. I then examine the changing role of navigation from a linear, passive rhetorical tool to an immersive rhetorical experience.

*Two Sugars*  
*Chelsea Brauner and Henry McNulty*  
*Sarah Lee Monroe, Electronic Media and Film*  
*Jonathan Middleton, Music*

Set in a 1940s café, *Two Sugars* is a film noir style black and white film centered around a conversation between two people. An ordinary black briefcase is set on the ground by Ferdy, a well-dressed young man, who awaits the arrival of Mel. The lovely Mel sits across from Ferdy without a word and at once the tension is felt between the two of them as Ferdy attempts small talk but she cuts him off each time. As the conversation progresses it becomes clear that Ferdy and Mel know each other fairly well—perhaps well enough to have had an affair. When he leaves to confront the waitress about the sugar a man walks past Mel at the table and smiles. This man is revealed as Teddy Brick, who manages Ferdy's affairs and clearly respects him. Ferdy has talked to Teddy about Mel, which throws her off her own secret agenda. Ferdy wants Mel to leave with him but she cannot leave her sick husband. Ferdy asks her why she bothered to come to him in the first place and her answer is to dig in her purse and point a gun at him under the table, only to reveal that their conversation has been about something entirely different, and more dangerous.
Signifyin(g) in the Songs of the Marching Monkeys
Benjamin Burbank
Logan Greene, English

Building off of Henry Louis Gates Jr.’s seminal work, *The Signifyin(g) Monkey: A Theory of Afro American Literary Criticism*, it is possible to identify the presence of distinctly African American cultural artifacts existing within a subculture where African Americans compose a minority of the population. Within the United States Army there exists a strong cultural narrative history, much as exists within African American culture. The military narrative history is shared through stories, jokes, and (primarily) cadences, the marching songs of soldiers. This narrative history, along with historical statistics on the Army’s racial profile, points to an instance of cultural creep as a result of the strong presence of African Americans and their culture within the larger body of the United States Army.

A Family Quarrel, from Rawls to Habermas
Bryan Butler
Terrance MacMullan, Philosophy

In order to understand modern political thought there are two contemporary philosophers whose works are essential to the study. One is John Rawls an American Philosopher who passed away in 1992. His ideas such as the Veil of Ignorance and Justice as Fairness were greatly influential in shaping modern political thought and revitalized political philosophy. Jurgen Habermas is a German philosopher who is still writing. His Discourse theory is one of the primary theories of ethics of the contemporary era. I wish to show a synthesis between these two philosophers and how one (Rawls) led to the other (Habermas). In short I wish to resolve the "Family Quarrel" as Habermas put it between himself and Rawls.

“A Short Piece of Creative Non-Fiction”
Marshall Cain-Wardlaw
Rachel Toor, Creative Writing

Reading of a piece of creative non-fiction still in the works.

A Review of Student Experiences with Online and Blended Pedagogical Technologies
Grant Callant II
Ryan Sain, Counseling, Educational and Developmental Psychology

In Winter Quarter of 2011 we created a survey for the students of the Counseling Educational and Developmental Psychology (CEDP) department. This survey was designed to measure and evaluate familiarity and experience with different technologies that have been used in the university classrooms. The results indicate that students have some satisfaction with technologies that professors are currently using. Students also have a demand to see their professors utilize new and advanced technologies. However, according to the students some new technologies are not welcomed in the classroom. Approximately 130 students from the CEDP department responded to this survey.
Chucked from the Vegetable Patch of Life: Death by Gardener in Maxine Kumin's "Woodchucks"
Heather Campbell
*Judith Logan, English*

A short research essay on the language and meaning of the poem "Woodchucks" by Maxine Kumin.

“Creative Nonfiction Piece”
Heather Campbell
*Rachel Toor, Creative Writing*

I will be reading a piece of creative nonfiction.

**Spokane Father's Day Centennial Celebration Campaign**
Sarah Campo
*Teena Carnegie, English*
*Molly Johnson, English*

As part of my Journalism 453 class, I participated in a local and regional campaign with the Spokane Visitor and Convention Bureau. The campaign, supported by Spokane Mayor Mary Verner and headed by Pam Scott, a representative of Spokane Visitor and Convention Bureau, focused on raising awareness of the origination of Father's Day here in Spokane. The project goal was to boost the local economy by increasing the number of people visiting and vacationing in Spokane. This service-learning project was extremely beneficial to my development as a professional communicator because of its multi-dimensional focus. As part of the campaign, I contacted representatives from both the Spokane Tribe of Indians and the Colville Confederated Tribes, I produced a poster panel that was displayed at the Spokane Visitor and Convention Bureau, I wrote an article for publication in a brochure, developed a Public Service Announcement, and wrote a media release. All of the projects I completed for this campaign helped me to hone my writing and design skills and gave me hands on experience in Public Relations.
Structural and Magnetic Properties of the Cu(II) Coordination Polymers
Cu(Pyrazine)(H2O)(Glycine)2(ClO4)2 (1) and Cu(Glycine)(Pyrazine)(ClO4) (2)
Kimberly Carreiro
Jamie Manson, Chemistry and Biochemistry

The aqueous chemical reaction involving copper(II) ions, glycine (an amino acid) and pyrazine produces two distinct crystalline solids; blue rods of 1 and purple blocks of 2. From single crystal X-ray diffraction experiments it was shown that they exist as two-dimensional (2D) coordination polymers but possess inherently different local structures. The 2D motif of 1 consists of 6-coordinated Cu(II) ions and bridging pyrazine and water molecules whereas 2 features bridging glycinate (the anionic form of glycine) and pyrazine. The different bridging ligands afford planar 2D sheets in 1 and corrugated sheets in 2. Examination of the magnetic properties of 1 and 2 entailed several experimental probes such as temperature- and field-dependent magnetization, muon-spin relaxation, and heat capacity. The data for 1 indicate one-dimensional (1D) magnetic chain behavior while 2 demonstrates a dimer-like ground state accompanied by field-induced long-range magnetic order between 2 and 5.5 T. These preliminary results will be presented however it is clear that more detailed work, including theoretical modeling, is needed.

Ways of Knowing: Limited Reality, Expanded Truth
Angel Cervantes
Mimi Marinucci, Women's and Gender Studies, Philosophy

Using texts from different philosophical backgrounds—including Alfred Ayer's *Language, Truth, and Logic*, as well as Thomas Kuhn's *The Structure of Scientific Revolutions*, this paper attempts to integrate (seemingly opposite) books with their most prominent ideas. For Ayer, philosophy should not concern itself with anything that can't be empirically validated (known as logical positivism) or experienced through concrete senses. Metaphysics, as it is called when one does look beyond the immediate sense-experience, is no more than absurdity in language and has no real use, let alone factuality. He contends that the role of philosophy is to be that which explores and analyzes science. Kuhn challenges the very ways science is explored, validated, tested, and even taken for granted, as though we are always "progressing" in science. Furthermore, how do scientific revolutions reconceptualize the very paradigms which had seemed so ironclad? Crisis in science, as it is known—and guided by these paradigms, one wonders if we ever truly pursue science in a totally empirical way. Additionally drawing on more traditional philosophic discussions such as ethics and God, research centers on challenging science and our senses as they function in the western world.
Angel Cervantes
Mimi Marinucci, Women's and Gender Studies, Philosophy

Defining a zombie in pop culture is often a simple affair: a creature caught between living and dead, with the primary goal of devouring living flesh. The zombie trend has emerged with its own voracious appetite since the 1960s, and in today's world especially, the concept of feminism has begun to find new representations—feminism which may or may not be "feminist." Is Sarah Palin feminist or does she endorse feminist standpoints like access to abortion? Are Concerned Women for America creating something they call feminism but changing meanings to fit their agenda? Can a conservative agenda also be a feminist agenda? In the movie Zombie Strippers, a zombie virus created by the government is unleashed upon a strip club which turns men into the traditional zombie (raging, flesh eating, undead) while women are not affected this way because the virus works on the X chromosome. Women clamored to become zombies for the power such a change entailed. For a woman to be powerful, must she become a monster? This is what I have termed "zombie feminism" and plan to investigate. I will examine the movie Zombie Strippers for its delightful array of political and social implications (should a zombie outbreak happen), current definitions to feminism in comparison to older definitions, determine that which is often considered to be universally feminist, and separate these meanings from zombie feminism: that which walks like feminism, talks like feminism, and acts like feminism, but is really not. Such a theory has never been developed (though notice has been paid to the retaking of the word feminism by more traditional and conservative groups) and will shed light on how feminism is defined, why traditionally anti-feminist agendas are claiming the word instead of shunning it, and why zombie is the perfect adjective for such feminism.

Is it Live or is it Memorex?: Lullaby in Time-Bound and Space-Bound Systems
Patricia Chambers
Igor Klyukanov, Communication Studies

Employing theories of media in time and space bound systems developed by Harold Innis, lullaby is explored in both time-bound and space-bound threads as they have developed through time up to the present. Dealing with the choices of lullaby systems of delivery in family life and the affect on quality of life are explored.

The Costs of Success: Power Relations and Chicana/o Winners in Mainstream Schools
Gabriel Chávez García
Sean Chabot, Sociology

Most studies on the plight of Chicana/o minorities in our education system focus on disadvantaged students. My research project, in contrast, explores how "successful" Chicana/o students reflect and experience power relations in the mainstream education pipeline, especially at the K-12 level. Questions guiding my investigation include: How do teachers identify and relate to successful Chicana/o students in their classrooms? What are some of the costs of success for Chicana/o students? What kinds of power shape relationships between mainstream teachers and Chicana/o students who have learned how to navigate the educational pipeline? My theoretical framework relies on Paulo Freire's pedagogical concepts, Seth Kreisberg's views on power over and power with, and related scholarly work in sociology of education. Empirically, my project involves ethnographic research at several mainstream K-12 schools.
Integration of Web 2.0 Technology Tools into Taiwanese Instruction
Po-Yien Chen, I Chia Hsieh and Chang Chang Wu
Kevin Pyatt, Education

The purpose of this portfolio is to introduce the benefits of Web 2.0 tools, technology integration standards, and examples of use. Web 2.0 tools can be a new approach to engage learning in Taiwan that is different from traditional teaching. For example, traditional teaching was always teaching in the classroom without high technology (Wikispaces, Protopage, Blog, and PBWork). Teachers can use these Web 2.0 tools to promote students’ learning both inside and outside of the classroom. For instance, Wikispaces is an online tool in which teacher can put a lot of instructional information to interact with students. Students can go on to this tool to watch instructional information such as video, RSS feed, and articles. This interaction can promote students learning even though students are outside of the classroom. Teachers also can connect with their students immediately anytime outside of the classroom.

A Social Theory Comparing the De-Valuation of Plants and People in the American Economy
Mary Clark
Frederick Strange, Anthropology

In the United States, the value of both people and plants are based solely upon their ability to contribute to economic growth. Biologically, this is exemplified by the experiences of plant species which are classified as invasive non-native plant species, and those classified as cash crops. The experiences of invasive non-native plant species in the United States can be compared metaphorically to the social experiences of the Hmong immigrant population of Merced County, California, as they are presented in Anne Fadiman's anthropological publication, The Spirit Catches You and You Fall Down: A Hmong Child, Her American Doctors, and the Collision of Two Cultures. The experiences of cash crops in the United States can be compared metaphorically to the experiences of the American low-wage workforce, as presented in Barbara Ehrenreich's popular publication, Nickel and Dimed: On (Not) Getting by in America. The evidence presented demonstrates an inherently distorted social system in which the genuine value of both people and plants are ignored for the sake of the continuation of unsustainable economic growth.

Dam Effects on Riparian Vegetation along Elwha River, Washington
Aaron Clausen
Rebecca Brown, Biology

Riparian areas are heavily impacted by dams and, despite their high biodiversity and ecological importance, continue to be threatened. In the summer of 2005 we observed reduced vascular plant diversity in riparian zones below Glines Canyon Dam and Elwha Dam along the Elwha River, Olympic National Park, Washington, compared to those above. To test whether this phenomenon was retained over multiple years, we resampled plots in 2010. Between 2005 and 2010 there was a 26% increase in species richness (p=0.03) in the lowest reach; however there were no significant changes elsewhere in the system. In both 2010 and 2005 there was a decrease in native species richness (26% and 30% respectively) from the furthest upstream to furthest downstream reach (p<0.001 for both). Exotic species richness was higher in the downstream reach both years (p<0.01 for both). These results suggest that dams may have a negative impact on native species diversity in the downstream reach, but other possible causes cannot be excluded. Our study shows that the pattern of decreased diversity we observed in downstream reaches in 2005 persists, despite large flood events in intervening years.
**Pieceful**
**Tara Clemons**
*Greg DuMonthier, Art*

This sculpture combines themes into an installation that feature everyday domestic objects and other discarded materials that have given new life and meaning to the complexities of our contemporary culture. It explores the interaction between the materials used and the social and political viewpoints that we are confronted with.

**The Effect of a Brief Self-Compassion Intervention on Happiness and Psychopathology Correlates**
**Trevor Cole**
*Russell Kolts, Psychology*

Previous research has indicated that non-specific factors account for much of the treatment variance in psychotherapy. However, there has been relatively little research investigating potential applications of these non-specific factors. Some research has suggested that self-compassion is associated with reduced psychopathology symptoms and increased happiness, especially in individuals who are highly self-critical. The present study seeks to examine the effect of a self-compassion intervention on psychopathology symptoms and happiness in a nonclinical population. Participants were college students at Eastern Washington University. Participants' anxiety, depressive symptoms, self-criticism, subjective happiness and life satisfaction were assessed. Participants were randomly assigned to treatment or control conditions. Participants assigned to the treatment condition underwent four one-hour sessions designed to facilitate the experience of self-compassion. Participants in the treatment condition were hypothesized to show a greater decrease in depression, anxiety and self-criticism and a greater increase in subjective happiness and life satisfaction than controls.

**The Life of Corrie ten Boom Studied in an Original Curriculum**
**Melissa Colorado**
*LaVona Reeves, English*

Corrie ten Boom was a Dutch underground worker who saved thousands of Jews during the Holocaust by harboring them in her home and then finding safer havens to hide them from the Nazi regime. She and her family were eventually discovered by the Nazis and were sent to a concentration camp. ten Boom was released after a year of imprisonment on a mere clerical error. Tragically, one week after her release, all of the women of her compound were gassed. The life of Corrie ten Boom is an inspiring one for ESL students and K12 students to study. Through Melissa Colorado's original curriculum centered around ten Boom, students can enrich their lives learning about self-sacrifice, perseverance, and compassion for all people.
Impacts of Urbanization and Aquifer Recharge on Spokane River Macroinvertebrates
Carolyn Connelly
Camille McNeely, Biology

Aquifer recharge and heavy metal pollution influence the Spokane River ecosystem. This study is designed to better understand the effect of these influences by determining the locations where heavy metals become bioavailable and the impacts of cumulative urban pollution as well as evaluating the possible mitigating effects of aquifer recharge in three reaches on the river. I will analyze the cytosolic concentrations of heavy metals in two common macroinvertebrate taxa and these concentrations will then be compared to diets, as determined by gut content analysis to characterize sources of metal contaminants. I hypothesize that, 1) macro-invertebrates bioaccumulate metals contributing to toxic concentrations currently found in fish tissue, and that 2) inputs from the Spokane Aquifer dilute the negative effects of urban pollution on the river's macroinvertebrate community. I measured macroinvertebrate community composition upstream and downstream of the Spokane city-center, as well as from reaches affected or unaffected by aquifer dilution. Preliminary analysis found an abundance of high water quality species in "gaining" reaches and among all reaches a dominance of heavy metal tolerant species.

Ritchie and Selena: Bringing Chicanos into the Mainstream
Grace Cooper
Christina Torres-Garcia, Chicano Education

In my research I explored the influences of music upon the Chicano Movement and the Mexican American community during the post WWII era. Two musical artists stood out amongst all others—Ritchie Valens of the late 1950s and Selena Quintanilla-Pérez who had her fame in the late 1990s through the early 2000s. In my paper I discussed how the struggles and triumphs of these two artists penetrated the walls within the music industry and helped bring the Chicano music and culture into mainstream media. I also analyzed how their entrance into the mainstream broke down racial and sexual barriers in the music industry and created a strong positive Chicano image with their music.
Comparison of Ultrasound (US) Measure of Abdominal Fat Against the Trunk Measure of Percent Fat from an Octopolar Bioelectrical Impedance Analyzer (BIA)

Michelle Corder
Wendy Repovich, Physical Education, Health and Recreation

The purpose of this study was to compare US scans of total abdominal, subcutaneous and visceral fat depths (mm) against the trunk percent fat (%BF) from an octopolar BIA. A convenience sample of healthy college-aged men (n=18) and women (n=8) were assessed on US and BIA in accordance with manufacturers' guidelines. Descriptive statistics of mean ± SD were performed for all variables followed by a Pearson's correlation and 1-way ANOVA to determine associations between all measures. All three fat depths were significantly correlated to %BF (Table 1) while no significant differences were found for the ANOVA. Because the visceral fat depth was only weakly associated (r = 0.540) suggests use of BIA to identify metabolic disorders needs further study. Table 1. Associations of fat depths (mm) and trunk %BF

<table>
<thead>
<tr>
<th>Variables</th>
<th>Measures</th>
<th>M ± SD</th>
<th>r to BIA</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIA Trunk %BF</td>
<td>17.9 ± 7.1</td>
<td>US total abdominal</td>
<td>20.2 ± 9.32</td>
<td>0.689</td>
</tr>
<tr>
<td>US subcutaneous</td>
<td>9.25 ± 3.75</td>
<td>0.713</td>
<td>0.000</td>
<td></td>
</tr>
<tr>
<td>US visceral</td>
<td>11.04 ± 6.94</td>
<td>0.540</td>
<td>0.004</td>
<td></td>
</tr>
</tbody>
</table>

Eco-Melos: Local Membership in the First-Year Ecocomposition Course

José Cortez
Dana Elder, University Honors, English

First-year composition students enter the classroom, bringing with them the environments, ideologies, and discourses that they have acquired through their infinitely different experiences. Bound to the lenses of these experiences, navigating new genres of discourse can be difficult for students because many lack an awareness of their lenses and environments. I suggest encouraging students to explore the melistic relations of language, rhetoric, and environment to help them adapt to new discourses, ideologies, and environments. Applying Dana C. Elder's to ecocomposition theory, I encourage students to look at discourse as it functions within their own environments. I introduce students to their ecological selves, as members of their community, to understand the dynamic relationships that they write within to produce ideology and human action, and to help students become better equipped in adapting to the academic discourse community.

“An Original Work of Fiction”

Tyler Coulston
Rachel Toor, Creative Writing

I will be reading an excerpt from an original short story.

“Work of Creative Non-Fiction”

Emily Craner
Rachel Toor, Creative Writing

I will be reading an excerpt from a piece of original creative non-fiction, with Rachel Toor as my mentor.
Argon Gas is a Suitable Substitute for Ice as an Anesthetic of *Drosophila melanogaster* Infected with the Sigma Virus

Chase Davies  
*Luís Matos, Biology*

The sigma virus (Rhabdoviridae) is carried by a small percentage of wild fruit flies (*Drosophila melanogaster* (Mel), Diptera: Drosophilidae). The sigma virus/*D. melanogaster* system is a newly established model for the evolution of host-shifts and the evolution of virulence. The virus produces carbon dioxide sensitivity in the infected flies and, as a result, exposing infected flies to pure carbon dioxide for five minutes kills them. This sensitivity has forced the research community to use ice to anesthetize flies during husbandry procedures for the last seventy years. Ice anesthesia is both time consuming and can cause condensation on the vial, which in turn can kill flies, thus reducing sample sizes. Here we tested the hypothesis that using argon gas to anesthetize the flies would not adversely affect the flies' infection status or fitness. Genetically identical flies were randomly assigned to ice or argon treatments for all husbandry care over six generations. Infection rate was determined by exposure to CO2 every generation. Additionally, female fecundity, developmental times to pupation and adult emergence, and adult body size were measured after the six generations. All results were statistically similar for ice and argon treatments (p > 0.05). Although we plan to further examine these flies by determining virus load and virus genetic sequences for both treatments, these data suggest that argon gas is a suitable alternative to be used as an anesthetic agent in sigma-infected *Drosophila melanogaster*.

“The Things I Love”

Colleen Davies  
*Rachel Toor, Creative Writing*

A Creative Nonfiction Essay about life and recent endeavors with wine and family.

Worker Displacement: Exploring Determining Factors of Displacement and Alternative Influencing Factors Affecting the Length of Displacement

Eric Dean  
*Kelley Cullen, Economics*  
*Peter Shields, Communication Studies*

Worker displacement is an issue that is especially important as of the latest economic downturn. This study uses data from the United States Bureau of Labor Statistics Displaced Worker Supplement to the Current Population Study to explore variables that affect the probability and length of worker displacement. Additionally, it uses an alternative technique—a two-stage least squares (2SLS) regression utilizing a Heckman Correction—to account for the selection bias inherent in the Displaced Worker Supplement data. The author finds that the year of the release of the supplement data, the education level, gender, age and region of the worker all have statistically significant effects on the probability of worker displacement. Additionally, education level, gender, the class of the worker, and the worker's full-time or part-time status have statistically significant effects on the length of worker displacement.
“Passing It Down”
Tanya DeBuff
Natalie Kusz, English, Creative Writing
Rachel Toor, Creative Writing

I will be reading a personal essay.

The Paper Bull
David DeLeon, Su Fan-Yu and Kevin Silcox
Martin Weiser, Engineering and Design
N.M. Awlad Hossain, Engineering and Design

With our entry in this year’s HPPV contest, we hope to defy expectations. The basic design specs we’re adhering to are as follows; the vehicle will be no more than 75 lbs total and with at most 10% of the total weight comprising of non-paper materials. This includes metals, polymers, rubber, etc. Our ideal design is light, durable and ready to overcome the contest’s obstacle course with finesse and speed. During this project Team Paper Bull has experienced real world engineering design processes and problems that we hope will have prepared us for our individual careers. One universal lesson we’ve learned is the essential aspect of communication during the brainstorming, designing, and assembly of this vehicle.

Analysis of Alu Recombination Rate in Homo sapiens
Tyler Dennis, Nicole Hamlin and Dina Storozhenko
Randy James, Biology
Steve Fisk, North Central High School

Transposable elements, or Alus, are fragments of DNA roughly 300 base pairs long, that insert themselves into different activation sites around the genome. When these elements insert themselves into different sites, they can cause shifts in the genome by adding or deleting base pairs or affect how a gene is expressed. Because of this, one chromosome may be longer than the other, and can lead to unequal crossing over during mitosis. To assess recombination of chromosomes, PCR and Hardy-Weinberg equilibrium provide insight into genetic diversity by determining the rate of homozygous dominant/recessive or heterozygous variations between individuals. Breaks in Hardy-Weinberg equilibrium will expose any unequal crossing over from chromosome to chromosome.
Balance Performance, Functional Mobility and Fall Risk in Community Dwelling Older Women with Incontinence

Tara DeRuwe
Patricia Nelson, Physical Therapy
Kimberly Cleary, Physical Therapy

Urinary incontinence and decreased balance are known to occur with falling. This study measured balance performance, functional mobility and fall risk in community dwelling older women with incontinence. 12 women met inclusion criteria of age 65 or older; independent living in a senior community; and the ability to provide informed consent and to walk independently in their home. Information about fall history/demographics and standard balance and mobility measures were collected. Five subjects (45%) reported one or more falls in the previous year. High fall risk classification of subjects varied between outcome measures: Berg Balance Scale: 0%, Four Square Step Test: 58%, Timed Up and Go: 50%, and Tinetti: 17%. This study documents functional balance, mobility, and fall risk classification of independent older women with incontinence.

Service Learning: Connecting Education and Community

Codie Deyo
Steve Blewett, Journalism
Molly Johnson, English

In my Advanced Public Relations Theory class, we located an organization, identified a need, and assisted in finding a solution to their problem. Our group chose to help a non-profit organization, Peaceful Valley Community Center (PVCC). Our client requested a presentation that they could present to local community boards. PVCC helps many community members from the Peaceful Valley, Latah, Browne's Addition and South Hill neighborhoods. Unfortunately, when it came to funding programs, local community boards did not realize that their members were patrons at PVCC. We embraced their problem, and created a solution by building a solid outline and reference guide for current and future presentations. The reference guide includes a brochure, a testimonial guide, a information release form, a PowerPoint, a prompt for 'filling-in-the-blanks' for future presentations, and digital copies of all documents to be used or updated when necessary. The staff at PVCC are over worked, with big dreams and even bigger hearts. The documents that we created will help them articulate their goals to help service their patrons.

Giving Voice to Street Dependent Youth

Carson Dipo and Jeremy Huntley
Heather Robinson, Communication Studies

Often times we see a homeless teenager and assume they choose not to live by their parents’ rules. This is often not the case, as illustrated by J.T. Fest, an expert in the field of Street Dependency. "Surviving on the streets—a lifestyle that can best be characterized as endless hours of excruciating boredom, punctuated by moments of extreme terror—is not attractive to young people who have established a healthy bond with their family and are getting their needs met at home." This video illuminates real life individual situations, and young men's attempts to rise above their current life circumstances.
Fighting in Ice Hockey: Here to Stay or Going Away

Jessica Dolan
Chadron Hazelbaker, Physical Education, Health and Recreation

Fighting in Ice Hockey is a highly debated topic within the sports world and especially within the world of hockey. The debate centers on whether or not fighting should be completely outlawed in the sport. My research led me to discover many different pros and cons to fighting. The poster was a part of a bigger paper that covered the history of hockey rules and equipment. The paper also talked about the sociological implications of fighting in ice hockey. The poster gives a brief history of fighting in ice hockey. It also breaks down what the pros and cons actually are. Finally, I give my interpretation, based on research, of whether fighting has a place in ice hockey permanently or if it should be removed for the betterment of the sport.

“Creative Writing”

Christopher Dorsey
Rachel Toor, Creative Writing

I'm Chris Dorsey and I'm here to share a piece of creative work with those here at EWU.

Forensic Value of Magnetite Surface Micro-Textures from around Spokane

Elyse Driver
Peter Bilous, Chemistry and Biochemistry

The Scanning Electron Microscope (SEM) has previously been shown to be a useful analytical approach to differentiate between geographical sites based on the surface textures of quartz. This differentiation is a means of including or excluding a geographical location as a possible source of soil evidence thus potentially disproving a suspect's alibi statement. In areas where quartz is rare however, SEM analysis has not been used. Research shows that magnetite displays many of the surface textures found on quartz. The present study evaluated the potential forensic value of the mineral, magnetite. SEM analysis was done on core samples collected from the Spokane area representing a mix of rock formations and altitudes. Each layer of the core, down to the bedrock layer, was analyzed to determine if all features were consistent throughout the core sample. Surface textures and any distinguishing characteristics (e.g. relative amount, size) were used to determine if magnetite samples could be successfully differentiated.

Panels, People and PNGs: the Excruciating Minutia of Your Daily Life Would be Exactly 82% More Digestible as a Diary Comic

Allen Duffy
Chris Tyllia, Art
Elisa Nappa, Art

A lecture on the spectrum of contemporary comic genres, production/distribution methods, community and their potential and applied application in the classroom environment.
I'll be reading a short excerpt from my creative thesis.

**Spokane's Dance for Parkinson's Disease: A Case Study**
Jillian During, Mary Doornink, Diane Spotts, Nicki Kane and Randi Nuxoll
Wendy Holmes, Occupational Therapy

Parkinson's disease (PD) is a progressive disorder that affects movement and quality of life. Recent studies indicate that people with PD may benefit from dance as an alternative to traditional exercise to manage symptoms. Dance programs are increasing in popularity worldwide. This research study examined the local Dance for PD class, recently started by Spokane's Parkinson's Resource Center and based on a professional dance curriculum. The case study design included four focus groups comprised of the national curriculum developers, local organizers, and local class participants. Results highlight: a) emotional and physical benefits of dance, b) role of creative expression, c) necessity of community, and d) importance of class structure. This study contributes to a broader understanding of the dance class and increases the class's visibility to the community, both necessary to support development and expansion of this innovative program.

**Impacts of Hunting on Elk Movement at Turnbull National Wildlife Refuge**
Christopher Dwight
Margaret O'Connell, Biology

In the arid West, quaking aspen (*Populus tremuloides*) cover less than 10% of the forest landscape, yet support a disproportionate diversity of native plants and animals. When elk (*Cervus elaphus*) become overabundant, browsing prevents aspen regeneration, reduces survival, and consequently impacts local biodiversity. In 2010 Turnbull National Wildlife Refuge (TNWR) initiated its first limited annual elk hunt to reduce numbers and disperse elk off the refuge. My study examines whether hunting affects elk movement and usage of TNWR. To determine elk movement and usage of the refuge prior, during, and following the elk hunt, I have monitored 34 radio-collared elk since March 2010. Preliminary analysis indicate that although elk did not change total area used prior to, during, and immediately following the hunt, they did shift use to other areas of the refuge or off refuge. Current radio tracking suggests elk are moving back into the hunt area. My results provide support that the hunt is meeting management objectives by dispersing elk out of areas of high concentration.
Effects of Exercise on Pain Sensitivity with Respect to Age and Gender in Sprague-Dawley Rats
Cheryl Dykstra-Aiello
Karen Carlberg, Biology

The purpose of my study was to examine the effects of gender and age on exercise-induced reductions in pain sensitivity. Ten male and 10 female Sprague-Dawley rats were exercised up to 30 min every other day for 11 wk in motor-driven exercise wheels. Ten male and 10 female sedentary rats were handled every other day. Pain sensitivity, the time taken for a rat to flick its tail from under a hot, focused light (TFL-tail flick latency test), was measured 5–6 hr post-exercise. Two weeks later, opioid involvement was examined with the opioid antagonist naloxone (2 mg/kg, s.c.). Significantly increased TFL response in exercised female rats (p=0.034) was eliminated by naloxone. No significant TFL response was observed in exercised and sedentary male rats.

Eight female rats continued to be exercised for 30 min every other day to middle-age (38 wk) while the 10 sedentary female rats were handled every other day. Significantly increased TFL response in middle-age (p=0.0078) was eliminated by naloxone. This research showed that exercise-induced reductions in pain sensitivity occur in female rats but not males, are not diminished in middle age, and are mediated by opioids.

Untitled
Sam Edmonds
Rachel Toor, Creative Writing

I will be reading a piece of creative nonfiction.

Searching for a Needle in a Haystack: Influencing Factors in Residence Choice among Intravenous Drug Users
Meghan Elder
Pui-Yan Lam, Sociology
Sean Chabot, Sociology

How do people make choices about where to live? Do people choose their residences based on the resources they need regularly? Through observations conducted during my volunteer work at Spokane's Syringe Exchange Program (SEP), I recognized a trend in areas within the city where SEP clients reside. I hypothesize that individuals who participate in the SEP are also engaged in services with agencies that tend to be centrally located in the city of Spokane. Although the crime rates are higher in these neighborhoods, living in these areas provides convenient access to these agencies. In an earlier study, I analyzed data including previous studies examining the relationships between drug use and reliance on human service agencies and other sources of information pertaining to housing costs, socioeconomic status, and the stratification of crime in the neighborhoods assessed. Based on the available data, location appears to be a primary correlate of individuals who utilize SEP services and the decision to reside in neighborhoods with higher crime rates. In the future, I plan to do ethnographic research to explore questions concerning residential choices from the perspective of syringe users. Drawing on their everyday experiences and practices, I hope to develop knowledge that is relevant for the welfare of people involved.
Efficacy of Teaching Critical Care Diagnostic Tests and Medical Equipment Using an Audio-Visual Self-Paced Format

Jennifer Eller and Jennifer Jordan
Tanya LaPier, Physical Therapy
Megan Chatellier, Physical Therapy

Physical therapy students and physical therapists are often presented with audio-visual self-paced modules to learn academic curriculum, complete postgraduate continuing education, and complete job specific training. The purpose of this study was to determine base-line knowledge, the efficacy of the learning model, and to ascertain a relationship between learning style and test scores regarding this module format. An audio-visual self-paced module teaching was given to second year Doctor of Physical Therapy (DPT) students at EWU and data was collected. Pre test scores suggest limited knowledge of medical equipment and diagnostic tests. Statistical analysis of data indicated a statistically significant improvement of knowledge regardless of learning style. Trends showed auditory learning styles demonstrated the largest improvement. The modules proved to be an effective method of educating physical therapy students. Student feedback suggests means to improve the interactive pieces and enhance the learning experience for students and practicing physical therapists.

Service Learning with the Inland Northwest Y

Amanda Erickson
Molly Johnson, English

Spokane has a large number of teens who enter the Spokane County Juvenile Detention Center every year. Since there are fewer resources available from public schools, organizations that target teens are seeking more aid. My group in Proposal Writing wrote a grant for the Inland Northwest Y to implement the Spokane Symphony's Orchestrating Greatness program into their teen program. As a student, I discovered producing a grant is not an easy task, but one that requires dedication, patience, time, teamwork, and research. Working with a real organization that helps vulnerable teens find their place in society through one of a kind programs was a perfect real life example. Writing the grant has allowed an incredible opportunity for at-risk teens to experience something not many kids their age get. Service learning projects allow students an opportunity to practice important skills as well as engage in a project that will benefit the community.
Exercise as a Function of Self-Esteem in Adolescents
Vanessa Estes
Lori Miller, Psychology

Although exercise has been emphasized to improve physical well-being, many underestimate its effects on psychological well-being. Previous research has proven that regular exercise improves self-image in children and adults; however the current study focuses on similar results for adolescents. The continuum of research may diminish the prevalence of younger suicide attempts and depression brought on in stressful preteen years. This study measures the relationship between regular exercise and self-efficacy, anxiety, stress, and depression levels, as well as unhealthy habits such as smoking, drinking, and excessive fast food intake in adolescents aged 12–15 years. Approximately 400-1000 middle-school students should be administered surveys over the course of six months at three-week intervals that indicate how much exercise they practice in a usual week, as well as how often they smoke, drink, and eat fast food. A battery of questionnaires will be administered to determine self-esteem, stress, anxiety and depression levels; these will be the Rosenberg Self-Esteem Scale, Depression, Anxiety Stress Scale, and the Beck Depression Inventory, respectively. Results should reveal that regular exercise correlates with lower levels of anxiety, stress and depression, in addition to higher self-esteem than sedentary students. More active youth also partake in little to no smoking, drinking, and fast-food consumption. While physical fitness is key for physical well-being, psychological wellness may also be maintained with adequate exercise.

Locke: A Contemporary Interpretation Of Ideas and Knowledge
Nicholas Ettel
Kevin Decker, Philosophy

In 1689 John Locke gave us his philosophical magnum opus, An Essay Concerning Human Understanding, which became the foundation of modern empiricism. In his Essay, Locke lays down his theories of human knowledge including the origins of, and the means by which we obtain, knowledge. As an empiricist he was adamant on the measurability and physical identification of all sources of knowledge—hence his strict disbelief in any innate knowledge—and living during the height of the Scientific Revolution afforded him many new insights and evidence to support his theories. The scientific capabilities of Locke's time, however, greatly pale in comparison to the wonders of today. If Locke had the knowledge of today, or even a more optimistic foresight, he might very well have (hopefully) modified his theories into something far more similar to Immanuel Kant: a theory combining the necessary aspects of both the rational mind and the world of experiences—which is far more compatible and realistic with how the sciences are defining the universe and our role/experience within it.
Synthesis Of Isotopically Labeled Aminoethylcysteine Ketimine Decarboxylated Dimer
Chris Evans, Dimitros Tsikas and Aurther J.L. Cooper
Travis Denton, Chemistry and Biochemistry

The World Health Organization estimates that cancer causes approximately 13% of all deaths annually, which in 2007 accounted for between 7–8 million deaths. Oxidation of DNA nucleotides, proteins, and other cellular molecules has been linked to many cancers as well as many other diseases. Aminoethylcysteine ketimine decarboxylated dimer (AECK-DD) is a naturally occurring compound that has been found in human plasma, urine, and in the mammalian brain. Recent studies have shown AECK-DD to protect cultured human cells against oxidative stress, and is currently being investigated as a possible in vivo regulator of oxidative processes. The purpose of our research was to create isotopically labeled AECK-DD and oxidized AECK-DD for use as internal standards in biological studies. Isotopically labeled AECK-DD and oxidized AECK-DD were synthesized using both 13C and 2H labeled starting materials. The 13C isotopically labeled AECK-DD and oxidized AECK-DD were synthesized from 13C labeled sodium pyruvate using a novel one pot multistep synthesis. 2H labeled AECK-DD and oxidized AECK-DD were synthesized starting with 2H labeled dibromoethane in a multistep synthesis.

Unbridled
Jon Faulks
Greg DuMonthier, Art

Unbridled proposes the idea that our existence is directly mirrored by our environment. Our emotions and behaviors are reflected back at us by the things that we affect on a daily basis. These quotidian objects are below our immediate level of perception, and so this reflection escapes our attention. I have taken a banal object and manipulated it to express a very common longing, that of freedom from assignment. Using objects that are part of the everyday world, the proposition is more sincere, and is made from a position of experience. Even though that experience is coming from an inanimate object, our ability to relate gives it weight.

How Attachment to the Divine Might Promote Well-Being
Abigail Fistler, Andrew Pereria and Stanislav Pichinevskiy
Philip Watkins, Psychology

Previous research has shown that religious people tend to be happier than those less religious, however, the particulars of this relationship are not clear. Recently in the psychology of religion researchers have taken a social approach to understanding religion and have looked at how people relate to God. Understanding how a person's relationship with God interacts with happiness and life satisfaction is a crucial step in evaluating the relationship between spirituality and well-being. In this study, over 170 EWU students completed a series of self-report questionnaires that included the Attachment to God Inventory and several well-being measures. When one is securely attached to one's parents this has a number of benefits, including enhanced well-being. Does being securely attached to God also enhance emotional well-being? We predict that individuals who are securely attached to God will show higher scores on our well-being measures than those who are insecurely attached to God or those who are dismissive of their relationship with the Divine.
Investigating the Parasitism of Salmon Lice (*Lepeophtheirus salmonis*) on Salmonids of the North Pacific

Stephen Flanagan  
*Ross Black, Biology*

The salmon louse (*Lepeophtheirus salmonis*) is a marine ectoparasite specific to salmonids. It is important to understand if louse populations are sub-divided by host species because it would provide knowledge on transfer of aquaculture reared lice to wild salmonids. The goals of this study are to infer host-specificity of lice using microsatellites, examine parasite load and population morphometrics. The hypotheses of this study are 1) lice collected from different host species will have identical genetic variability 2) salmon of different species will have similar numbers of attached lice and, 3) comparisons of length and width of cephalothorax and full body length will be statistically similar among lice observed on different host species. Lice were collected from three Pacific salmon species *Oncorhynchus tshawytscha*, *Oncorhynchus gorbuscha* and *Oncorhynchus kisutch* in the wild. The preliminary data suggests that species of Pacific salmon have similar parasite loads (p-value > 0.05) where no possible pairs of salmon species had parasite loads which were significantly different.

The Archetypal Nature of 20th Century Children's Literature

Arnee Flores  
*Logan Greene, English*

My presentation will discuss archetypal elements in specific 20th century children's literature which cause them to endure cross-generationally. A.A. Milne's *Winnie-the-Pooh*, L. Frank Baum's *Wizard of Oz*, C.S. Lewis' *Chronicles of Narnia*, and J.M. Barrie's *Peter and Wendy* will be considered in terms of shared archetypal content. I will cross-reference each archetype with J.K. Rowling's *Harry Potter* and hypothesize the book's probable endurance. Through the topical development of common story elements including "The Safe Haven," "Scarness," "Anthropomorphic Characters," and "Imaginary Worlds," I will unfold correspondences and similarities amongst influential children's books which have become American household names. The psychology of these themes and the ways in which they are transported into our adult lives will be discussed. My presentation will indicate that these archetypes are manipulated by mass media as a form of rhetoric, especially by the Disney Company. My conclusion will clarify the subconscious archetypal and emotional responses that ensure these storie’s continuation.
Forensic Light-Emitting Blood Detection Reagents
Marion Fossum
*Peter Bilous, Chemistry and Biochemistry*

When criminals attempt to remove blood evidence from crime scenes, sensitive blood detection reagents such as luminol, Bluestar®, fluorescein, or Hemascein™ are needed to locate the remaining trace quantities of blood. Both Bluestar® and luminol are chemiluminescent reagents that produce a blue light in the presence of blood. As these luminol-based reagents have a short shelf life, there was a need for a new formulation that was stable, reproducible, and did not affect DNA extraction/typing analysis. Such a reagent was recently formulated and was used in this study. Fluorescein and Hemascein™ are fluorescent reagents that generate yellow-green light in the presence of blood. The light emissions from these fluorescein-based reagents require blue-light illumination and hydrogen peroxide, H2O2. Using a fluorometer, all four reagents were compared across various dilutions of blood. This comparison showed that the newly formulated luminol reagent had improved light emission characteristics when compared to Bluestar®. A low concentration of H2O2 was found to maximize the fluorescent emissions from both Fluorescein and Hemascein™, and these reagents had significantly lower limits of blood detection than that of the luminol-based reagents.

Realizations
K. Michael Fox
*Jonathan Middleton, Music*

Realizations is an improvisational musical score arranged for the Soundspace Ensemble. The piece is tailored to suit the strengths of five instruments each designed and constructed by the MUSC/CSCD 386 class Soundspace. In the piece, the new instruments invented by individuals in the class are used to create a hybrid musical-soundscape experience. Musically, the improvisation is guided by a score that supplies musical scales taken from traditional Japanese music, like that of the koto or shamisen instruments. These scales change over three movements. In terms of the soundscape element, the location to be portrayed is that of a Japanese rock garden on an early spring day that begins cloudy, experiences a small rain shower, and finally is bathed in the early spring sun. The soundscape and musical elements of the piece reinforce each other, and follow a structure that borrows ideas from contemporary experimental music, sound design, and Zen Buddhism.

Louis XIV: How He Used the Baroque to Control the Aristocracy of France
Bridget Freeman Wamsley
*Barbara Miller, Art*

Louis XIV was larger than life. He controlled life in France during the Baroque Era. This absolute monarch reigned for 72 years and orchestrated the lives of his subjects, including the nobility. Through his complete domination of the arts, including painting, sculpting, theater, composing, fashion, and architecture, he syphoned all the money away from any persons posing a possible threat to his rule.
A Scene from *Waiting for Lefty*
Chailee Friant and Justin Schlabach
*Sara Goff, Theatre*
*Jeffrey Sanders, Electronic Media, Theatre and Film*

We will be performing the Joe and Edna scene from the play *Waiting for Lefty* by Clifford Odets. It is a play taking place in the 1930s during the Depression and the Taxi Drivers’ strike, and it shows how a husband and wife deal with the tough times and hardships.

Musical Theatre Dance from *Hair—The Musical*
Chailee Friant, Chelsey Miles, Rebecca Spining, Jessica Gaulke, Justin Schlabach, Cody Bray, Jarvis Lunalo and Martin Sanks
*Sara Goff, Theatre*
*Jeffrey Sanders, Electronic Media, Theatre and Film*

The eight of us will be performing a dance from the Broadway Musical *Hair*! We spent a portion of Winter quarter learning a dance to a song in this musical from dance choreographer Buddy Todd. This performance will show off different types of dancing from jazz, to ballet, to modern, and interpretive.

**Difference & Similarity**
Anna Fry
*Jamie Hahn, Art*

For these images, I wanted to show the differences of images in focus and images out of focus. I took multiple shots of the same subject, but each at different settings. I wanted to make the image unrecognizable but then recognizable as the series continues.

**Is Religious Orientation Related to Emotional Well-Being?**
Trevor Fry, Benn Armendarez and Stanislav Pichinevskiy
*Philip Watkins, Psychology*

Although religiosity has been shown to be positively related to well-being, there are many unanswered questions about this relationship. For example, are some kinds of religiosity more important to well-being than others? In this study we sought to investigate the relationship of intrinsic religiosity to emotional well-being. Intrinsically oriented religious individuals participate in religious activities as an end in themselves, e.g., they attend religious services because they want to grow closer with God, rather than to gain social status. 171 filled out questionnaires as part of the first phase of a positive psychology intervention study. Measures of well-being included the Positive and Negative Affect Schedule, the Satisfaction with Life Scale, and two gratitude tests. Depression was measured with the Center for Epidemiological Studies Depression scale. We used the Intrinsic-Extrinsic Religiosity Scale-Revised to determine each participant's condition of religiosity. We predict that those having an intrinsic religious orientation will tend to show higher scores on our well-being measures.
“Creative Non-Fiction—a Reading”
Matthew Furst
Rachel Toor, Creative Writing

This a reading of a short piece of creative non-fiction.

Service Learning: Learning in Context
Nicholas Gabble
Molly Johnson, English

My math classes use abstract numbers and my philosophy classes use abstract thought. My technical writing classes approach certain topics like grammar from a theoretical standpoint. Still, writing is something that is learned, by-and-large, through application. An instructor could make up a scenario, create an imaginary client with a relevant need, but why make up a need when there are so many real people with real needs? Service learning, where a group of students work on a project for a client in the community under the direction of an instructor, is a richer, more complex, more beneficial way to learn and to teach. I worked with faculty at the JFK library to help design introductory materials for a program called Refworks. The program is a free service provided by the university that was being underutilized by students. My class explored the program, communicated with the client, created instructions, and ran usability testing on those instructions. All of this provided great work experience and items for our portfolios, and helped fix a problem right here on campus.

Characteristics of D152A and W151A Substrate Binding Mutants of Human ITPase
Anthony Gall and Martin Aune
Nicholas Burgis, Chemistry and Biochemistry

The ITPA gene in mammals encodes the Inosine Triphosphate Pyrophosphatase (ITPase) enzyme. ITPase is an essential protein in mammals and is required for proper heart development. ITPase is thought to have a protective role in the cell and acts to prevent abnormal nucleotides from being incorporated into nucleic acids. Our research aims to investigate the structural importance of certain amino acid residues in ITPase by performing site directed mutagenesis. Construction of these mutants will aid in understanding substrate specificity of ITPase and may provide tools to help identify the role of ITPase in heart development. We have created two mutants, D152A and W151A, and have quantitatively assayed for differences in enzyme activity in vitro as well as in vivo. Our results show that both mutants have decreased protective function in vivo and altered substrate specificity in vitro. Results of these assays will be discussed.

Annual Report Book Cover Sleeve
Leesandro Garcia
Kristine Hwang, Engineering and Design

The annual report layout is sleek and simple, and at the same time looking professional and visually pleasing to both the public and administrative representatives. The design has limited colors, and uses only 2 fonts. The report has 20 pages including cover and back. Images are from the American Red Cross archives. The book cover sleeve is based off of the mystery/thriller Zodiac. The cover is accenting the feel and plot of the book. Its purpose is to entice and scare the reader at the same time.
Poetic Fallout: The Relationship of Art to Nuclear Weapons
Jeffrey Gerhardstein
Christina Valeo, English
Paul Lindholdt, English

This project focuses on poetry and literature written in response or relation to the use of nuclear weapons and nuclear technologies associated with producing such weapons, with a particular focus on historical and cultural contexts which influence these literatures. Through investigations of literature by American and Japanese poets and writers, this project explores the relationship of art to the most deadly weapons in human history.

Layeth She Her Hands: The Many Influences of Amy Denver's Narrative in Toni Morrison's Beloved
Aubra Godwin
Judith Logan, English

Amy Denver, the white slavegirl who delivered Sethe's child in Toni Morrison's Beloved, is oft overlooked by scholars; there is a danger, however, in dismissing the importance of her narrative when studying Beloved. The opening epigraph defines Amy's importance implicitly, reading: "I will call them my people, which were not my people; and her beloved, which was not beloved." Amy, a white slave, is like the black slaves, yet she is not; she is one of "the people who are not her [their] people." The name Amy, which means beloved, connects her to the epigraph as well—she is the "beloved who is not Beloved." The parallel between Amy's character and the epigraph cannot be ignored; only by examining Amy's role in the novel is it possible to understand the message of Morrison's Beloved. My presentation will focus on Amy Denver, identifying onomastic, historical, textual, and anecdotal evidence in order to elucidate the importance of this white "other" when studying Toni Morrison's Beloved.

Energy Patch Effects on 1-RM Bench and Repeated Sprints
Eliseo Gonzalez
Wendy Repovich, Physical Education, Health and Recreation

The purpose of this study was to examine the ergogenic effects of energy patches (EP) on 1RM bench press (1RM) and repeated 20m sprints (RS). 14 college students volunteered for this study (n=9, n=5). Participants were healthy, moderately active and experienced lifters. Two patches were applied to participants' medial bicep containing either EP or PLA. 60min seated rest was given to ensure uptake of caffeine. Participants performed a predetermined warm-up prior to 1RM testing. Up to 5 attempts for the 1RM were allowed at a self-selected weight, separated by 2-5min of rest between attempts. Following 1RM testing, participants performed a predetermined warm-up for RS. Participants then performed six, 20m sprints with 30s active rest in between. A paired t-test was used to test for significant difference between EP and PLA with alpha set at p = 0.05. No significant difference was found in 1RM (EP 85.05kg ± 38.90kg; PLA 84.37kg ± 38.90kg) or RS (mean 3.74s ± 0.29s EP vs. 3.75s ± 0.29s PLA; FT 3.75s ± 0.28s EP vs. 3.76s ± 0.28s PLA; FTT 3.65s ± 0.29s EP vs. 3.68s ± 0.29s PLA). Two 37mg patches used in this study were not enough to see an ergogenic effect.
Commemorative Foosball Table
Laura Alexis Gonzalez, James Nelson and Rochelle Macdonald
Terence Geyer, Engineering and Design

As part of a Winter 2011 Senior Capstone class, eight students in the Engineering & Design department undertook an effort to build a foosball table made to commemorate the EWU Eagles National NCAA Division 1 Football Champions. The table has a replicated Red Roos Football field instead of a traditional green soccer field as a playfield. The field is a combination of vinyl and Plexiglas. It is backlit with LED lighting and has a dimming control module. Three tables were produced, as part of a product improvement process. The final table features solid pine 4x4 legs and is adjustable. The body of the table is made up of ¾” high density particle boards with a white melamine finish. It features 90 signed player trading cards placed on the outside walls of the table. The inside walls are covered with actual Championship game photos. The foosball men—made to look like football players—were poured out of polyurethane casting resin in a silicone mold. There is a laser engraved plaque displaying the NCAA logo and all 8 team members' names. Outside advising was coordinated with Kathy Brainard—a National Foosball Champion. One of the tables was auctioned through the EWU Alumni Association as part of a fundraiser project.

The Violin: Music as a Universal Language
Lyudmila Gordney
LaVona Reeves, English

The author will read from a memoir about studying the violin as a child in Russia and will discuss music education in her homeland. She will also briefly review literature about music as a universal language and analyze how playing a musical instrument helped her acculturate in the United States and compensate for her early struggles with the language. She will perform a piece on the violin and share biographical information about Russian composers (Prokofiev, Shostakovich, Stravinsky) and highlight pieces written for the violin.

Stability of Antibiotic Solutions Stored at Room Temperature for Four Weeks
Sim Gosal
Charles Herr, Biology

This project studied the stability of different antibiotic solutions. Understanding this stability will be useful for the formulation of an antibiotic-containing honey bee semen diluent. Honey bees are currently threatened with extinction. If their semen could be stored and transported worldwide without bacterial growth, it will support breeding programs that aim to improve this species’ health. Two types of bacteria were used to test stability: a gram positive bacterium (M. cocci) and a gram negative bacterium (E. coli). For each antibiotic, three concentrations were tested: ½ the recommended dose, the recommended dose, and 2 times. This study tested 23 different antibiotics for stability in solution. Of these, 21 were stable for the 4 week period whether stored under argon or air. It is likely that the failure of the remaining 2 were due to human error. Silver nitrate was also tested and was found to be stable. Knowledge gained from this study is now being used in a field study on honey bee semen storage. Scientists from EWU, WSU, UC Davis and the Center for Animals Near Biological Extinction (CANBE) are conducting this study.
“In the Rain”
Melissa Gren
Rachel Toor, Creative Writing

"In the Rain" is basically about overcoming injury to succeed. I banged up my knee pretty bad throughout high school and I performed in the marching band. This story deals with how I worked through my pain, the process I had to go through to figure out what was wrong with my knee, and how my hard work paid off in our last show at Joe Albi stadium. It is a non-fiction piece.

Stepsisters' Lament
Melissa Gren
Sara Goff, Theatre
Jeffrey Sanders Electronic Media, Theatre and Film

I will be performing “Stepsisters' Lament” from Rodgers and Hammerstein's Cinderella.

Bacterial Genome of Rhodopirellula baltica in the Pacifastacus leniusculus Crayfish
Zac Groom
Randy James, Biology

European Crayfish species like Acastus acastus are becoming increasingly susceptible to infection from Rickettsia-like Organisms such as Rhodopirellula baltica. R. baltica causes death within one week of infection. In order to expand knowledge and understanding of this Endosymbiont, the 18S Mitochondrial Region was amplified and sequenced. Crayfish Samples were captured from The Latah Creek Watershed, roughly one mile from the Spokane River. Samples were immediately frozen and kept on ice. Genomic sequence was obtained using a Qiagen DNA extraction protocol. Qiagen DNeasy Blood and Tissue kits were used to extract DNA from Muscle, Interstitial, Liver, Heart, Stomach and Gill Tissues. From there the purified and amplified samples were taken through sequencing, the results of which were posted to the NCBI Database.
Perceptions of Balance and Health among Community Dwelling Older Adults: Findings from a Qualitative Inquiry
Benjamin Grover
Kimberly Cleary, Physical Therapy
Meryl Gersh, Physical Therapy
An older person's fall risk is typically determined based on fall history and performance on balance outcome measures. However, people's feelings about balance and health may also impact their level of activity and risk of future falls. The purpose of this qualitative report is to describe perceptions of balance and health among older adults living independently. Forty-six people aged 65 and older from a senior living community participated in this study. A qualitative approach of phenomenology was used to explore participants’ perceptions of their lived experiences related to their balance and overall health. Data were grouped into meaningful units or 'themes.' Despite being well enough to live independently, many negative themes emerged. Negative perceptions of balance and health can lead to self-imposed activity restriction, regardless of fall history. In addition to traditional fall risk screening, it is important to consider older adults' perceptions of their balance, and the resultant impact on activity participation and ability to remain community dwelling.

How America's Securitization of Israel Could Lead to Insecurity in Egypt
Enver Guseynov
Majid Sharifi, Government
This research analyzes the impact of the recent Egyptian uprisings on Egypt's relationship with Israel and American responses to the new political situation in the Arab state. America's commitment to preserving Israel's status quo in the Middle East will likely fuel its anxiety about an emergence of a post-Mubarak government that won't parrot Hosni Mubarak's friendly relationship with the Jewish state. These concerns are fueled by the likely participation of the Islamist group Muslim Brotherhood, known for its strong opposition to Israel, in the post-Mubarak Egyptian government. Contrary to mainstream views that the Muslim Brotherhood speaks in a unified voice, the organization is in fact characterized by an ideological schism which divides it into moderate and hardline elements, the former of which could become a vital part of Egypt's political future and even the U.S. Based on these findings, this paper argues that the U.S. shouldn't allow its mediation in Egypt to be driven by an unconstrained obligation to Israel. American attempts to intervene in Egypt's post-Mubarak political process and undermine the Muslim Brotherhood in order to ensure a creation of a pro-Israeli government would weaken pro-Western elements in a future Egyptian government and radicalize the Islamic organization, creating a dangerous split between Egypt's secular and Islamic forces and jeopardizing the country's future.

Alternative Letterpress
Andrew Haas
Mindy Breen, Engineering and Design
This work features experimental and alternative methods and applications of letterpress printing. Using alternative printing plate material and creation of the plates through digital means, this work explores mixed media letterpress printing.
Han Bok: Traditional Korean Dressing
Sowon Han

The author introduces hanbok, the traditional Korean dress. Hanbok actually means in general terms "Korean clothing" but today it is often considered to represent the Joseon Dynasty. Koreans wear hanbok for semi-formal or formal occasions as well as at traditional festivals and celebrations. Traditional women's hanbok includes several parts: jeogori, a blouse shirt or a jacket and chima, a full wrap-around skirt. Social classes are limited to certain kinds of clothing historically in Korea: "rulers and aristocrats adopted different kinds of mixed foreign-influenced indigenous styles, while the commoners continued to use a distinct style of indigenous clothing that today is known as hanbok." Royalty and nobility could wear silk hanbok, but commoners had to wear just white cotton for daily wear by law, but for some occasions they would wear pale colors. Women with sons could wear navy blue, indicating their status as bearers of sons. Men and women of the period all wore their hair in a long braid, but after they married, they had to wear it knotted—for men as a topnotch and for women as a bun to indicate their marital status.

The Intertextuality of Emily Brontë's Wuthering Heights and Edith Wharton's Ethan Frome: Duty Versus Desire
Courtney Harler

Edith Wharton's 1911 Ethan Frome is America's literary equivalent to Emily Brontë's 1847 British masterpiece, Wuthering Heights. In her autobiography, A Backward Glance, Wharton admits to being influenced as a writer by Brontë's powerful novel; it cannot be denied Wharton's characters, plot, narrative style, and setting do bear a remarkable resemblance to those of her British predecessor. However, the most striking similarity between the two works is the focus on the dual love triangles of Heathcliff-Cathy-Edgar and Ethan-Mattie-Zeena. These love triangles portray the characters' difficult struggle to reconcile duty with desire, as the pivotal point of both novels occurs when the characters must make this choice. Ultimately, both Cathy and Ethan make culturally-constrained choices in marriage, and then must suffer for duty's cost. By emphasizing the conflict of duty with desire, both Brontë and Wharton comment upon the damaging effects of cultural constraint upon individual freedom and happiness. Through this lens, this paper explores the numerous commonalities between the two authors and their works.
**Divided We Fail**  
*Milton Harper and John Bewley-Caldwell*  
*Sarah Lee Monroe, Electronic Media and Film*  
*Jonathan Middleton, Music*

*Divided We Fail* is a film directed by Milton Harper, an EWU Film major as well as a EWU Theatre major, with composition by John Bewley-Caldwell from the EWU Music Department. This comedy film follows Sean, played by EWU Theatre major Chris Kelly, throughout his opening week of the winter quarter at his university. He is a graduate student who has a job tutoring a study group for a 100 level CPLA class. He has no idea of what he is in for as the study group is almost instantly in conflict thanks to the obnoxious student, Clancy, played by EWU Film major Sage Bilderback. The teacher of the CPLA class he is tutoring, Mr. McIntyre (played by EWU Theatre major, Michael Olsen) is eager to get rid of Sean for budgetary purposes. Not having a study group is just the cause needed to fire him. It is up to Sean to reunite the study group before the end of the week in order to keep his job. This film also features the acting abilities of EWU Theatre major Rebecca Spinning as well as EWU Film major Seth Reisenauer. EWU Film majors, Joey Stageberg and Christopher Neir, did cinematography.

**Engineering Geology of a Palouse Soil from Cheney, WA**  
*Emmett Hartley, Tyler Jennings and David Decker*  
*Richard Orndorff, Geology*

Wind-blown loess deposited during Pleistocene glaciations formed the Palouse hills in eastern Washington. We collected Palouse soil below the water tower on EWU's campus in Cheney, WA, and analyzed it for engineering properties. We analyzed for macro-scale parameters, grain size distribution, Atterberg limits, optimum compaction, and shear strength. All analyses were performed according to ASTM or other standards. The soil was amended with vermiculite (5% by weight) to compare shear strength and optimum compaction between amended and unamended soils. Vermiculite is a phyllosilicate mineral which occurs as a weathering product of other common phyllosilicates. It is mined and marketed as a soil additive to reduce soil compaction and improve water retention. Our analysis indicates that a 5% vermiculite amended Palouse soil had the same optimum water content for compaction as the unamended soil, but unit weight and yield strength were both diminished.

**“Creative Nonfiction, Select Pieces”**  
*Rachel Hartley-Smith*  
*Rachel Toor, Creative Writing*

I would like to read excerpts from a few longer creative nonfiction prose pieces. My writing often times deals with growing up poor in Southern Indiana and becoming a very young mother determined to be a decent parent and to make good use of her capabilities despite the fact that mentors, aware of how to do such things, were far and few. Having moved across the country in September of this year to attend EWU, I am living outside of my home state for the first time, and I feel I have been able to consider past (as well as more recent) events and personal reactions more carefully, objectively, and creatively.
Diet and Bioenergetics of Northern Pike in Box Canyon Reservoir, Pend Oreille River, Washington
Shane Harvey
Allan Scholz, Biology
Margaret O'Conell, Biology

Northern pike are voracious predators that feed on many types of prey that include fish, small rodents, water fowl and invertebrates. Introduction of pike into water bodies has the potential to cause a collapse in the forage base within a few short years. The recent introduction of pike into Box Canyon Reservoir has lead us to investigate the diet and bioenergetics of northern pike. The objectives of this research were to 1) describe the food habits, 2) determine the age class structure, and 3) describe the growth rates of northern pike in Box Canyon Reservoir since their introduction in 2004. The data collection occurred in 2009 and 2010. Diet analysis indicates that yellow perch (39.4% RI), pumpkinseed (30.3% RI), and peamouth chub (11.7% RI) make up the majority of northern pike diet. Bioenergetics modeling estimated that northern pike consumed 7940 Kg of fish or 163060 prey fish from May to October. There were 9 age classes of pike in Box Canyon Reservoir that added an average of 100 mm per year in length.

Determining the Function of the Putative Relaxase Gene MobA in Helicobacter pylori
Michael Haugen and Ben Knox
Andrea Castillo, Biology

Relaxases are proteins that form part of a complex, called relaxosomes, that are essential for bacterial conjugation to occur. These plasmid-encoded proteins, one of which is MobA, are among several that interact with and prepare DNA for conjugation via type IV secretion systems (T4SS). Previously we identified a homologue of MobA as a Helicobacter pylori gene important for host colonization. In this study, we created antibiotic marked plasmids and chromosomes in H. pylori wildtype and ΔmobA strains for use in conjugation assays. In pilot conjugation studies, we found little difference in conjugation efficiency between the wildtype and ΔmobA strains. Although this may suggest H. pylori mobA is not required for conjugation, we are exploring plasmid heterogeneity as a confounding factor in our experiments.
Effects of Caffeine on a Computer-Based Neurocognitive Assessment

Christopher Hawley
Jeffrey Kawaguchi, Physical Education, Health and Recreation

Traumatic brain injury (TBI) is a serious public health concern within the United States. One type of TBI which has received much attention in recent years is concussions, especially with regards to return-to-play (RTP) decisions in athletics. Neurocognitive tests are one tool used by sports medicine professionals to help make RTP decisions. Computer-based neurocognitive assessments have gained popularity in the past decade and are becoming common practice in many clinics because of their ease of administration. Considering the number of external factors that can affect test scores, sports medicine professionals have begun to question whether there may be medications or other non-medicinal drugs which may affect test results. This study assessed the effect of caffeine on the outcomes of a computer-based neurocognitive assessment. Results from this study showed a significant improvement in specific testing outcomes and a trend towards significance in others. Future research should study the effects of caffeine on actual concussed individuals as well as study other stimulants and/or medications which are purported to improve neurocognitive abilities and/or an individual’s concussed state.

Characterization of the S176A Human ITPase

Steven Heid
Nicholas Burgis, Chemistry and Biochemistry

Inosine triphosphatase (ITPase) is an omnipresent key regulator of abnormal nucleotide level in cells. ITPase is essential in mammals and is needed for proper heart development. ITPase prevents the accumulation of inosine triphosphate therefore reducing the risk of this potentially mutagenic nucleotide from being incorporated into DNA. Construction of an ITPase mutant with an intermediate phenotype will be a useful tool to study the role of ITPase in heart development. For this study a complementation plasmid bearing a mutant of ITPase was made using oligonucleotide primers that coded for an alanine instead of a highly conserved serine for the 176th residue (S176A for short) via PCR and verified by DNA sequencing. The resultant plasmid bearing the S176A mutation was transformed into Escherichia coli strains with metabolic deficiencies in pathways related to protection from cytotoxic effects of abnormal nucleotides. The S176A mutant displayed an intermediate phenotype when compared to plasmids bearing the wild type gene and an empty vector plasmid. Future in vitro biochemical experiments will be done to test substrate specificity of the S176A ITPase.

“A Work of Creative Nonfiction”

Cody Heilman
Rachel Toor, Creative Writing

A work of creative nonfiction inspired from a Form & Theory of Nonfiction assignment.

“Spacey, Eastwood, Tennis and Rabbits”

Hannah Heilman
Christina Valeo, English

“Spacey, Eastwood, Tennis and Rabbits” is a humorous short story about someone witnessing what appears to be a robbery in a library. It comments on the perception of women, philosophy and as always, a little love.
Edgar Allan Poe: Captain of the Fun Police  
Cody Henderson  
*Judith Logan, English*

The novelist John Gardner claimed that Edgar Allan Poe's short story "Imp of the Perverse" mocked Washington Irving's style and the anti-intellectualism in "The Legend of Sleepy Hollow." I set out to investigate this claim through a critical reading of both works. Poe's story proved to be a tricky yarn to unravel but after comparing and contrasting the two pieces "Imp of the Perverse" yielded some rather astonishing insights into the structure of the two tales. While Poe spends more than half of his story in an essay that sets out to discredit phrenology, the popular 19th century pseudoscience, Irving writes solely to entertain and makes references to this fact throughout the story. In contrasting the deeply intellectual nature of Poe's story to Irving's tale we can see what Gardner was referring to. While Irving was breaking away from the puritanical vision of literature, Poe maintains that a narrative can by informative while still breaking all the rules.

**Odysseus on His Return to an Empty Ithaca**  
Davis Hill  
*Don Goodwin, Music*

Odysseus: the quintessential epic hero. Ten years spent in dire combat at Troy; ten more spent in idle confusion, wandering the isles, searching for home. Imagine coming home after 20 years at war and at sea, landing upon your shores, rushing up to your mansion, finally throwing open the doors and finding . . . nothing. (Part I of the *Odyssey Suite* for solo piano).

**String Quartet in E Minor**  
Davis Hill  
*Don Goodwin, Music*

This string quartet is composed in a freely tonal style. It uses rich, slowly-changing harmony and meandering melodic lines to explore the possibility of consonance within dissonance. Throughout the entire piece, there is an interplay between Question and Answer, musically, intellectually, and otherwise. What if the Question did not have an Answer?
Globalization and the Development of a Culture of Impunity
Angelica Hill
Martin Meraz-Garcia, Chicano Education
Sean Chabot, Sociology

In this research paper I utilize empirical evidence in the form of peer reviewed articles and news reports on the Ciudad Juarez femicides to examine the structural components contributing to the systematic exploitation of women. First, I explore the link between U.S. trade and labor policies, like NAFTA, and their impact on Mexican women working in U.S. and foreign invested factories along the Mexico-U.S. border. Second, I focus on the 600 or more unsolved and poorly investigated murders in Juarez through an examination of the transnational policies which contribute to the devaluation and marginalization of women. Third, I assess the unintended consequences of the social and political mechanism currently in place that serve to promote the marginalization of all workers, especially Mexican women working in maquila factories. Finally, I assess the role Latinos in the U.S. can play and offer recommendations on a potential transnational alliance that can exert pressure on both Mexico and the U.S. in order to mitigate or reduce the number of murders that have taken place since 1993 in Ciudad Juarez.

A 21 Year Old Collegiate Volleyball Player with Achilles Tendonitis
Katelyn Hill, Tara McLaughlin, Jared Blane and Katie Bolles
Garth Babcock, Physical Education, Health and Recreation
Jeffrey Kawaguchi, Physical Education, Health and Recreation

Athletes in all sports are at greater risk for Achilles tendonitis if they possess a number of factors. These factors can be both intrinsic and extrinsic in nature. The intrinsic risk factors consist of biomechanical faults (i.e. limited mobility of the subtalar joint, limited ROM of the ankle joint, leg length discrepancies, and varus deformity of the forefoot). Extrinsic factors consist of changes in running shoes or running surface, sudden increase in workload, changes in exercise, environment, and jumping. Our case study is a 21 yr. old female who reported to the EWU Athletic Training room, on April 24th, 2008, complaining of pain in her right heel. She was first evaluated by Cheree Sauer, ATC and placed on a traditional rehabilitation plan. In August 2009, she was seen by Kristin Barnett, ATC. Her S/S at that time were pain while pushing off during walking, during active and resisted plantar flexion and during straight leg calf raises (though there was no pain in bent leg calf raises); and inflammation surrounding the Achilles tendon. Also, we will discuss her course of treatment throughout the course of competition, off-season, and pre-season.
Attitudes and Time Estimation
Jonathan Hilliard, Arielle Holmes, Thomas Anderson, Patricia Dunlap and Eva Silva
Jonathan Anderson, Psychology

Past studies have linked time estimation with broad dimensions of personality, such as extraversion-introversion. However, no study could be found that investigated whether an individual's attitude toward time, coined time perception by Zimbardo and Boyd (1999; Past Positive, Past Negative, Present Hedonistic, Present Fatalistic, Future), influences an individual's ability to estimate time. A total of 65 participants consisting of 47 females and 17 males with an average age of 20.41 (SD = 3.41, range = 18-35) participated in this experiment. Participants completed a prospective verbal time estimation paradigm for filled intervals of 10, 25, 45, and 60 seconds. Participants also completed the Zimbardo Time Perspective Inventory. Present Hedonism correlated with greater accuracy at 10, 25, and 60 s intervals, and trended in the same direction for the 45 s interval. Past Positive statistically associated with accuracy at the 25, 45, and 60 s intervals. A Future perspective correlated with accuracy at the 45 and 60 s intervals. Present Fatalistic and Past Negative were not related to accuracy at any time interval. These results suggest that an individual's attitude toward time may influence their ability to correctly estimate a length of time.

The Stereotypical Philosophy
Madison Hilpert
Christina Torres-Garcia, Chicano Education

European philosophers have become the epicenter of all intellectual thought in the U.S. education system. The concept of having other philosophers outside of the Western terrain, especially in Latin America, is difficult to grasp in today’s society. The reservations expressed by many reflects the education curriculum within K-12 and in many colleges and universities in the U.S. In this research, I focus on bringing to light several philosophers from Latin America, centralizing the knowledge of Native Americans, and disrupt the common stereotype. By doing this research I am validating the philosophical and intellectual thought going on in the pre-Columbian Americas.

Effects of Predator Urine on Deterring Ungulate Browsing of Aspen on Turnbull National Wildlife Refuge
Savanah Hobbs
Margaret O’Connell, Biology

The elk (Cervus elaphus) population on Turnbull National Wildlife Refuge (TNWR) has grown significantly over recent years causing negative impacts on quaking aspen (Populus tremuloides). High palatability of aspen makes them prime forage for elk and, because they provide habitat for many species, over browsing has negative consequences for regional biodiversity. TNWR has been a safe haven for elk during hunting season, however in the fall of 2010 a hunt was initiated with the goal of culling and dispersing the elk to increase aspen regeneration. Hunts are not feasible in public use areas and preliminary evidence suggests that elk are moving from hunt to public use areas. To minimize aspen loss at these sites, I intend to explore the use of a non-lethal method to reduce browsing. Fencing and auditory or visual stimuli have been tested and are expensive, unattractive, or ineffective. In contrast, scent repellents have been successful in captive studies, but are not well documented in wild populations. In this study, I will test the effectiveness of predator urines (cougar and wolf) on deterring elk browsing of aspen.
In Thomas Hardy's 1878 novel *The Return of the Native*, Clym Yeobright leaves the countryside setting of his home in rural Egdon Heath, for the urban metropole of Paris. After working as a jewel merchant in Paris for several years, he returns to Egdon and feels a nostalgia for his home. This nostalgia is what Renato Rosaldo and Nancy Armstrong term "imperialist nostalgia" because Clym wants to change his home. His former neighbors are illiterate and pagan, and Clym believes he can civilize them the way the British empire would civilize its colonial subjects. Clym says he values class over individuals, and J. Hillis Miller asserts that Clym and the other major characters in *The Return of the Native* are self-aware. The minor characters, who claims wants to colonize are not self-aware. I will explore these differences and what they mean with regard to a postcolonial reading of Clym's motives.

**A Culture of Rape: The Legacy of Apartheid and Gender-Based Violence in South Africa**

*Jaime Hollis*
*Heather Robinson, Communication Studies*

This paper explores the legacy of apartheid in South Africa. While the country has made great strides in overcoming this violent past, South Africa leads the world in the staggering number of sexual assaults against women and girls. This paper explores the how the power dynamics of apartheid have turned inward, manifesting in a culture riddled with gender based violence and oppression. The South Africa Media and Gender Institute (SAMGI), a grassroots organization, has created education and media campaigns to counter the cultural norm of sexual violence. The campaigns are targeted at re-education and positive images of women in the media have practical applications in the U.S., where 1 in 6 women will become victims of sexual assault.
The Sigma Virus of *Drosophila melanogaster* Demonstrates Decreased Infectivity when Artificially Shifted into *D. simulans*

Marcus Hooper  
*Luis Matos, Biology*

The sigma virus of *Drosophila melanogaster* demonstrates decreased infectivity when artificially shifted into *D. simulans*. The Sigma virus (Rhabdoviridae) is carried by a small percentage of wild fruit flies (*Drosophila melanogaster*, Diptera: Drosophilidae). The Drosophila-Sigma system is a newly established model for the evolution of host-shifts and virulence. The Drosophila-Sigma system is ideal for this because Sigma is capable of colonizing other Drosophila species and, like many causal agents of vertebrate disease, Sigma is a -ssRNA virus. Here we tested the hypothesis that Sigma adapts more quickly to the artificially infected native host, *D. melanogaster*, than to the artificially infected novel host, Drosophila simulans using a microinjector, a pooled Sigma inoculum was introduced into the naïve native host and into the novel host females. The injected flies were allowed to mate and lay eggs and the infection status of their offspring was determined using a diagnostic Sigma-induced CO2 sensitivity that is characteristic in Sigma-infected adult flies. Subsequent generations were set up using descendents of the artificially infected flies and scored for CO2 sensitivity. The percent of infected flies at each generation and the number of generations needed until a stable infection developed (100% of offspring infected) were used as measures of Sigma's ability to infect and adapt, respectively, to the native and novel host. After microinjection, the proportion of infected *D. simulans* flies was significantly higher (16.1%) than the proportion of infected *D. melanogaster* flies (8.8%, p <0.05). Conversely, the rate at which stable infections developed after initial infection was significantly slower in *D. simulans* lines than in *D. melanogaster* lines (p < 0.05). Additionally, the percent of infected lines that became stably infected was much higher in *D. melanogaster* than in *D. simulans* (30.9% vs. 16.7%, respectively). Together these data support our hypothesis and suggest that Sigma is more virulent in the novel host. Tests to determine whether virulence is indeed higher in the novel host are in progress.

Poe and Evil: An Interpretive Reading of “The Masque of the Red Death”

Brandon Humphreys  
*Judith Logan, English*

Throughout the years, literary scholars have broken up the writers of the American Romantic period into several different sub-categories. Writers like Thoreau and Emerson, for example, are often referred to as "Light Romantics," because of their refusal to acknowledge the existence of evil, and because of the extremely idealistic optimism that characterizes their work. Melville and Hawthorne, on the other hand, have been labeled "Dark Romantics" because their writing reflects a philosophy that stands in sharp contrast with Emerson and Thoreau—especially with regard to the question of the existence of evil. When it comes to Edgar Allan Poe, however, scholars have traditionally been unwilling to place him into any of the typical Romantic sub-categories. In this presentation, I will argue that, in "The Masque of the Red Death," Poe presents a depiction of evil—and its inescapable hold on human nature—that convincingly places him in the Dark Romantic sub-category.
Thank Goodness My Zada Mucci Heels Have Asteroid Traction!
Inga Ilich
Jenny Hyde, Art

This interactive sculpture explores the contradictory nature between our everyday hobbies and leisurely pursuits and our goals of true exploration. Do we really prefer a safe and comfortable life that caters to our self-absorbed ambitions over a life dedicated to pursuing exploration of the universe? This sculpture investigates the inevitable combination of the two lifestyles.

New World Paleolithic and Historic *Bison bison* Genomic Diversity
Forrest Ireland, Marina DeFrates and Lifen Guo
Randy James, Biology
Steve Fisk, North Central High School

In the late nineteenth century the *Bison bison* population was decimated by both environmental and human factors and in 1888 the population size in Yellowstone National Park dropped below 28 individuals. This bottleneck should have caused a decrease in the diversity of the species but currently there is no evidence to support this. Presently, the species has recovered due to government and private intervention. Ancient samples which were collected from various regions throughout North America were ground into a fine powder from which DNA was extracted. In order to determine the difference in genetic diversity between ancient and modern *Bison bison*, the highly variable mitochondrial D-loop was sequenced from samples ranging from 700 to over 9000 years in age and was compared with NCBI's nucleotide database on modern Bison.

Supernatural Reality: Meditative Practices and the Art of Caravaggio in Counter Reformation Italy
Jessi Jaynes
Barbara Miller, Art

The religious paintings of Michelangelo Merisi da Caravaggio, especially those commissioned as altarpieces, parallel the spiritual temperament of Rome, Italy, during the tumultuous Counter Reformation. These paintings exhibit certain characteristics that allow their use as meditative aids for worshipers in which the devout imagine themselves as present witnesses of the supernatural biblical and religious events depicted.
Autism Around the World
Corrina Joel
Lori Miller, Psychology

I suspect that when regression occurs in Autism that it is due to a malfunction in the brain pruning process. That connections are being pruned that normally would develop, so when the pruning occurs it causes the connections to die. As the connection is dying the skills acquired along these connections are lost. As the connections die the regression occurs. I hypothesize that there is a teratogen or a combinations of teratogens that are introduced at a critical stage of brain development that causes a malfunction to occur. By finding countries that not only have different rates of Autism but a different age of onset, we can look at differences of diet, environment, and social factors and what differences may occur that raises or lowers the age of onset. I plan on looking up statical data concerning various aspects of Autism to see if I can see a pattern of differences from other countries.

Are Muslims Treated Differently by Rental Agents when Seeking Housing?
Matt Johansen and Douglas Emerson
Amani El-Alayli, Psychology

Reports of the civil rights of Muslims in the U.S. have been kept since the anti-Muslim backlash after the Oklahoma city bombing in 1996 (Council on American-Islamic Relations, 2007). Since 1996, there has been an increase in anti-Muslim bias, discrimination, harassment, threats, and physical attacks each year since then (CAIR 2007). Of these reported cases, 21% were brought on by having a Muslim name with 33 cases dealing directly with housing discrimination (CAIR 2007). We are currently conducting a study to examine if housing discrimination is occurring at a more subtle level than what has been reported. Male and Female callers are phoning rental agencies at complexes with available apartment ads posted online. Each caller assumes either an apparent Christian or Muslim name as they inquire about available apartments for rent. A coder blind to the conditions listens in on the conversation and keeps notes on how the caller was treated and what information was provided. Upon completing data collection over the next few weeks, we will investigate possible differential treatment of Christians and Muslims.

The Effect of 10% Crumb Rubber on Engineering Properties of Palouse Soil
Amanda Johnson, Kassandra Lindsey and Amy Segovia
Richard Orndorff, Geology

Our experiment was conducted in order to determine the effects of a 10% by weight crumb rubber additive on engineering properties of Palouse Soil. Palouse Soil is a clay-rich sandy soil, known as loess, that was ground up by glacial processes and deposited by wind. Crumb rubber is created from recycled tires and is believed to reduce compaction in athletic fields, leading to a decrease in the severity of injury. In order to compare the effect of the additive on shear strength we performed an unconfined compression test. The additive compromised the strength of the soil, reducing the maximum shear stress of 7000 psf for the control to 3500 psf with the additive. A compaction test was performed to determine the optimal moisture content (OMC); the control OMC was 15.6% and the additive OMC was 12.4%. Results indicate the addition of crumb rubber did in fact reduce compaction but also reduced soil strength.
Dubai Inc
Ethan Johnson
Majid Sharifi, Government

The city-state of Dubai has captured the imagination of the world with its out of this world mega-projects—man-made islands, the tallest building in the world, and the world’s only seven-star hotel. These projects serve a very important purpose for Dubai; they securitize this otherwise insignificant populated patch of sand on the Persian Gulf. The argument of this presentation is that Dubai has created a cooperate styled regime whose one and only purpose is to attract Foreign Direct Investment. Income from FDI and government mega projects help to support the rentier-style labor division and put Dubai on par with its oil rich neighbor and partner in the United Arab Emirates, Abu Dhabi. The presentation will briefly discuss the securitizing and de-securitizing features of Dubai's modern cooperate government for the state both within the region, and within the United Arab Emirates. It will also look at the issues of human security this regime type poses.

Juana la Persona
Ethan Johnson
Jose Garcia-Sanchez, Spanish

La presentación enfocará en la representación del personaje histórico de Juana La loca, comparando el film Juana la loca (2001) por Vicente Arande y el libro El pergamino de la seducción por Gioconda Belli. Arande y Belli presentan el personaje de Juana locamente enamorada y a veces celosa de la atención y afección de su esposo, Felipe el hermoso. También Arande y Belli concentran en la lucha de poder entre la familia Trastámara y Hapsburgo. Se concluirá la presentación analizando las dos personalizaciones de Juana la loca.

Ergogenic Effects of Energy Patch Use on Wingate Performance
Kelly Johnson
Wendy Repovich, Physical Education, Health and Recreation

Purpose: This study examined the ergogenic effects of a caffeine-containing Energy Patch (EP) on Wingate (WIN) performance with healthy adults. Methods: Thirteen moderately active college students volunteered for participation. Participants received two EP (74 mg caffeine) or two placebo patches (PLA; 0 mg caffeine) upon arrival for each session. Peak (PP) and mean power (MP) output and fatigue index (FI) were measured using a Monark 894e cycle ergometer. Paired t-tests were used to examine significant differences between EP and PLA for each dependent variable. Results: Table 1 summarizes the results for both conditions and each dependent variable. PP was significantly greater (p < 0.05) for PLA compared to EP. Conclusion: Further research is needed to investigate the delivery kinetics of transdermal caffeine in large dosages during and after exercise. Performance Data from WIN Testing Variable EP PLA p PP (W) 748.9 ± 256.1 772.1 ± 252.1 0.04 MP (W) 572.8 ± 187.8 577.1 ± 180.1 0.4 FI (%) 40.4 ± 8.94 43.79 ± 4.24 0.1 Table 1. Descriptive statistics and t-test results for EP and PLA.
Nuclear Fallout
Steven Johnson
Mindy Breen, Engineering and Design

Much fear, uncertainty, and doubt surround the topic of Nuclear Power today, more than 50 years after the peaceful atom was put to work generating power instead of being used as a tool of war. Today, especially in light of the crisis at Fukushima I (and the FUD being spread by newsmedia about the reactor, its condition, and the unclear description of how nuclear reactors actually work), people need a clear, no-nonsense portrayal of the facts of Nuclear Power. This series of infographics seeks to show facts about nuclear reactors and some of the significant nuclear disasters in a clear, unambiguous way.

Emotion Recognition Patterns among People with Varying Levels of Borderline Personality Traits
Molly Kalamardes, B. Milliron, A. Hamilton and R. Backstrom
Kayleen Islam-Zwart, Psychology

Borderline Personality Disorder is a personality disorder recognized by the DSM-IV as an Axis II, Cluster B disorder. It is characterized by interpersonal instability, poor self image and impulse control, and is often accompanied by self inflicted harm (Durand and Barlow, 2006). It has been hypothesized that interpersonal instability seen within Borderline Personality Disorder patients may be a result of impaired or abnormal emotion recognition ability (Domes, Shulze, and Herpertz, 2009). Research findings regarding this hypothesis have been inconsistent, with some studies finding enhanced emotion recognition ability, and other studies finding general deficits, including the tendency to perceive neutral faces as negative (Domes et al., 2009). This study explores emotion recognition abilities among individuals with varying levels of Borderline traits. It is hypothesized that individuals with higher levels of Borderline traits will perform worse on emotion recognition tasks than will controls. A gender interaction is expected and results will be analyzed by a two-way analysis of variance. References: Domes, G., Schulze, L., & Herpertz, S. C. (2009). “Emotion Recognition in Borderline Personality Disorder—A Review of the Literature.” Journal of Personality Disorders, 23. 6-19. Durand, M. V., & Barlow, D. H. (2006). “Personality Disorders.” In M. Taflinger et al. (4th), Essentials of Abnormal Psychology (pp. 430-469). Belmont, CA: Thomas Higher Education.

Lady Danville Poster Series
Beth Karper
Kristine Hwang, Engineering and Design
Jenny Hyde, Art

The Lady Danville Poster Series is a collection of posters representing individual songs by the band. Each poster has a unique illustration of my interpretation of the song. While I wanted each poster to have its own feeling and meaning, I also designed the series to be a cohesive piece that represents the band, their music style and album. I want others to be able to interpret their own meaning from the song through the illustration and the lyrics. I hope to inspire viewers to listen to the music.
**Ephemerally Digitized**
Laura Kaschmitter
Jenny Hyde, Art

I am continually on an experience to discover more about myself. Why I do the things that I do. So often I find myself searching for what I need externally but more then likely it is something that can only be found within.

**The Stigma Surrounding Tobacco Use**
Elizabeth Kay
Sarah Keller, Anthropology

The role of smoking in American culture has changed drastically over the past 50 years. What was once attractive, beneficial, and extremely wide spread, is now seen as dangerous, disgusting, and has been pushed to the edges of society. After reading a couple articles in a recent issue of the Easterner, I became interested in the social ramifications of tobacco use. We often see groups of smokers standing outside buildings getting in a cigarette before class. What we may or may not realize is that many of us are passing judgment and making decisions about these people on this simple act. Had they been doing fifty years ago, well other than they probably wouldn't be outside since they didn't have to be, no one would have put much thought into it. Many smokers are now driven to hide their habit or lie about it in order to maintain social acceptance. I became aware of my own stereotype of smokers when I was surprised to find out a friend of mine was a smoker. I thought she didn't seem the type. I want to explore the modern concept of tobacco users in general. Most likely, the focus will be on cigarette smokers, since there is much more data and information on this group. However, I would like to touch on other tobacco products such as chew, cigars, and hookah. I want to make it clear that the purpose of this presentation would not be to focus on the negative health effects of tobacco use. For the most part, everyone already knows the perils of using tobacco. I may talk about the effectiveness of social pressures on the cessation of tobacco use. My focus will be on the social ramifications of tobacco use.

**Kinetic Study of the Degredation of Triethyl Succinyl Phosphonate in Methanol**
Devin Kearns
Travis Denton, Chemistry and Biochemistry

It is known that alkyl $\alpha$-ketophosphonates are susceptible to degradation through nucleophilic attack. For instance, when attempting to utilize certain alkyl $\alpha$-ketophosphonates as substrates for enzymes in vivo, it has been shown that alkyl $\alpha$-ketophosphonates decompose due to the presence of water and other nucleophiles in the cytosol of a cell. However, exact rates of decomposition and extent of reaction have not been sufficiently documented. In order to gain a greater understanding of the reactivity of a biologically relevant alkyl $\alpha$-ketophosphate in the presence of a nucleophile, a kinetic study of the decomposition of triethyl succinyl phosphonate (TESP) was undertaken. 10 $\mu$L of TESP was transferred to 1 mL of methanol and the resulting solution was analyzed by GC-MS every 17 minutes over a 14.45 hour time course. The data thus obtained was used to determine the decomposition rate for TESP. The conclusions will be discussed.
It's Not Just the Economy, Stupid: Analyzing the Impact of War Making on Presidential Approval Ratings
Brian Kennedy
Kelley Cullen, Economics

It has long been accepted that economic conditions play an integral role in shaping the presidential approval rating. However, this is an unprecedented era plagued with economic uncertainty coupled with multiple ongoing military interventions in the gulf regions. With presidential campaigning just around the corner for the election in 2012, the issues surrounding military actions in Iraq and Afghanistan have been pulled to the forefront. The purpose of this research is to determine which underlying factors are impacting presidential approval ratings. This is evaluated by comparing economic indicators such as unemployment, stock ratings, and consumer sentiments to those focusing on security aspects of the gulf region. These indicators include troop levels in both Iraq and Afghanistan along with military and civilian casualties associated with these interventions. "It's the economy stupid" has been made famous during President Clinton's campaign, but it seems that just ten years later this sentiment has changed. unemployment, stock ratings, and consumer sentiments to those focusing on security aspects of the gulf region; these indicators include troop levels in both Iraq and Afghanistan along with military and civilian casualties associated to these interventions. "It's the economy stupid" has been made famous during Clinton's campaign but has this mindset changed just ten years later?

Barbara McClintock: Undoing Gender through Science
Linda Khoury
Mimi Marinucci, Women's and Gender Studies, Philosophy

In my paper, Barbara McClintock: Undoing Gender Through Science, I argue that interpreting Evelyn Fox Keller's biography of Barbara McClintock, A Feeling for the Organism, as the addition or documentation of a "feminine" way of knowing is a superficial reading of the book. Keller's telling of McClintock's life story shows that Barbara McClintock herself and her methods of research embodied theoretical queerness. My argument does not deal with McClintock's actual self identification or its practical application. Rather I simply argue that the way Keller emphasizes McClintock's blending and bending of gender and gendered research creates the potential for a queer revisioning of the history of science.

Queering Emily Brontë
Linda Khoury
Beth Torgerson, English

In my paper, Queering Emily Brontë, I argue that the language of Queer Theory is the only appropriate way to discuss Emily Brontë and the identity crises that she dealt with in her writing. Emily Brontë embodies pragmatic queerness in various ways and this is expressed in her own narrative as well as those she wrote. More significant, however, is the way that Emily Brontë embodied theoretical queerness. On a superficial level, the "outing" of such a prominent and renowned writer is important because it normalizes LGBT identity but this is not a fully adequate way to discuss Emily Brontë. Instead of forcing readers to question their favorite poet or author, I am to make people to question themselves because of the way that I question Emily Brontë.
Irving Shakes Up Shakespeare
Adrienne Kilbourne
Judith Logan, English

In this argumentative paper I argue that Washington Irving took William Shakespeare's *Romeo & Juliet*, and debunked it with his short tale "The Spectre Bridegroom." I argue that not only did Irving add his own elements of satire and superstition—tools often utilized by Shakespeare himself, although not in this particular tragedy—and created a morally superior story and a happy ending. The major points and characters of both stories are compared and contrasted with emphasis on the archetype of the forbidden love between two young people of opposing feuding families. Also included is the representation of a male third wheel to the love triangle who ultimately loses his life at some point during the story. The question that I raise here is the appropriateness of teaching *Romeo and Juliet* in a middle school setting, when a morally superior story by a successful early American author exists. I also explore elements of Irving's more optimistic take on forbidden love in relation to *Romeo and Juliet* used in pop culture today, which include works by Taylor Swift and Stephanie Meyer.

Toast
Dave Kotlan and Tyler Dines
Sarah Lee Monroe, Electronic Media and Film
Don Goodwin, Music

Tom LaMir owns a tanning salon and chooses to work the evening shift. His best friend Gary drops by from time to time, in an effort to brighten Tom's day. Unfortunately, Gary's help usually makes things far worse. Tom's new girlfriend, Paige, would love to just spend a quiet afternoon at the beach with him… but he's too busy hiding a secret. Tom would love nothing more than to come clean to her, but he's been burned before and is afraid she'll turn out like the others. As the evening goes on, it just gets stranger, and the likeliness of Tom living life on his terms is diminishing. This dark comedy is written and directed by Dave Kotlan. The music, composed by Tyler Dines, is crafted to set the very odd tone of this film, and to draw the viewer in without leading or giving away Tom's secret.

Case Study: Male Athlete with a Sports Hernia
Joseph Kreilkamp, Liz Reinstein and Nicole Maiden
Jeffrey Kawaguchi, Physical Education, Health and Recreation

A hernia is usually a sac formed by the lining of the abdominal cavity (peritoneum). The sac comes through a hole or weak area in the fascia, the strong layer of the abdominal wall that surrounds the muscle. An inguinal hernia is a protrusion of abdominal-cavity contents through the inguinal canal. This case study describes a male collegiate athlete who suffered an inguinal hernia, including the evaluation, treatment and, the outcome of that treatment.
Language Ideologies and Class among African Americans in Spokane, WA  
Tiffany Krogstad  
*Michael Zukosky, Anthropology*

Language is social interaction and individuals use language to identify with others in the context of race or class. Language ideologies are a set of ideas about the variety of language a racial or class group uses and plays an important role in the ways that an individual identifies with a particular group. This research examines the ideologies associated with African American Vernacular English (AAVE), a variety of English spoken in African-American communities, and how African Americans shift between AAVE and Standard English in the diverse and interracial communities of Washington state. My thesis is that language ideologies and class identity interact and affect how individual African Americans use various forms of English in different community contexts. To test this hypothesis, in addition to a literature review, I have conducted interviews with both African Americans and non-African Americans in order to access local language ideologies of both populations and the social context of their use. I also use my own observations and experiences as a female speaker of both languages and as an anthropology student. My interests in this subject came out of my identity as a female of both African American and European descent and my language experiences with various social classes and racial groups. Although anthropological and linguistics literature have focused on language ideologies associated with AAVE, there have been very few studies that look at the resulting racial and class identities that develop in relationship to how people respond to those ideologies. Through analysis of the data, I explore whether African Americans who are in a class setting with potential mobility are more likely to resist the use of AAVE and maintain ideologies more consistent with their non-African American counterparts than African Americans who are not in a class setting with potential mobility.

Faith in the Face of the University  
Yuliya Kushnerchuk  
*Theresa Martin, Psychology*

Education and religion are often portrayed as clashing issues and one piece of the conflict lies in the theory that education destroys religiosity. Past research supporting this idea has shown that professors have lower levels of religiosity than the general population. This study proposes examining whether a difference in religiosity exists between faculty and staff (who are in the same environment but are not actually involved in academia), whether level of religiosity varies from one discipline to another, and what factors may affect any differences. The purpose of this study is to determine whether a decline in faith-influencing factors correlates with an increase in involvement with academia. The participants receive an email requesting their voluntary participation in an online questionnaire accessible through the email. The survey asks questions about the religious experiences of the participants throughout early life, college, and employment in the education arena.
Case Study: 19 Year Old Female Soccer Athlete with a Torn Meniscus with a Twist
Travis Laird, Shawna Crosley, Jamie Nikander and Kameron Curtiss
Garth Babcock, Physical Education, Health and Recreation

Meniscus injuries are common injuries that affect athletes of all types of sports and levels of competition. There are many factors causing meniscus injuries, including forceful rotation of the knee, rotation of the thigh when the foot is planted, and degeneration over time. When a meniscus is injured it can cause pain, tenderness, catching, clicking, or grinding. The injury can happen gradually over time or it can be an acute traumatic injury. In this case study we investigate an athlete from Eastern Washington University who suffered from a menisci injury from her first complaint of pain to her return to activity. Issues addressed also include the formation and removal of cysts in her knee and reasoning for why that might have occurred.

Kindergarten
Elizabeth Lancaster
Jenny Hyde, Art

Medium: Digital Print on canvas. I have been working with kindergarten students for nearly a year now. They are my inspiration. I am captivated by their innate ability to create raw, energetic, carefree art with little effort or concern for the finished product. This piece is a reflection on the fearless and playful artistic nature evident in the early years of all children. This piece was created with digital paintbrushes. I scanned writings and drawings from a kindergarten class in order to create unique paint strokes. I then played with these brushes, adding layers and color to convey depth and movement. For me the process of creating this digital painting was purely intuitive. I ventured into the project with no idea of what was to come. I kept my focus on feelings rather than pictures or images and continually returned to the bold energetic nature of a child, lost in the process of creation.

Forced Intuition
Kelley Lancaster
Tom Askman, Art

Through my current body of work I am exploring the process of opening my mind and attempting to let my intuition guide me. As an artist I have always relied on a structured process when creating my work. In the past I have usually started out with a very specific plan for a piece and have felt the most satisfaction when the result is what I intended. I have also always felt really good when creating art that others enjoy. Recently, though, I began to realize that my art wasn't really a true representation of who I am or what I was necessarily hoping to convey to people. Though I was producing work that was pleasing to the eye and could possibly be hung on the wall (in my Mom's house), my paintings were lacking my voice, and thus were becoming less satisfying to create. Currently my process of making a painting looks very different from what it ever has in the past. I have begun to set myself up with simply a blank canvas and some paint. Where I go from there is inspired by nothing other than my toolbox full of colors and my paintbrushes. As I work I enjoy combining colors and shapes that seem interesting to me, and the result has become a sort of narrative of my personality. These current intuitive paintings feel like just the beginning of a journey of discovering myself as a true artist and letting go of my misconceptions of what art should look like.
A Picture Show at the End of the World
Rebekah Largent
Heather Robinson, Communication Studies

A critical look at five end times films produced by Christian companies since 2001. Focused on political and other power messages implied by the content of the film with special attention paid towards those portrayed as the enemy. The intent of the presentation is to explain implicit messages of group conformity among the intended audience of the films.

The Death of Facts
Rebekah Largent
Mimi Marinucci, Women's and Gender Studies, Philosophy

An examination of Structure of Scientific Revolutions by Thomas Kuhn elaborating on society's glorification of the scientific process and of science itself.

Sigma Virus (Rhabdoviridae) Titer Appears to Affect CO2 Sensitivity of Virus-Infected Drosophila melanogaster
Chelsey LaRue
Luis Matos, Biology

The sigma virus (Rhabdoviridae) is carried by a small percentage of wild fruit flies (Drosophila melanogaster, Diptera: Drosophilidae). The sigma virus/D. melanogaster system is a newly established model for the evolution of host-shifts and the evolution of virulence. The virus produces carbon dioxide sensitivity in the infected flies. As a result, exposing infected flies to pure carbon dioxide for five minutes kills them. Thus, carbon dioxide sensitivity is commonly used as an indicator of sigma virus infection. In our lab, some of the supposedly infected flies do not die when exposed to CO2 for up to 15 minutes. In this study we used the polymerase chain reaction (PCR) and primers for three viral genes to test for the presence of the virus in flies that did not die. PCR amplicons were sequenced to confirm virus presence. Additionally, quantitative PCR was used to test the hypothesis that virus load is directly correlated with CO2 sensitivity. All of the viral genes tested were found to be present in all of the dead flies, in most of the crippled flies, and in some of the flies that were alive after being exposed to CO2. Furthermore, virus titers were significantly lower in alive flies than in dead flies (p < 0.05), supporting the hypothesis that virus load plays a role in CO2 sensitivity. Further molecular experiments are underway to determine whether the virus that is present in alive flies is genetically intact and, thus, putatively functional. The presence of this virus in flies that are not CO2 sensitive indicates that the current estimates of sigma virus infection rates in wild and in lab D. melanogaster populations likely are incorrect (underestimated) and should be re-examined.
Accuracy of Whole Rock Digestion and Analysis Using Inductively Coupled Plasma Optical Emission Spectroscopy

Alex Lea  
Carmen Nezat, Geology  
Richard Orndorff, Geology

Lithium metaborate (LiBO2) can be used in geochemical analysis to lower the melting point of a solid material, such as a rock or soil. LiBO2 is added to a powdered sample and heated in a muffle furnace to 1000°C. This molten material can then be easily dissolved in a dilute nitric acid (HNO3) solution. Several standard reference materials and unknown samples were analyzed using this method to determine the effectiveness and accuracy. Solutions were analyzed using Inductively Coupled Plasma Optical Emission Spectrometry (ICP-OES). Our results indicate that the recovery of K, Na, Pb, and Zn was within ±10% of the certified concentrations. However, recovery of Ca, P, Si, and Sr was low due to overlap of spectral peaks; thus, the current method needs to be revised in order to increase the recovery of these elements.

An Analysis of Palouse Soil and the Effects of 5% Crumb Rubber on Compaction and Strength

Ian Leavy, Dan Albrecht and Mike Gipson  
Richard Orndorff, Geology

The purpose of this study was to test the impact of 5% crumb rubber on the engineering properties of Palouse soil. Crumb rubber is ground up rubber that has been marketed as a soil additive that reduces compaction. Palouse soil samples were gathered from an area just west of Roos Field on the EWU campus. We performed a suite of tests on this Palouse soil without the crumb rubber additives in order to establish a baseline. The same tests were performed on the Palouse soil sample with the crumb rubber additive. These included tests for optimal water content for compaction and unconfined sheer strength of compacted soils. This study found that the 5% crumb rubber additive did reduce soil compaction as advertised. The yield strength of the soil without additives was 618 lbs (at 10% water content) while the yield strength of the soil with additives was 423 lbs (at 5% water content). The sample with additives had a slightly higher compacted unit weight than the soil without additives when water content was 10% or less. The sample with additives had a slightly lower compacted unit weight when water content was greater than 10%.
Dismantling Democracy: The Reign of the Thirty and the Failure of Spartan Hegemony in Athens in 404/3 B.C.
Lucas LeCaire  
*Georgia Bazemore, History*

After the defeat of Athens in the Peloponnesian War, the government of Athens was entrusted to a group of oligarchs who contemporaries remembered as "the Thirty" or, the "Thirty Tyrants." This paper addresses the question, what were the intentions of the Thirty? Thus far, there has been no concentrated effort to support the theory that Sparta, under the power and influence of her admiral Lysander, was attempting to replace Athenian democracy with an oligarchic government based on her own, which would ultimately serve as a center of power to consolidate Spartan supremacy throughout Greece. The Thirty exiled, murdered, and disenfranchised anyone whom they perceived as a threat to the regime. When the Thirty were finally overthrown, they had successfully replicated certain elements of Spartan government in Athens. The ambitions of Lysander after the end of the war, as well as the pro-Spartan background of the members of the Thirty form the evidence to this theory. This paper adheres to a theory which explains why the Thirty carried out such radical and terrible reformations in Athens, if there was not an ultimate goal which was never fully realized.

Stabling the Hobby-Horse: Hume's Conception of Sympathy and Its Implications for Communication in *Tristram Shandy*
Paul Lee  
*Matthew Binney, English*

Characters in *Tristram Shandy* have trouble communicating because of their focus upon their given hobby-horse. By using David Hume's notion of sympathy, the problems in communication are revealed to be problems in people. Hume suggests that contiguity, resemblance and cause and effect aid people in communicating. For this to occur, the individual first needs to become self-aware of one's own hobby-horse and recognize a resemblance between himself and others. Tristram becomes self-aware of his own hobby-horse through writing the book and he reveals his self-awareness when he admits his hobby-horse in the book. Tristram's self-awareness enables him to recognize a resemblance between himself and other characters. His recognition aids him in not engaging his hobby-horse but rather attempting to engage other people's hobby-horses; this allows Tristram to properly communicate with people.

*A Tale of Two Sisters*
Sang Ho Lee  
*LaVona Reeves, English*

"A Tale of Two Sisters," originally titled "Jang Hwa and Hong Ryun," has been passed down through the generations in the oral tradition as a story about two sisters in a family where they are shunned and sometimes abused by their stepmother and stepbrothers. Their stepmother's hatred reaches the point where they are wrongly accused and ultimately killed because of the stratagem cunningly devised by the stepmother. The truth surrounding their wrongful accusation and deaths is later revealed to the world with the help of a judge. Although it is filled with many extraordinary scenes, such as gory details, suicide, revenge, ghosts, and reincarnation, the story has a happy ending. The purpose of my presentation is to introduce the story to people from different cultures, identifying some gothic figures in the story and comparing some found in American literature as well.
The Ultimate Consumer
Jordan Lemmon
Polly Buckingham, English

For the last 40 years one monster has eaten its way into the minds of movie goers like no other can, that creature is the zombie, and it has crawled its way into almost every form of media from books to video games. Acting as both a nightmarish distortion of humanity and an eerie metaphor for our cultural values, the zombie's relentless pursuit of human flesh not only causes us fear for our wellbeing but also discomfort due to our uncannily similar pursuit of material objects. The zombie makes no effort to hide its intentions, nor does it care what others think of it which makes it a completely independent creature totally freed from the labels and rules of society. It is for these reasons that zombies are the most analogous monsters in relation to humanity.

Survey of Literature Related to Current Topics on Human Evolution
Nathan Lewis
Robin O’Quinn, Biology

My research evaluated whether or not evolution is still happening in humans. I reviewed the mechanisms affecting the evolutionary process of humans. In a review of literature, I found evidence that supports the fact that humans underwent and are still undergoing evolution. I looked into the mutagenic occurrences of the human genome and found that microevolution is happening in human populations. I also review the effects that migration, gene flow, and genetic drift have on human population isolates. My research has found several articles to support the fact the humans have evolved and in fact are still undergoing micro evolutionary changes.

Interning with Get Lit!
Karhonkwison Logan
Molly Johnson, English

I would like to present a poster based on my internship as the Assistant Editor for Get Lit! Programs here at EWU. This service-learning internship paired me with Get Lit!, a nonprofit, on-campus literary program in need of help with producing this year's guide for the annual Get Lit! Festival. I took the position to help me hone my grammar and editing skills, but it proved to teach me much more. My duties for this position were to assist in the writing and editing of this guide, help with design decisions, create a style guide to establish consistency, and volunteer to man some of the festival events. This appointment was the perfect opportunity to use the writing and editing skills, the computer graphic and design skills, some marketing skills, and the interpersonal communication skills that have been taught to me throughout the wide range of required courses in the Technical Communication program. Along with my written accounts, I will incorporate pictures of the writing and editing processes, as well as pictures from the Get Lit! Festival to show the fruits of my labor.

Audiobility
Joseph Loring
Greg DuMonthier, Art

Sounds thin quality leaking its way through the ears into youthful brains.
Collegiate Basketball Player with Labral Tear and Bone Cyst
Irene Lowe, Yoshihiko Tsumekawa and Katie Johnson
Jeffrey Kawaguchi, Physical Education, Health and Recreation

A labral tear in the sport of basketball is a relatively rare injury. This pathology can be made even more rare when other comorbidities are identified. This case study discusses a collegiate basketball player with a Superior Labrum Anterior to Posterior (SLAP) lesion whose treatment later revealed the presence of a unicameral bone cyst.

Investigating Factors that Affect Student Success in College: Does High School Quality Matter?
Cory Lund
Kelley Cullen, Economics

The goal of this research project is to identify factors that contribute to success in college, more specifically if the quality of the student while in high school has any affect on college GPA, retention, graduation rates and time to degree completion. To accomplish this goal, various econometric analysis techniques are used to find and support the conclusion. The data set is acquired data of quality measures for high school students in Spokane county as well as King county and EWU college students. In addition, we investigate whether or not there is a difference in the quality of the high schools that could contribute to college success as well. A ranking of all public high schools in Washington is included in the data set to determine this.

Interpreting Non-Verbal Communication: Do Psychology Students Have Superior Interpersonal Perception Compared to Students in Other Majors?
Trisha Lykins and Christina Shively
Amani El-Alayli, Psychology

Interpersonal perception can be described as someone's observation or belief about another person based on their perception or assessment of them. One may base this observation on that person's appearance, salience (how much they stand out) and their behavior. The observer's perception may be colored by their own judgments, biases, past experiences, and other attributions to explain that person's behavior. One important way in which people develop a perception of another is by observing non-verbal cues. Non-verbal cues include eye contact, facial expression, touch, and body language. This study uses the Interpersonal Perception Task test to determine whether participants can accurately interpret non-verbal cues in order to infer some trait, behavior, or piece of information about another person. The sample included 111 students from Eastern Washington University. The purpose of this study is to find a correlation between participants right and/or wrong answers and any possible underlying factors, such as gender or age. Primary results of this study do not find any age or gender differences, although there are significant differences in the responses of students majoring in Psychology compared to students majoring in other areas.
Globalization and Islamic Feminism in Iran
Melissa Main
Majid Sharifi, Government

This paper assesses globalization and its role played with regard to Islamic feminism in Iran. To start, the idea that fundamentalism contains problems corresponding to the term is addressed, creating the reasoning for the use of the word Re-Islamization in its stead. Re-Islamization is highlighted by the intellectual Ali Shariati with regard to his ideas as how to resist the West and the culture transported through globalization, especially with regard to women. After establishing these roles this paper assesses the stance of the Islamic Republic of Iran on women's roles, the stance of secular feminists, and finally the stance of Islamic feminists. This analysis creates the argument that all of these different ideas exist because of globalization's effect of spreading ideas and increasing the insecurity of identity, supporting the idea that globalization has created the space for Islamic feminism in Iran, which has been created to fit the context of the modern world.

Leadership Training Program for Girls in Saudi Arabia
Alyaa Malibari
LaVona Reeves, English
Kevin Pyatt, Education

This multi-media presentation is an introduction to The Girls' Leadership Project in Saudi Arabia sponsored by Dr. Mariem Abdulla Al-Sabban, a professor of Educational Administration and a member of the Umm Al-Qura (Women's) Assembly for the Care of Orphans, Widows, and the Poor. The philosophy of the organization is to create girls who will be leaders from the inside to the outside, from within the self to community. It builds on the importance of the cultivation and use of girls' gifts and talents to lead, to guide, and to raise the next generations—whether they become mothers or not. We want girls to be aware of the problems of our society and to be part of the solutions, particularly in education, social welfare, and Islamic beliefs and practices.

Swahili Architecture: Form and Function
Judy Manny
Jerry Galm, Anthropology

The Architecture of the Swahili Coast is extraordinary because of its beauty, simplicity, functionality, and blended cultural influences. Swahili Coast refers to the coastal area of East Africa, mainly Kenya, Tanzania, south Somalia and north Mozambique. Swahili architecture has captured the attention of many and remains a powerful symbol of the region's people, lifestyle, and religion. The architectural form of the built environment, including houses are affected by cultural influences, and accompanying religions, as well as functionality as required by terrain, climate, and trade relationships. Arab, Indian, Portuguese and other traders came to do business along the coast and each left their mark. Many of these traders ultimately settled in the area. Thus, the artistic and functional evolution of Architecture along the Swahili Coast reflects the combination of a variety of African and non-African cultural influences.
Eastern Washington University Human Powered Paper Vehicle
Paul Matej, Jesse Hulsizer, Zac Bishop and CJ Grijalva
Martin Weiser, Engineering and Design
N.M. Awlad Hossain, Engineering and Design

For Eastern Washington University's HPPV competition, our team envisioned a two-wheel style vehicle design that would emulate all the features of a bicycle because we've heard that two-wheel designs have done extremely well in the past competitions. Our Chief designer is well versed with building BMX bicycles in his personal time and truly went beyond the call of duty to design our Paper vehicle in Solidworks. There are certain rules and expectations for the competition which we needed to keep in mind when designing and building our vehicle such as keeping the overall vehicle weight at or below the maximum of 75lbs and 10% of your vehicle weight can be of non paper material. We desire to make our vehicle out of multiple sheets of cardboard glued together to form one thick frame which will be driven by bike pedals and chain. The vehicle will be subject to an obstacle course including a ramp and a series of turns and driven by at least 3 members of the team who must weigh at least 125lbs. This competition is meant to simulate what a real engineer must do such as planning, designing, building, and testing a product. Our hope is that this competition will be a valuable experience that will help us on our journey of becoming good engineers.

Language and Truth: Why Truth Isn't Absolute
August Mattson
Kevin Decker, Philosophy

One of the key concepts in philosophy is that of Truth. As I consider truth to be limited by language, I looked at the modes used by language relating to truth, as individual concepts then as a group. I also examined two modern philosopher's perspectives on the relation of truth and language, ultimately concluding that even as language inhibits the understanding of truth in all modes discussed, it is still a worthwhile line of inquiry.

The Effects of Diethylstilbestrol on Myometrial Contractility in Mice
Gayle May
Karen Carlberg, Biology
Joanna Joyner-Matos, Biology

Diethylstilbestrol (DES) is a synthetic estrogen that was used in the United States from 1938-1971 for prevention of pre-term birth. It was ineffective and caused reproductive abnormalities, cancer, and adult reproductive difficulties in male and female offspring. Previous research established that DES changes the thickness and cellular orientation of the smooth muscle (myometrium) of the uterus; however these changes have not been specifically related to a functional change of the myometrium. I hypothesize that exposure to DES may alter contractility, which is measured in terms of the strength, duration, and rate of contraction, which may negatively impact normal uterine function. In this study mice will be treated with a placebo or 1.0 ug DES during a critical period of reproductive development (0-2days old). At 30 days, the uteri will be removed and contractility will be measured with a force transducer under normal conditions and in the presence of oxytocin to mimic labor. The structural effects of DES will be assessed by comparing histological preparations of myometrial tissue between treatment groups.
Living the Label: Low Socioeconomic Status and Education
Michael Maynard
Frederick Strange, Anthropology
Nanette Wichman, English

In American culture, a person's upbringing can have a significant effect on their learning behaviors. In her book *A Framework for Understand Poverty*, Ruby K. Payne, Ph.D. shows that the culture associated with low socioeconomic status may have a negative effect on learning outcomes. For example, children of working class families have been shown to generally not perform as well in the educational system as middle class children. Looking at the culture of low income homes and how that culture interacts with the education system is paramount to understanding the success and failure of students. Studying the culture of low income children in education may also shine some light on the origin of learning and behavior problems. This may play a key role in reducing the number of children being diagnosed with psychopathology and reduce the children who, as a result of being labeled pathological, live out their label.

Torture, Terrorism, Peace, and Optimism: Eastern Washington University Compared to Botswana University Students
Jason McAllister, Jennifer Heinecke and Julie Rudmann
Mahlon Dalley, Psychology

A study using archival data compared views of torture, terrorism, peace, and optimism between Eastern Washington University (EWU), USA, and University of Botswana (UB), Africa. Selected responses from the Personal and Institutional Rights to Aggression and Peace Survey (PAIRTAPS) included questions of torture, terrorism, and peace with a Likert rating scale of 1 through 7. Dalley's Optimism and Attribution Scale (AOS) was given with the PAIRTAPS to measure the students' levels of optimism, using a true or false format. We conducted six analyses of variances (ANOVAs) comparing gender and universities ratings with such questions as, "The Government has the right to order the torture of prisoners in time of war" and "All human beings have a basic right to peace." Additionally, EWU and UB students' optimism levels were compared with the AOS. Results from this research indicated significant differences regarding gender and institutions in the areas of torture and optimism, with mixed results regarding peace and terrorism. In light of the recent world and domestic events involving torture, terrorism and questions of peace, this study may provide a better understanding of these important topics.

Environmental Awareness—Rachel Carson's Contributions
Bergen McCurdy
LaVona Reeves, English
Tracey McHenry, English

A poster session presenting aspects of a TESL course that outlines different methods to help students to deeply consider the environmental impacts of varied current events and professional careers. The course is centered around a biography about Rachel Carson: *Sea and Earth* by Phillip Sterling.
A Thousand Faces
Katelyn McDonnell
Tom Askman, Art

In the last four years, art has become more than a major for me, it has become a place of meditation, therapy, and communication. With the help of influential and encouraging professors, I am constantly striving toward a richer understanding of what art is and what makes me "tick" as an artist. My art has become focused around the figure, especially portraits, often with some light on social and political issues. I use a variety of mediums, including acrylic paints, pencil, and oil and chalk pastels, but by far my favorite medium, as of late, is charcoal. As I create my art I encounter a wide spectrum of feelings: stress, frustration, anger, joy, excitement, satisfaction, pride. Since creating art is an emotional challenge for me, I enjoy creating portraits that evoke some sense of emotion or feeling from the viewer. My hope would be that a viewer could look at my art and be able to relate to it on some level; personally, socially, or globally. As an artist, I can reach people on a level beyond my own thoughts or words; as a teacher, I can teach my students to mine their own thoughts and feelings to develop a stronger sense of self.

Achieving Sustainability through Recycling and Waste Disposal on Eastern Washington University's Campus
Stephanie McDowell and Carla Taulai
Vandana Asthana, Government

The issue of environmental sustainability is a central issue to global environmental politics and a mounting agenda in today's political stage. As consumerism grows in the world, we leave behind a large amount of waste that needs proper disposal and recycling for a healthy and sustainable environment. To understand the relevance of recycling and reuse in our daily lives and the impact it has on sustainable lifestyles we participated in an on-campus research project to examine the environmental sustainability levels of Eastern Washington University through the lens of paper consumption and waste disposal including both recyclable waste and all solid waste, which includes both recyclable and non-recyclable materials. The project investigated the steps that have been made thus far to become a sustainable university, and to pose further recommendations to obtain a greater level of sustainability. There are many factors taken into account including the cost benefits of becoming more sustainable, simple changes to prompt students and faculty to aid in this process, and examines state initiatives requiring more sustainable state institutions. Eastern Washington University has made fundamental steps to become a more environmentally friendly institution but needs to do more and needs to continue implementing changes to assure that the university is becoming even more sustainable and will be able to maintain a level of sustainability. The poster project will examine these aspects of sustainability.
Predictors of Poor Functional Outcomes Following Coronary Bypass Surgery (CABG)

Diane McKenney  
*Tanya LaPier, Physical Therapy*  
*Kimberly Cleary, Physical Therapy*

Background: Little is known about predictors of poor functional outcomes following artery bypass (CAB) surgery. Objectives: The purpose of this study was to examine the characteristics of four patients with poor outcomes following CAB surgery. Methods: This study included patients hospitalized following CAB surgery who were over 65 years of age. We objectively measured symptom impact, cognition and mood, endurance, walking speed, and strength. We also examined total time in surgery (TT), time on coronary bypass machine (CPB), and total aortic clamp time (CC). We obtained patient background information and pre-CAB surgery activities of daily living (ADL) and independent activities of daily living (iADL) ability. Results: Prior to undergoing CAB surgery, pain was reported most frequently with walking and climbing stairs and difficulty was reported most frequently with walking and job performance. The number of coronary heart disease risk factors was directly related to symptom impact. Timed up and go (TUG), TT, CPB and CC were negatively correlated with ADL ability. Conclusions: Significant impairment in many domains of function occurs immediately following CAB surgery. Difficulty and or pain during ADL performance, may result in self-restricted habitual physical activity level and avoidance of exercise in patients recovering from CAB surgery.

Wild Wild Washington

Elizabeth McNutt and Tanya Bailey  
*J. William Youngs, History*

Our presentation will be on a website we have been putting together for about two years. Together, we have worked on it with Dr. Bill Youngs of the history department as a work-study job, but it has become a lot more to us. With this website we have pulled together various information concerning 1860s and onward Walla Walla. Our website is a collection of newspaper articles regarding roles of women, and race relations. Not only do we write on newspaper articles, we have also researched in length other topics such as the Mullan Road, Women's Suffrage Movement, Whitman Massacre, and last but not least Walla Walla court cases. We are very proud of the work we have done, and feel like it needs to be shared to the community and that is why we believe that this is the best way to achieve that.
**The Sandwich**  
*Seth Mead and K. Michael Fox*  
*Sarah Lee Monroe, Electronic Media and Film*  
*Jonathan Middleton, Music*

Film: *The Sandwich*, Director: Seth Mead, Composer: K. Michael Fox. On a day like any other, Frank Stewart, an easy-going man with a slightly obsessive streak, decides to create an impossibly elaborate and intricate sandwich, unaware of the dire ramifications of his choice. Frank slaves over his counter, measuring deli meats with an engineers' precision and sweating profusely as he carefully slices bits of cheese with the caution of somebody defusing a bomb, eventually finishing what ends up being the most remarkable sandwich ever created in the history of the world. But as Frank goes to eat his artfully crafted super-sandwich, he is suddenly visited by a time traveling representative of the future, who warns him of dire consequences that will inevitably take place if he chooses to eat his creation. But does Frank have the willpower to not eat it? Or will his curiosity damn us all? Musically, the score seeks to maintain the desired tone of the film in order to deliver the material in a coherent manner. It works toward presenting an absurd situation in a serious and dramatic tone without transforming it into something overly melodramatic.

**Artemisia's Tragic Success**  
*Ted Means*  
*Barbara Miller, Art*

Tragedy has a way of making the deepest, most sudden impact on a person's life. Artemisia Gentileschi was a woman artist of the Baroque period who emulated the style of Caravaggio. I will explore how having a crime committed against her as a teenager shaped the way this young artist portrayed various heroic women from the Bible, history, and mythology.

**Discord**  
*Ted Means*  
*Jamie Hahn, Art*

Story is conflict. Whether it's a myth or an anecdote, at the essence of a narrative is one force opposed to another. Without this struggle, no greater meaning can be taken from the happening of events. My goal for this series of photographs was to create a narrative about conflict. In the form of a book, the images move sequentially and rhythmically to define a visual evolution of the story. As each page is turned, a dialog occurs between the image, the page and the viewer who has become an active participant in the narrative.
DOMA Domination: How Beneficial Are Your Benefits?
Ashley Meese
Elizabeth Kissling, Communication Studies

My name is Ashley Meese. The title of my video is DOMA Domination: How Beneficial Are Your Benefits? For CMST 419: Sex, Sexuality, and Communication with Dr. Elizabeth Kissling, I was assigned to create a research project regarding a specific policy issue. I chose to focus my project on the Defense of Marriage Act (DOMA), and how it prevents same-sex couples—in this case, federal employees—from obtaining spousal benefits. My video runs about 13 minutes. I include a few clips to: a news broadcast, a snippet about Gay & Lesbian Advocates & Defenders (GLAD), a personal story, and a video of the Attorney General from February 23, 2011. I narrate to this last video about how these changes may impact GLAD's litigations. Throughout the video, I include more detailed information about DOMA's impact on LGBT couples. I strive to show the audience that these couples are no different from any other couple—they love the same, they feel the same, and they need to receive benefits the same.

Aria—The Song: Richard Rodriguez and Me
Michael Mentzer
LaVona Reeves, English

A performance of a memoir, a rhetorical analysis, and the voice of Richard Rodriguez—this multi-media session focuses on the parallels between Mentzer's monolingual, multi-cultural childhood and Rodriguez's bilingual, multi-cultural childhood. Both baby boomers shared a deep sense of dislocation and disconnection that, in the end, served each man well. While their experiences were somewhat similar, there are major differences in their views about retention of cultural identity and home language. Using metaphor and metonymy, Mentzer analyzes the worlds surrounding both boys and discusses Rodriguez's rhetorical strategies in his autobiography, such as code switching to Spanish and intentionally incorporating sentence fragments to emphasize community and dislocation, respectively. Rodriguez emphasized the private loss of the home language as a necessary assimilative process for him personally, while Mentzer regrets not having a private, separate and distinct home language. In this respect, Mentzer embraces the spirit of the National Language Policy of the National Council of Teachers of English: respect for and retention of the home language.
Required Vaccine Production Advancements to Battle the Next Global Pandemic
Paul Milani and Ron Poplawski Jr.
*Harm-Jan Steenhuis, Management*

The 2009 H1N1 pandemic proved what organizations such as WHO and HHS have been telling the global community for years; worldwide manufacturing capacity, technology and distribution are insufficient to meet world demand for the influenza vaccine. International governmental agencies are providing capital at an increasing rate in an attempt to increase production capacity and hopefully to spawn new technology. Yet 60 years of utilizing embryonic eggs for the production of influenza vaccines has seen few dynamic shifts to present barriers to entry resulting with few new companies and new ideas. Recent developments in the research of cell based influenza vaccines are providing a bright glimmer of hope that the shift is happening right now. Multiple US-based manufacturers are combining their research of cell based influenza vaccines with single-use disposable biosphere technology to propel an anemic industry into one that will decrease pandemic vaccines time to market, increase production capacity and offer portable manufacturing solutions to meet the needs of developed and under-developed nations alike.

Return to Soccer Post Open Reduction Internal Fixation Ankle Surgery: A Case Report
Emily Miller
*Meryl Gersh, Physical Therapy*
*Patricia Nelson, Physical Therapy*

The purpose of this case report is to describe the early rehabilitation approach for a patient who underwent open reduction internal fixation (ORIF) after sustaining a bimalleolar ankle fracture. ORIF is a surgery in which metal and wires are utilized to fixate a fracture. This patient began an early rehabilitation program to prevent the adverse effects of immobilization including muscle atrophy, synovial adhesions, and capsular contractures and reduce the risk of chronic instability. The patient increased her ROM, strength, and agility through an aggressive treatment protocol that included manual therapy, proprioceptive neural facilitation, and functional exercises aimed at increasing her functional ability. The patient was cleared by her surgeon for full return to soccer and she went on to being selected for the Allstar team and scored the second most goals in the NWACC league.
Heavy Metal Concentrations in Sediments Proximal to the Bunker Hill Mine in Kellogg, ID

Nicole Miller  
Carmen Nezat, Geology  
Richard Orndorff, Geology

From 1891 to 1968, approximately 100 million tons of mining waste rocks laced with heavy metals were dumped into the Coeur d'Alene River, ID, contaminating a 160 mile stretch of river. Heavy metals resulting from mining operations are a hazard for wildlife, as they can get taken up by insects and fish, incorporating them into the food chain and inevitably leading toward consumption by humans. Effects of the pollution are felt by migrating wildlife that risk their lives by stopping for rest in the area. Sediment samples were collected proximal to the Bunker Hill Mine in Kellogg, ID, including sites upstream, downstream, and at the site of the mine. River sediments were exposed to hot nitric acid to remove the sorbed metals and easily-weathered minerals, and the leachate was analyzed using an Inductively Couple Plasma-Optical Emission Spectrometer. Lead (Pb) concentrations, as expected, were highest at the site of the mine and declined with greater distance downstream of the mine. Cadmium (Cd) and strontium (Sr) concentrations peaked at sample locations immediately proximal to the mine, and declined with greater distance downstream of the mine until they peaked again at the Cataldo Flats sample location (a repository for mine waste). Calcium (Ca) and magnesium (Mg) levels were high throughout, which may point to the dissolution of dolomite group minerals known to be in the area.

Poison Bottles

Robin Milligan  
Chris Tyllia, Art

Wheel thrown porcelain bottles glazed and fired to cone 6.

Environmental Sustainability at EWU

David Minaai, Michael Bell and Denisa Buljubasic  
Vandana Asthana, Government

Due to the processes of urbanization, population growth, and industrialization, there is a great amount of pressure on environmental resources. States have started to worry if the earth's resources can meet the demands of the world's population. The concept of sustainability has gained prominence at the local, national and global level. Sustainability is the ability to maximize the use of resources, without affecting the population of today, and the population of tomorrow. Increase in urbanization has most affected the built environment. Our research investigated the built environment here on Eastern Washington University to understand to what extent sustainability has been adopted at the local scale, as the environment is an integrated issue where the local practices connects to the global outcome. We conducted a case study of Eastern Washington University through interviews and research regarding the incorporation of sustainability processes at EWU. Our research focused our research on three areas; the decision-making process, building priorities, and ecological Design. Our project summarizes the results of the study and illustrates how sustainable EWU is, and how it can be improved.
The Global Citizen Award: Motivating Language Learners
Matthew Miner
LaVona Reeves, English
Megan Mulvany, English as a Second Language

The purpose of the presentation is to describe the Global Citizen Award and its role in the Asia University America Program. This award has been implemented to help motivate Japanese exchange students who are studying English on the EWU campus to participate in a variety of activities and community service projects, ultimately inspiring more confidence in their ability to learn English through immersion. This report is part of the preliminary stages of a thesis focused on the importance of community-based language and cultural projects in aiding second-language acquisition. I will provide a brief history of the 20-plus-year Asia University America Program on the Cheney campus, discuss the AUAP goal of motivating students to learn and speak English, and talk about how civic engagement in the target language community increases the desire to learn the language by connecting students with a community of living speakers as compared to language taught in isolation in the mother tongue.

Audition Package #1: Mormon Mother/Cassandra
Faith Mitchell
Jeffrey Sanders, Electronic Media, Theatre and Film
Sara Goff, Theatre

An actor's audition package created for THTR 412—Acting: The Profession. This package contains two pieces that highlight the actor's ability to perform both a contemporary dramatic and a contemporary comedic role. The roles performed in this package include the Mormon Mother from Tony Kushner's Angels in America and Cassandra from Wade Bradford's Irony.

If We Better Socialize Our Children, We Can Help Them Survive in These Urban Neighborhoods
Amunoo Mohamed
Patricia Chantrill, Communication Studies
Angela Schwendiman, Africana Education

Understanding an African American Issue through communication theories.
Determining the Effects of Novel Disinfectant Solutions on Microbial Growth
Lucy Morgan
Sidney Kasuga, Biology
Andrea Castillo, Biology

Central venous catheters (CVCs) are inserted into the vena cava providing a direct route for medical support into the bloodstream. When CVCs become colonized by microorganisms, catheter related bloodstream infections (CRBSIs) often occur. These infections can increase hospitalization costs up to $56,000 per CRBSI and result in approximately 30,000 deaths per year. In this study I used a multiphase approach to test the efficacy of three novel disinfectant solutions, each compiled of three reagents; Ethylenediaminetetraacetic acid (EDTA), hydrogen peroxide, and ethanol, against planktonic (free-floating) microorganisms and biofilms (aggregated microorganisms). Pseudomonas aeruginosa, Methicillin Resistant Staphylococcus aureus (MRSA), Candida albicans, and Bacillus cereus endospores were chosen due to their commonality or difficulty to kill, and tested in both their planktonic and biofilm forms. Disinfectant solutions were tested against planktonic forms using a Millipore Filtration system, over a suite of time intervals, and against biofilms using the Minimal Biofilm Eradication Concentration assay (MBEC), which quantifies biofilm structure disruption. Preliminary results for planktonic forms showed that each solution resulted minimally in a log-6 reduction at their shortest tested time interval.

Development of a New Class of Drugs for the Treatment of Alzheimer's Disease
Bridget Mummey
Travis Denton, Chemistry and Biochemistry

Alzheimer's disease (AD), the most common form of dementia, is a disease that results from nerve cell death in areas of the brain that are vital to memory and other cognitive abilities. The goal of this project is to identify a chemical compound, or a group of chemical compounds, capable of increasing the cognitive functions (learning- and memory-related behaviors) of individuals with mid to late stage Alzheimer's disease. This research revolves around using the molecule GTS-21, the first alpha-7 nicotinic receptor agonist, drug candidate, to be developed, as a lead compound. The goal of this research is the preparation of a library of substituted Myosmines (bioisosteres of GTS-21). The proposed, first found library of Myosmine analogs have the unique advantage, as compared to many other classes of drugs. These classes of compounds serve not only as a panel of drug candidates, themselves, but also serve as precursors for a much larger library of potential drugs. This library of compounds will be realized utilizing chemical transformations, recently developed by our lab. The library of compounds will be tested, as an initial screen, as ligands for the acetylcholine binding protein (AChBP). Acetylcholine is one of the main neurotransmitters found in the Central Nervous system. These nervous systems fail to send proper signals, and gradually get worse as Alzheimer's disease progresses, ensuing in an increase of learning and memory related behaviors. As a result, the chemical compounds that show the most promise at the AChBP will be screened for efficiency at the functional alpha-7 nicotinic receptor expressed in human cell lines. The data obtained from these studies will be compared to that of known potential drug candidates being formulated for the pharmaceutical market.
The Necessity for the Cuckoo In the Nest: McMurphy's Act of Salvation through Humor

Sarah Murphy  
Judith Logan, English

In Ken Kesey's One Flew Over the Cuckoo's Nest, McMurphy acts as a powerful counter to Nurse Ratchett's Combine-driven doctrine, which had been operating to quash the soul and spirit of life within the mental patients on her ward. McMurphy subverts Ratchett's Combinism with his natural talent for relishing life, as evinced through his continual sense and assertion of humor while residing on the ward. Though ultimately destroyed, McMurphy's actions convert his fellow inmates into disciples of the jubilant anti-Combinism he had come to embody for them.

Comparison of an Octopolar Bioelectrical Impedance Analyzer and an Ultrasound Analyzer to Air-Displacement Plethysmography for the Assessment of Body Composition

Ian Naccarato  
Wendy Repovich, Physical Education, Health and Recreation

The purpose of this study was to cross validate three clinical-grade measures of body composition, an octopolar bioelectrical impedance analyzer (BIA), an ultrasound analyzer (US) and Air-Displacement Plethysmography (ADP). Healthy college-aged men (n=18) and women (n=8) volunteered to participate in this study. All measurements for the BIA, US and ADP were taken in accordance with manufacturers' guidelines. Descriptive statistics of mean ± SD were performed for all variables followed by a Pearson's correlation and 1-way ANOVA to determine associations between the three body composition variables examined. All body fat percents (%BF) were significantly correlated (Table 1) and no significant differences were found with the ANOVA. This study showed that all three methods are positively correlated and are appropriate instruments to measure %BF. Table 1. Associations of BIA, US, and ADP for % body Fat Variables (M ± SD) BIA US ADP BIA (15.3 ± 8.43) 1 US (15.7 ± 5.14) .862* 1 ADP (15.5 ± 5.83) .872* .879* 1 * p = 0.000.
Post-Secondary Education for Undocumented Students: Right or Privilege?
Jose Francisco Navarro
Martin Meraz-Garcia, Chicano Education
Christina Torres-Garcia, Chicano Education

The Supreme Court's 1982 ruling Plyler v. Doe instituted the right to primary and secondary public education, to immigrant children with no defined legal status. The Supreme Court stated that excluding this student population based on their legal status from the educational system would systematically deprive youth and children, who already confronted low socioeconomic status and lack of proficiency of their opportunities to succeed in our contemporary American society, hence consider unconstitutional. The magnitude of achievements in technology, communication and transportation in our current modern globalization has nulled primary education and reinforced the importance of a postsecondary degree in order to compete in our American society. In this paper I analyze the question of whether post-secondary education is a right or a privilege to youth with no defined legal status. The empirical material analyzed in this paper is profound in peer review scholarly materials, U.S. Supreme Court rulings as well as an analysis of legislation enacted in several states. Exploring the effects of states' educational policies that have unable this student's access to higher education it is essential to comprehend the repercussions it has in thousands of undocumented children, professional work force, economy and our society. Finally this paper seeks to explore rough empirical account of legislator, activist, and student interviews the benefits created from the enactment of state legislation that have granted in state tuition and provided a path to higher education for undocumented youth.

The Culture of "Kitu Kidogo" in Kenya: How Should Kenya Deal with the Problem of Rampant Corruption?
David Nderitu
Larry Luton, Public Administration

The beautiful nation of Kenya is world famous for her record breaking athletes. She is also known for her wildlife and beautiful sand beaches along the Indian Ocean Coast. It is in this country that I was born and brought up. Paradoxically, Kenya is also internationally recognized as one of the most corrupt countries in the world. Year after year Kenya scores poorly in corruption perception index ratings. For example, in their 2010 ratings, Transparency International placed Kenya's Corruption Perception Index at 2.1 on a scale of one to 10, one being the most corrupt and 10 being the least corrupt. Out of curiosity and for purposes of comparison, Kenya's neighbor Somalia, who has not had a functional government for over twenty years, scored 1.1. As one of the joint leaders of the least corrupt countries, New Zealand scored an impressive 9.3 while United States scored 7.1. Kenya was placed at 154th position out of the 178 countries that were reviewed (Transparency International, 2011). Corruption in Kenya is so rampant, it has permeated all spheres of life; it is present in the public, private, and nonprofit sector of the economy (Wrong, 2009). This paper investigates corruption in Kenya with a view of analyzing the public policy thereof. In sharp contrast to the picture painted in the opening two sentences of this analysis, this paper reveals that other ugly face of Kenya. The status quo will be examined, goals spelt out, criteria set out for evaluating those goals, and alternatives suggested. Those alternative policies, or courses of action will be evaluated using the criteria in a matrix, and then a policy choice will be suggested and recommended based on the evaluation scores or outcomes.
Understanding AQIM in Algeria: How Does AQIM Fit within the Algerian Political and Social Structure?
Naima Neghmouche-Salah
Robert Sauders, Anthropology, History

The group of Al Qaeda in the Islamic Maghreb (AQIM) is a Salafi group that seeks to establish Islamic law in the Maghreb and fight against what it perceives as an apostolic government in Algeria. This research examines the particular religious influences of AQIM in order to demonstrate how religious texts and interpretations connect to the strategic and operational actions of the organization. To this end, this paper analyzes how AQIM and its leaders frame their organization through speeches, statements, organizational literature and associated web content from 2006 through 2007 and considers if and how AQIM fits within larger Algerian political, social and religious structures.

Development of 16s Bacterial rRNA Sequence Library for Apis mellifera (Honey Bee)
Nicholas Negretti, Joe Lawhead, Ashley McElroy and Hailey Markum-Patti
Randy James, Biology
Steve Fisk, North Central High School

The 16s genomic library for Apis mellifera (European Honey Bee) has not been developed. The foundation of this library will allow tracking of honey bee populations through 16s, and will shed light into microfloral diversity between various populations of honey bees. The 16s sequences were obtained from individual organs (e.g. intestines, salivary glands). PCR was used to amplify the extracted 16s sequence, create and amplify linear plasmid and to recombine the amplified 16s sequences into a complete plasmid. Cloning the recombinant plasmids into competent E. coli will allow each distinct 16s fragment to be isolated and sequenced. To reduce the chance of damaging the variable 16s sequence during recombination into a plasmid vector, the use of restriction enzymes had to be eliminated.

The Female Gaze: Female Dynamics of Vision in Impressionist Painting
Laurel Newnham
Barbara Miller, Art

The emergence of a "new woman" at the end of the 19th century has prompted scholars and critics to retroactively decipher gender differences in the works of Manet and Impressionist painters. Women became both object and author of paintings, creating an entirely different aspect of "the gaze" of the viewer, who is no longer assumed to be masculine.
Creating an Educational Series as a Component of a Participatory Ergonomics Program in the Grocery Industry

Blake Novoa and Christine Olsen
Dan Anton, Physical Therapy

Participatory ergonomics programs are effective in reducing the risk of work related musculoskeletal disorders by educating management and employees about task specific risk factors. A key component of these programs is training on ergonomic principles. Educational programs must be created for all groups within the organization, from new employees to senior executives. In order to reduce the risk of musculoskeletal injury, it is critical that these educational programs are understood and accepted by all members of the organization. The purpose of this presentation is to show how a participatory ergonomics education program is created and modified for different audiences including new employees, store safety committees and upper level management. This program is currently being used as a part of a study implementing a vertically oriented, participatory ergonomics program with a local grocery chain.

Analyzing Agricultural Subsidy Distribution

Sylvia Olivo
Grant Forsyth, Economics

This project will analyze specifically the government programs who issue payments out to farmers. The project provides the reader with a distribution of the payments specifically in the Pacific Northwest. The author will further analyze the distribution of the payments to see if there was any effect in the payment distribution due to the economic changes that have occurred in the past few years. The price increase of farm commodities is a specific incident that is observed closely; the author examines whether this increase created any change in the amount of payments that are issued out in the course of the past four years. The USDA also issues out farm loans directly to farmers; begging the question has the banking crisis changed the amount of loans that were issued out during this time period.

Exacerbation of Multiple Sclerosis Following a Lap Aroscopic Hysterectomy: A Case Report

Christine Olsen
Kimberly Cleary, Physical Therapy

Multiple sclerosis (MS) is a chronic disease that causes plaques, or scars, to form on the myelin surrounding nerve cells in the central nervous system. Damaged or destroyed myelin sheaths cause nerve impulses to be distorted or interrupted which leads to a variety of neuromuscular impairments and decreased functional mobility. Literature suggests that specific physical therapy interventions may improve mobility for patients with MS, which is of great significance in this population. Interventions need to be specific to each patient's needs as well as sensitive to the variability of the disease process. The purpose of this case report is to describe the home health rehabilitation of a patient with MS who had a major exacerbation following a laparoscopic hysterectomy.
The Use of 3D Static Strength Prediction Program (3DSSPP) as a Component of a Participatory Ergonomics Program in the Grocery Industry  
Christine Olsen and Blake Novoa  
Dan Anton, Physical Therapy

Participatory ergonomics programs are effective in reducing the risk of work related musculoskeletal disorders (MSDs) by educating management and employees about task specific risk factors. The use of exposure assessment tools helps to quantify these risks and illustrate the effectiveness of task modification. 3D Static Strength Prediction Program (3DSSPP) is a 3-dimensional modeling program that is used to estimate compressive forces in the lumbar spine during different tasks. The purpose of this presentation is to describe the use of 3DSSPP to objectively measure low back compression in grocery store workers who perform heavy lifting.

Excerpts from “Whistled Verses on Emerson Way”  
Rost Olsen  
Jonathan Johnson, English, Creative Writing  
Christopher Howell, English, Creative Writing

Rost Olsen, a creative writing MFA candidate at EWU, will read excerpts from his upcoming MFA thesis, a book-length collection of his original poetry entitled: “From Whistled Verses on Emerson Way.” The poems he will read draw inspiration from a multitude of sources, from Olsen's Mormon background and upbringing in the Reno, Nevada, area to the Rhythm and Blues music and musicians that fascinate him.

Novel Quaternary Polymeric Biocides and a New Assay for Their Antibacterial Assessment  
Daniel Olson  
Travis Denton, Chemistry and Biochemistry

In recent years, an increased number of bacterial strains have developed resistance to most common antibiotics, for example, Methicillin-resistant Staphylococcus aureus or MRSA. To fight against these "super bugs," our lab is producing a new series of quaternary polymeric biocides. To date, the most potent of these biocides is poly(4-hexadecyl-4-benzylazamoniumheptamethylene)-D-glucamide (C16GluBQ). Due to the structure of these compounds, classical disk diffusion antibacterial assays are not possible; therefore, a new assay protocol was specifically developed for testing the synthetic, polymeric biocides by inoculating growth media plates with bacteria and directly applying the polymeric solution to the plate via pipette. The preparation of the biocides, development of the assay and antibacterial results will be discussed.
The Memory of the Unknown
Ty Omlin
Georgia Bazemore, History

In 430 B.C. the two great city states of Greece, Athens and Sparta, fought each other for supremacy. While Athens maintained unchallenged control of the water and had the greatest navy in Greece, the army of Sparta stood unbeaten for four hundred years. Athens strategy of avoiding open conflict with the Spartan army, crowding within the walls of the city, and using her dominance of the sea would have consequences neither the Athenian leaders nor the Spartan kings could have counted on. The Plague in Athens killed its citizens, soldiers, leaders, morale, and government and was a major contributing factor to the Athenian defeat. The plague is also significant because it has also yet to be identified by modern epidemiologists. Studying diseases in the ancient world brings with it many problems. Though contemporary descriptions are often meticulously documented, the people recording them often likened one symptom with another or made both one in the same. Ancient attempts at diagnosis result in poor assumptions due to lack of medical understanding, or attributing the diseases to divine intervention or similar mysticisms. Modern scholars must then translate these texts, often written in "dead" languages, and attempt a comparison to modern day illness to construe a diagnosis. Often with the best translations from the most scrupulous sources, diagnosis of ancient disease remains a guessing game.

Measuring Gender: The Challenges of Translating Hormones to Behavior
Garrett Paeschke and Kristen Zangar
Theresa Martin, Psychology

A major component of all research involves decisions regarding methodology and operationalization of data. In Psychology, we are often interested in studying "fuzzy" topics—ones that are vague or have no one agreed upon definition. In this presentation, we will discuss the challenges of measurement in a current study of the relationship between gestational effects of testosterone on differences in finger (digit) length. Specifically, we will be discussing various measurement conventions described in previous literature, our own tests of measurement accuracy using these conventions, and how we expect our measurement strategy to contribute to our study of testosterone and academic performance.

Smoke Scenes Written by Nick Zagone
Rainee Palmer, Teko Dumoulin and Chailee Friant
Sara Goff, Theatre
Jeffrey Sanders, Electronic Media, Theatre and Film

Smoke Scenes was written by Nick Zagone and is a ten minute play all about the different scenarios that may happen around the word smoke. I chose this play because of the comedy of the script and the challenge of directing it. I originally presented this play for my Directing II class and thought it would be a great piece for the symposium. It displays the work of a great writer and two wonderful actors. Enjoy!
The Engineering Properties of Palouse Soils of Eastern Washington with the Addition of 10% Vermiculite

Jane Patten, Chris Morgan and Travis Reilly
Richard Orndorff, Geology

The soils of the Palouse are the product of glacial erosion, and the subsequent eolian transportation of the weathered material. Soil samples of the Palouse were taken at the southwestern edge of the Eastern Washington University campus near the water tower and tested for various engineering parameters before the addition of 10% vermiculite by weight. Vermiculite is a phyllosilicate mineral that is capable of expanding to several times its normal volume; additionally, it is able to hold and absorb a fair amount of water. Due to the aridity of local soils vermiculite is commonly used to keep soils moist. The vermiculite enriched soils unconfined shear strength and optimal water content were examined and compared to an unaltered sample of the Palouse soil. Our results concluded that with 10% vermiculite, Palouse soil is not capable of carrying a load as heavy as a pure Palouse soil; however it is able to maintain a higher percentage of water before displaying ductile deformation.

Service Learning: Connecting Coursework, Community and Career

Anne Paulin
Molly Johnson, English
John Neace, Interdisciplinary Studies

EWU's service learning courses have been the most valuable components of my education. During Dr. Molly Johnson's Proposal Writing course, my fellow students and I collaborated to compose a grant application for a local nonprofit agency, CASA Partners. My team researched the needs of our agency and those of the foundations we considered approaching. We gathered necessary information and subsequently wrote an entire application for CASA Partners to submit to the sponsor. Working on a real project, as opposed to a simulated classroom assignment, ensures that the skills I've acquired will be easily and directly applicable to my future career. More importantly, I helped a Spokane organization seek additional funding to serve local community members. This also defines EWU students as valuable community members. Service learning provides solid experience that I can document on my résumé. The sense of purpose that I felt during this project prompted me to secure an internship that enables me to write another grant. I will not only gain additional experience but also network, meet other members of the community, and hopefully secure worthwhile employment upon my graduation.
The Power of Prostitution: The Hetairai, Companionship, and Autonomy in Classical Athens
Kaili Payne  
*Georgia Bazemore, History*

Current research investigating the erotic commodity exchange in Classical Greece delineates female prostitutes of the era by social strata: brothel prostitutes (pornai) and upper-class prostitutes (hetairai). Emerging from these studies, the image of ancient prostitutes reflects the basic human need for sex. Yet, regarding the hetairai, modern literature fails to examine the male aristocracy's desire for intellectual companionship in addition to sex, and the autonomy hetairai achieved by virtue of their profession. This study utilizes ancient Athenian legal reforms, orations, and transcripts to reconstruct ancient views of Greek women; examining the exception that was the hetaira and contrasting this courtesan with her citizen counterparts. Though they exploited their bodies, the hetairai were afforded a unique status in the ancient world, wielding influence over their clients and achieving a level of independence other Greek women did not enjoy. Comparing the ancient Greek hetairai to Japanese geisha (c. 600-1000 A.D.) demonstrates why this type of prostitute was not limited to the Classical world; both societies restricted women's participation in public life while their citizenry engaged in politically advantageous marriages. Elite men from these cultures desired a sexually knowledgeable and mentally stimulating woman, making these courtesans more than just prostitutes.

Divergent Discourses as an Impediment to Peaceful Negotiation: The Islamic Republic and the United States
Mark Peckham  
*Majid Sharifi, Government*

This Presentation examines the role that contending political discourses has had in US Iranian relations in regards to the nuclear issue using a comparative discourse analysis. To research these official discourses an extensive review of public documents was undertaken. UN and IAEA documents were the base of this research. The 2010 NPT Review conference, the Nuclear Security Summit and Tehran's International Conference on Disarmament and Non-Proliferation were the hub of research which expanded to include public speeches, Congressional Hearings, and televised interviews with officials from both governments. What was found was that both sides possess their own political mutually contradicting discourses. The Americans viewed nuclear technology as inherently threatening and focused completely on security, while the Iranians tended to view nuclear technology as a benchmark for development and focused on the rights of states. More troubling than a simple discrepancy, both sides fail to make the distinction that their own understandings of the issue are not universally shared. Anything contradictory it is then seen as either disingenuous or irrational. Not viewing the other side as honest or rational is an obstacle to brokering a peaceful solution through negotiation.

Track Athlete Prior to and Following Bunionectomy Surgery
Heather Pence, Megan Jeffris and Amanda Laurita  
*Jeffrey Kawaguchi, Physical Education, Health and Recreation*

A bunion is an abnormal, bony bump that forms on the joint at the base of your great toe. Bunions form when the great toe forms a valgus position and creates pressure against the other toes, forcing the metatarsophalgeal joint in the opposite direction, away from normal profile of the foot. Typical treatment is surgical excision of the bunion in a procedure called a "bunionectomy." This case study described the evaluation and pre- and post-operative treatment protocol.
Health Related Quality of Life in Community Dwelling Older Adults
Shauntae Perkins
*Kimberly Cleary, Physical Therapy*

Health related quality of life (HRQoL) considers how physical and mental health affects a person's ability to function. The purpose of this study was to describe the HRQoL of community dwelling older adults and compare findings to normative values. Forty-six subjects aged 65 and older who lived independently participated. An established HRQoL instrument, the SF-36®, v2™, was used. Subject physical component summary scores on the SF-36® were significantly lower than the norm-based scores for the general adult population (aged 18 and older). Subject scores were significantly higher than their age matched older adult peers in the role emotional, mental and general health domains, and higher than adult mental health norms. Results support the notion that physical aspects of HRQoL decline with age. However, our subjects had higher scores than their age mates for certain aspects of HRQoL, and scored higher than all adults in the mental health domain. In older adults, living independently in the community is frequently considered a marker of successful aging. This study provides insight into the HRQoL of successfully aging community dwelling older adults.

SeaPerch—A Small STEM Research Project Which is Making a Big Impact
William Persons
*William Loendorf, Engineering and Design*
*Donald Richter, Engineering and Design*

SeaPerch is a research project developed by MIT in 2003 and has been growing ever since on the eastern seaboard of the United States. SeaPerch is a low cost, effective project middle and high school students build to give practical and hands on experience with STEM (Science, Technology, Engineering, and Math) concepts. With budgets being cut in schools, this program will ensure students the chance to study in critical areas of learning that the schools are trying to hold on to that every child should know. And it supplies a fun way to expand upon the fundamentals. We (students and faculty) have started this research program in our area with a few selected middle schools, with in the past few months the starter has blossomed into actual classroom curriculum slated for fall of next year.

Gender Differences in Gratitude
Stanislav Pichinevskiy
*Philip Watkins, Psychology*

Gratitude has been found to be strongly associated with happiness scales, and experimental studies have shown promising results suggesting that gratitude actually enhances well-being. Because men tend to be more individualistic and independent than women, there is reason to suspect that women may be more grateful than men. Some studies have suggested that adult women gain more out of gratitude than do men, but other studies have shown that boys benefit more from gratitude than do girls. Thus, the purpose of this study was to investigate gender differences in gratitude. We predicted that women would show more gratitude than men. In this study, we had 43 males and 186 females complete the GRAT-S (a validated measure of trait gratitude), and the GAS (Gratitude Adjectives Scale, a reliable measure designed to tap state gratitude). As predicted, women reported higher trait gratitude than men. Interestingly, trait gratitude correlated with state gratitude higher for men than for women. Although, we found significant gender differences in gratitude in this study, the differences were not large. This suggests that although gender has some role to play in gratitude, other factors are probably more important.
Development of a Novel LC/MS/MS Assay for Galanthamine in Guinea Pig Plasma and its Application to Nerve Agent Countermeasures
Ioannis Pikalov and Phuong Nguyen
Wes Steiner, Chemistry and Biochemistry

Galanthamine (GAL) is a centrally acting reversible acetylcholinesterase inhibitor (AChEI) that is currently being studied in a role as an antagonist for the treatment of organophosphorus (OP) nerve agents induced lethality in guinea pigs. It has been shown that combined with atropine, a single dose of GAL administered before or soon after the acute exposure to lethal doses of OP compounds can safely counteract their toxicity in guinea pigs. To that end a new sample preparation and method analysis assay is being developed to reproducibly and sensitively quantitate GAL in guinea pig blood plasma. Samples are being prepared with diphenhydramine (DPH) internal standard in a simple one-step liquid-liquid organic precipitation extraction using Chloroform. The extracts are then being analyzed with a reversed phase C18 liquid chromatographic column interfaced to a triple quadrupole mass spectrometer (LC/MS/MS).

Peruvian Skull Alterations
Lindsey Porter
Sarah Keller, Anthropology

Skulls of the ancient world were in many ways different than those of the average human today, especially those in Peru. When looking at Peruvian skulls from the past, one can notice a strange elongation that looks almost alien like. But in fact it is not alien at all. It is an alteration done purposefully by the peoples who lived there. The ancient Peruvian skull alteration methods are being analyzed and compared to those of the ancient Egyptians and Flathead Indians.

Brick: A Film by Alex Quam Score by Davis Hill
Alex Quam and Davis Hill
Sarah Lee Monroe, Electronic Media and Film
Don Goodwin, Music

Brick, an experimental narrative directed by Alex Quam, shows the many overarching journeys of one man. The score, composed by Davis Hill, sits along side of the dialogue to not only strengthen the present themes, but create the emotion for an unintelligible dialogue.

Cahokia, Artifact Assemblage and Status
Melody Ramsey
Sarah Keller, Anthropology

Located in Modern Illinois, Cahokia was a center of Mississippian culture from about 600 to 1400 AD. A thriving center of business and culture which at its peak had a population of around 15,000. A society this large, and surviving this long, required structure and social complexity, both of which are seen in the artifact assemblages from the site. A walled enclosure, gathering places, a variety of mounds, artistic and domestic pottery, and burial goods all indicate a complex and hierarchal society.
Ways of Knowing: An Ethnographic Study of Metacognition and Reflection in Multilingual Writers
Tera Ray
LaVona Reeves, English
Tracey McHenry, English

This ethnographic, "ungeneralizable single case study" (Finch, 2010 qtd. in Ubaldo, 2010) of 25 multilingual college writers in a four-year university composition classroom examines metacognition and reflection in three sets of the writers' journals, collected during the fall quarter of 2010. Students were prompted by the primary investigator to reflect on the first draft of three separate in-class essays that were written in response to a writing prompt created by the course instructor, who was also the chair of this thesis. The primary investigator presents the relevant literature on metacognition and reflection, using Huang's (2010) metacognitive codes and Dewey's (1933) components of reflection to later analyze and discuss the data. The findings suggest that multilingual writers express similar types of metacognitive thinking despite differences in native language and cultural background. The guidance and direction of teachers and instructors is proposed to have a greater influence on metacognition and reflection than linguistic or cultural factors. The primary investigator recommends allowing space for multilingual writers to demonstrate Dewey's (1933) reflective components of whole-heartedness, responsibility, and open-mindedness in order to encourage the development of both metacognitive and reflective thinking.

In Defense of Eric Williams: Slavery, Industrialization, and the Williams Thesis
Ian Reeves
Ann LeBar, History

While there can be little argument concerning the fact that the slave trade was profitable to Great Britain, there is still a great deal of uncertainty concerning the effects that these profits had. In 1944 Eric Williams published his landmark work, Capitalism and Slavery, which sought to address this issue. Williams contended that the profits from the slave trade were pivotal in England's efforts to industrialize, and that without these profits history may have played out much differently. In the seventy years since this thesis was published, it has come under repeated attack and, while treated with respect, is regarded as being completely disproven. Yet this may not be the case at all. Recent scholarship concerning the Williams Thesis shows that Williams may have not been far off the mark. Instead of merely taking for granted that Williams' arguments no longer have merit, it is crucial to come to a much more comprehensive understanding of the scholarship related to the Williams Thesis.
The Ethics of Food Production

Nita Rektor
Kevin Decker, Philosophy

Since the time of Hippocrates and the Greeks, ethics has played a crucial role in the moral development and implementation of the bio-sciences. From the use of animals in experiments to the torture of prisoners for the purpose of medical research, ethics concerned itself with the "ought" of the ethical questions which arise within the sciences. Innovative minds, such as Immanuel Kant, John Stuart Mill, and Thomas Hobbes, diligently worked to establish foundational principles by which society and the individual could reach rational moral decisions concerning the ethics of science. But in the age of genetic engineering (modification), the concern for living organisms, including humans, seems to have been set aside and in its place an ethics of greed has emerged. In so far as the majority of people claim to value the autonomy of sentient beings, science and industry have managed to navigate below the radar on numerous ethical issues surrounding the silent infiltration of genetically modified products into the mainstream food production thereby undermining the basic foundational principles of autonomy and intrinsic value of both the individual and the society. To this end it is my intention to subject the genetically modified food industry as it pertains to the genetic modification and mainstream distribution of food to the scrutiny of three theories of ethics, the deontological, utilitarian, and social contract theory.

Examining the Effect of Control Methods for Invasive Grasses on Mima Mounds at Turnbull National Wildlife Refuge, WA

Brandy Reynecke
Rebecca Brown, Biology
Robin O’Quinn, Biology

Invasive annual grasses, like Bromus tectorum form monocultures which reduce quality forage and native plant abundance. Mima mounds in eastern Washington provide habitat for native species and many are heavily invaded with annual grasses. The mounds are comprised of topsoil underlain by basalt bedrock or alluvium and are a source of forage during the summer as the intermound areas support little plant growth. In this study we examined the effect of several control methods on the abundance of invasive annual grasses on the mounds. We looked at all possible combinations of herbicide, soil amendment with carbon and native seed addition for both substrates. A baseline vegetation survey was conducted during the summer of 2009, treatments were applied in the late summer and fall and the plots were resurveyed in the summer of 2010. Comparison of pre- and post-application abundance was measured as change in percent cover and number of stems per plot. Each mound studied had a 1m2 plot and stems were counted in a 400cm2 corner of each plot. Herbicide decreased both measures of abundance on mounds across both substrates (p<0.001) and had a greater effect on alluvial mounds (p=0.01).
Utility of Content Analysis in Middle School Journals in Predicting Anxiety and Depression
Wylie Rhoads, Daniel Timofeyev, Samantha Barrett and Faith Golden
Susan Ruby, Psychology

Research indicates that anxiety and depression are two growing epidemics in our youth. Although screening for these disorders has been identified as best practice, many schools may resist due to invasion of privacy to their students or may not be feasible. The current study examines the content of middle school journals that were written by middle school students during regular English classes. Sixty-eight students in four eighth-grade classrooms completed measures of anxiety and depression. Students were asked to write in academic journals for 15 minutes, three times a week, for one month. This study examines the relationship of journal content with scores on the anxiety and depression measures. We analyzed content using the Linguistic Inquiry Word Count (LIWC, Pennebaker, Booth, and Francis, 2007), and selected the following variables: self-reference, social words, positive emotions, negative emotions, and overall cognitive words. Our study is important because early screening with journal content analysis can allow schools to identify students at risk in a non-intrusive manner. We will present significant relationships between the variables and suggest potential ways to further use the LIWC to the benefit of schools.

“Creative Nonfiction—A Reading”
Kimberly Ribbens
Rachel Toor, Creative Writing

I would like to read a piece of Literary Nonfiction that I have written.

Exploring the Ecuadorian Community EFL Classroom
April Ridgeway
LaVona Reeves, English

This presentation will explore the author's experiences of acting as a volunteer teacher in a free, community-based Ecuadorian EFL classroom. Issues to be discussed will include curriculum development, environmental barriers to instruction, and the author's experiences with cultural adaptation. The purpose of the presentation is to demonstrate the challenges of the EFL classroom as well as educate the audience on the considerations necessary to ensure teacher integration into the cultural setting and student success.
Commemorative Receiver Hitch Cover
Brandy Rinkel
*Terence Geyer, Engineering and Design
Ethan Churchill, Engineering and Design

As part of a Winter 2011 Senior Capstone class, students in the Engineering and Design department undertook an effort to build a receiver hitch cover to commemorate the EWU Eagles National NCAA Division 1 Football Champions. The class requirement was to form a corporation, choose and design a project, and manufacture 15 units. The unit that we made was manufactured out of aluminum and was shaped like a football. Holes were cut into the shape so we could incorporate the EWU letters and bands that could both be illuminated by interior lights. The processes used in the construction involved welding, CNC water jet, CNC milling, and electrical. Through a very generous donation from Wagstaff, Inc. and lots of hard work, we were able to produce forty-five high quality units.

An Analysis of Gene Flow within Eastern Washington Mule Deer Using SNP Haplotyping
Hannah Roberts, Jacob Ecklund and Alyssa Barton
*Randy James, Biology
Steve Fisk, North Central High School

Today in Colorado the mule deer population is estimated to be below 600,000 individuals. This is drastically less than the estimated peak population in the 1940s. Similarly California's mule deer population has decreased to half the size it was in the 1950s. This same pattern continues throughout the mule deer's native habitat; the western United States. With this population decline there is also the potential for a decline in genetic variation. Using Single Nucleotide Polymorphisms (SNPs) our research team is looking at intra and inter herd diversity within a population around eastern Washington. Extracting DNA from blood samples using Qiagen Blood and Tissue Kit, we are sequencing DNA from the CO I gene and the mitochondrial D-loop DNA to look for single point mutations.

Jack's Freshman Obsession
John Rogers and Nicholas Bailey
*Sarah Lee Monroe, Electronic Media and Film
Jonathan Middleton, Music

*Jack's Freshman Obsession—directed by John Rogers with musical score by Nicholas Bailey. A young freshman, Jack, is dumped by his girlfriend. He cries on the couch when his misogynist roommate, Will enters. Will makes fun of Jack but shows his caring side by revealing he has brought pot for Jack to smoke. After time Jack gains the strength to leave his room. When on campus he runs into Sarah, a confident girl whom he is immediately attracted to. She invites him to her party and Jack returns to discuss the events with Will. Will tells Jack to go to the party and that she obviously likes him. A sober Jack goes to the party only to find out that Sarah is interested in Jordan, an aggressive, drunk party type. Jack vows to prove to Sarah that he is better than Jordan, leading Jack on a hilarious conflict between getting Sarah or living a normal human life.
Does Frontal Lobe Functioning Impact Time Estimation?
Andrew Rowley
Jonathan Anderson, Psychology

Past research has linked time estimation abilities with personality, such as extroversion-introversion, and cognitive abilities, such as attention and organization. All of these have been linked with frontal lobe functioning. However, few studies have investigated the relationship between performance on tests of frontal lobe functioning and an individual's ability to accurately estimate time durations. In the present study, 83 individuals (Mage = 20.40, SD = 3.48; 17 males, 48 females) completed a self-report measure of executive functioning and an experimental task requiring participants to estimate time durations of 10, 25, 45, and 60 s. Controlling for age, the results revealed no significant correlation between time estimation accuracy and the score on the measure of frontal lobe functioning. This suggests that frontal lobe abilities may not be as integral in estimating time, or that the current self-report measure may not be sensitive enough to assess the role of the frontal lobe in estimating time.

Perceptions of Racism of Someone Making Racist Comments against His Own or Another Racial Group
Andrew Rowley, Matthew Johansen, Alyssa Weakley, Christina Patterson, Kayla Grubaugh and Erin Kamien
Amani El-Alayli, Psychology

The purpose of this research was to examine how racist someone appears to be when making comments directed at his own versus another racial group. Male Caucasian college students were randomly assigned to read a racist comment made by a male Caucasian or African American interviewee in a simulated newspaper article. The comment was directed either towards Caucasians or African Americans. Participants then reported their perceptions of the interviewee's racism, agreement with the speakers' comments, and the likelihood that they would befriend the interviewee. We hypothesized that participants would have more favorable reactions towards the interviewee if his racist comments were directed at his own race rather than the other racial group and the implications for person perception are discussed.

Glitter Particles as Forensic Evidence
Barocka Rubenthaler
Peter Bilous, Chemistry and Biochemistry

Forensic scientists routinely analyze evidence found in trace quantities in order to associate individuals with crime scenes. Cosmetics may be transferred from victim to assailant or visa-versa in homicide and sexual assault cases, or in other situations where physical contact between a person and an inanimate object occurs. This study investigated one cosmetic component that has received little attention by the forensic community, glitter. Using glitter particles this study attempted to answer the following questions: On average, what's the frequency of glitter use in the population? How transferable is it? and How unique is it? To evaluate the frequency, samples were taken from 104 high school, college, or adult individuals, collected by dabbing the sticky side of a Post-it® to the eyelid to collect eye shadows. To see how well glitter is transferred, the Post-it® notes were then viewed under a stereomicroscope to visually check for the presence of glitter particles. Collected glitter samples were analyzed using various analytical instruments to determine color, size, optical properties, and elemental composition. This was done to characterize and determine uniqueness between different sources and brands.
Are Individuals More Positively Biased toward Themselves or Their Relationship Partners?
Julie Rudmann and Matt Johansen
Amani El-Alayli, Psychology

Holding a positively biased view of one's self and one's relationship partner has been demonstrated in past research as typical. Positive self-bias has been found to be related to greater self-esteem and psychological well-being. Additionally, having an inflated view of one's relationship partner is indicative of greater current and future relationship satisfaction. Because these biases are so common and associated with benefits for individuals and relationships, the current research aims to further investigate the topic by determining which motivation is stronger. This will be done by having participants compare and contrast themselves to their relationship partner. Undergraduate psychology students who are currently involved in romantic relationships will rate a list of positive and negative personality traits to indicate whether each trait is more characteristic of themselves or their partner, as well as indicating whether each trait is more self-relevant or relationship-relevant. Data are pending. It is hypothesized that participants will view themselves more favorably when the traits are self-relevant, but will demonstrate a stronger positive bias of their partner when traits are more relationship-relevant.

Oral Health: A Window to Fight Childhood Obesity
Kendra Russell, Ashley Walls, Judy Valdez and Paige Waldrop
Ann O'Kelley Wetmore, Dental Hygiene

Childhood obesity in America is increasing at an alarming rate, almost tripling in the past 30 years. Poor diet and sedentary lifestyles are major causes of childhood obesity. Obesity leads to systemic complications such as heart disease, stroke, diabetes, osteoporosis, and some cancers. A functional dentition is crucial to mastication and digestion. Symptoms of obesity related diseases are exhibited in the oral cavity. A vicious cycle occurs when diet affects obesity, obesity affects oral health, oral health affects nutrition, and ultimately nutrition affects overall health. The oral health care professional breaks this cycle by identifying risk factors, providing nutritional counseling, and referring to other health care professionals. Education, communication and collaboration between the child/caregiver, the oral health care professional, and other health care professionals about the links between nutrition, oral health, and overall health offers a window to fight childhood obesity.
Cryptology and the Mathematics behind the Advanced Encryption Standard
Andrew Ruud
Ron Gentle, Mathematics

This is a summer research paper written in partial fulfillment of the requirements of the McNair Scholar Program at Eastern Washington University (EWU). It is based on Carrie A. Donkor's Master's Thesis from EWU, completed in 2004, which introduces cryptography, and specifically, Rijndael. Rijndael is a set of symmetric cryptographic algorithms from which the Advanced Encryption Standard (AES) was chosen in 2000. This thesis explains the mathematics involved in Rijndael, and uses some simple examples to demonstrate the behind-the-scenes workings of each step. This paper can be used as a supplement to this thesis, but can also be read as a standalone paper in its own right. The examples are unique, and are not duplicated in the original thesis. It's structured in a way to be informative for both the average reader, as well as containing the mathematical details of Rijndael designed to be accessible to the undergraduate mathematics major who has taken courses in abstract algebra, specifically ring and finite field theory. For the interested reader who does not have this background, but wishes to understand the details, there are many texts on the subjects involved in understanding Rijndael.

An Ethnographic Approach to Study Abroad
Christopher Ryan
LaVona Reeves, English
Margaret Heady, French

Literature on the topics of Second Language Acquisition, Cultural Immersion and Study Abroad are resonant in their message of the importance of an abroad experience in order to facilitate C2 and L2 competencies. The Cultural Immersion experience is now part of the professional preparation for such diverse disciplines as Nursing, Business, Counseling and Social Work, Linguistics and Communications majors and many more. A traveler ill-equipped to respond appropriately to the many linguistic and cultural differences abroad is effectively caught in the "Catch-22" position: from the "emic" perspective, the linguistic and cultural differences may lead to an extreme disorientation and an overall dissatisfaction with any form of foreign travel; Conversely, from the "etic" perspective, those lacking the necessary sophistication to represent their home culture and country can make life miserable in the host country as well (the Ugly American syndrome). This presentation will propose several practical suggestions to allow travelers, students or professionals, who seek the cultural or the linguistic experience, to bring an effective collection of strategies to bear in their travel context which will maximise their travel experiences.
The Origin and Customs Related to the Japanese Summer Kimono, Yukata
Kayo Sakamoto
LaVona Reeves, English

The yukata is a cotton summer kimono of bright colors worn for traditional Bon-Odori (a holiday to honor the dead) and other summer festivals. The name yukata comes from the word 'yu' (bath) and 'katabira' (under clothing). In the Heian era (794-1185), the nobility wore these after the bath—like a robe, but the yukata was later also worn by Japanese warriors and by the Edo era (1600-1868). With the advent of public baths, yukata were worn there by the general public as well. They are also worn in 'ryokan' (traditional Japanese inn), and some hotels offer yukata as a kind of bath robe for guests. The author will trace the history of the yukata and provide photos of the changes over time while she dresses in a traditional summer yukata and discusses how to wear it nowadays in Japan.

Trabajo y Más Trabajo: A Woman's Work is Never Done
Maira Sanchez
Amani El-Alayli, Psychology
Kelly Coogan-Gehr, Women's and Gender Studies

Throughout time women and men have been ascribed certain roles within the family sphere. As women joined the workforce outside of the home leaving behind their roles of a traditional housewife, they have encountered stress and the demands of balancing work and family. Airlee Russell Hochschild (1989) has been a pioneer in examining these demands in which she coined the term “the second shift” to refer to the amount of housework women contribute to. Several scholars have analyzed this very issue but have not taken into consideration the differences between Latina and White women in social and cultural influences on traditional roles. This is of particular interest because studies have demonstrated that in fulfilling the multiple roles of wife, mother, and employee, women encounter several negative effects on physical and psychological well-being. In an effort to synthesize and explain these concerns, several factors pressuring women to do most of the housework are considered, such as traditional gender roles influencing the amount of housework women contribute to. The purpose of this project is to use a measure that is culturally sensitive in measuring traditional gender role ideologies of Mexican folk culture and examining whether it influences the amount of housework working Latina mothers do.
Grant Writing for Friends of Turnbull
Marc Sandoval
Molly Johnson, English

Service-learning projects helped expose me to the experience of working with different teams and different agencies. One service-learning project that I was a part of took place in a proposal-writing course at Eastern Washington University. This project taught me how to research and evaluate information about non-profit agencies and sponsors/foundations; how to communicate with three organizations via emails and phone calls; and how to apply grant guidelines and research information as we wrote the grant proposal. The knowledge gained from this project assisted in creating a grant for Friends of Turnbull. The grant would help with hiring a temporary worker from the Student Conservation Association, so that Turnbull National Wildlife Refuge Environmental Education (EE) program could teach local youth and surrounding communities the importance of wildlife conservation, habitat preservation and restoration. The service-learning project and real world experience from this course has given me an opportunity to create a grant in a classroom environment, which allowed me to learn and understand the elegant process of grant writing.

Scenic Painting
Justin Schlabach
Shana Joslyn, Theatre

I will be presenting my scenic painting projects from Theatre 332 (Theatre Design & Technology II). The techniques discussed will include brick pattern, foliage, and marbling. I will explain painting concerns for theatre and the tools used to paint as well as how they are used in the painting process. To illustrate, I will present the three small flats I constructed and painted.
Dr. and Mrs. Professor: Why Do Students Use Less Formal Terms of Address for Female versus Male Professors?
Elizabeth Schriner
Amani El-Alayli, Psychology

In the current research, we set out to determine if certain aspects of professors’ characteristics influence how they are perceived by students, and in turn, how the students address their professors. Past research has shown that college students are more likely to use formal terms of address (e.g., Dr. Smith) for their male professors than their female professors. However, that past work did not test the possible reasons for this gender difference. We hypothesized that female professors would receive less formal terms of address than male professors due to being seen as kinder (e.g., warmer and more nurturing). An anonymous survey was emailed to 96 professors (with doctorate degrees or equivalent) at Eastern Washington University. We asked professors to indicate the percentage of their undergraduate students who referred to them in various formal and informal ways. Professors were also asked to indicate on a scale from 1 to 10, how they believed their students perceived them on a variety of characteristics (warm, approachable, nurturing, accessible, effective, personable, intimidating, professional, understanding, and knowledgeable). As in previous research which surveyed students, the results indicated that female professors were addressed more informally than male professors. Female professors were also seen as significantly more nurturing, warm, accessible, and understanding, and marginally significantly more approachable than male professors. Moreover, higher perceptions of warmth, nurturing, and approachability predicted significantly less formal terms of address by students. Only one other trait (knowledgeable) was significantly related to terms of address, but it did not differ by professor gender. Potential implications of this gender difference in terms of address are discussed.

Comparison of rbcL Gene Sequences from 3 Common Cultivars of Lettuce
Cristine Schucker, John van Veen and Amanda Kennedy
Prakash Bhuta, Biology

Our research used molecular techniques to show that three common varieties of lettuce have identical DNA sequences for the Ribulose-1,5-bisphosphate carboxylase/oxygenase (rbcL) gene. We extracted and amplified the chloroplast rbcL gene. The amplified gene products were sequenced. The sequence data we obtained were compared with those deposited with GenBank. The comparisons were carried out using BLAST analysis software. Our nucleotide sequences were 98% to 100% identical to the rbcL gene of Lactuca sativa. Therefore, the three cultivars must differ in their gene sequences at some other locus.

I Just Wanna Drink
Merrilee Schulz
Chris Tyllia, Art

Ceramic drinking vessels with an accompanying performance.
Finite Element Analysis of a Common Passenger Radial Tire with and without a Steel Belt
Joshua Seagrave
N.M. Awdal Hossain, Engineering and Design

A common radial tire with and without a steel belt was modeled and analyzed in this project. The project utilizes structural, thermal, and coupled analyses under normal static working conditions and warm weather conditions. 3D models were created in SolidWorks® and analyzed using ANSYS® Workbench® to yield results through simulations. Modeling a tire is an intriguing and challenging project. Tire analyses include complex geometry, contact analysis, and multiple analysis types. This project illustrates why steel belts are important in radial tire designs, to ensure structural integrity, by comparing deformations and stresses in multiple analyses.

The Effect of Forest Fires on Soil Nutrient Availability in the Dishman Hills Natural Resources Conservation Area
Amy Segovia
Carmen Nezat, Geology

Recent studies show that the availability of soil nutrients will either decrease or increase in response to a fire, with the effect lasting for a period of many years. The Dishman Hills Natural Resources Conservation Area (DHNRCA) experienced a fire in 2008, which swept across its southern half. I took soil samples in 2011 from the burned area and unburned area within the DHNRCA to determine the effect the fire had on soil nutrient availability. The plant-available ions were leached from the soil with ammonium chloride and analyzed on an Inductively Coupled Plasma - Optical Emission Spectrometer (ICP-OES). The burned soils showed no significant change from the unburned soils, except for a decrease in K concentrations. The lowered K concentrations may be due to the loss of foliage in the burned area, which typically has easily leached K. The similarities between the soils are likely due to the short period of burn and the relatively low burn temperatures.

Cohabitation Experiences and Adolescent Outcomes across Racial and Ethnic Boundaries
Rebekah Selby
Kelley Cullen, Economics

In recent years, the fraction of parents choosing to cohabit rather than marry has increased substantially. These trends differ greatly across racial and ethnic groups. Using data from the fifth wave of the National Survey of Family Growth, I consider to what extent that cohabitation affects the well-being of teenage girls across these various groups. Primarily, I look at how cohabitation influences early sexual initiation, teenage pregnancy, and high school graduation. Through various econometric and statistical procedures, these results will expand on existing research by creating unique models for each ethnic or racial group and identifying the unique contributions that cohabitation has on adolescents across these racial and ethnic boundaries.
Friedrich Nietzsche's Rejection of ‘Good' and 'Evil'
Caitlin Shain

Thomas Hawley, Government

This essay explores Friedrich Nietzsche's rejection of the Christian concepts of good and evil. Nietzsche was a naturalist who was profoundly apprehensive of human efforts to interpret natural phenomena in moral terms. This is why he says morality is hostile to life. Because morality views all human action through the lens of good and evil, it condemns expressions of strength and other natural urges in favor of a posture of weakness. As a result, humanity has lost its appreciation of the value of human life and has become gloomy, sickly, and nihilistic. In response, Nietzsche believes that humans actually need to become more evil and embrace their animalistic drives and impulses. If one cannot trust their own feelings, instead of disregarding them and even punishing themselves for negative consequences resulting from their feelings, then they will not be able to overcome the prejudices that go along with their feelings, and thus release their minds and souls and become truly independent, just as the strong do.

Learning a New Crop: A Vocational ESL Curriculum for the Biofuel Industry
Sarah Sheldon

Tracey McHenry, English
LaVona Reeves, English

Two topics currently receiving much national attention are migrant workers and job opportunities in new fields. Regionally, ESL professionals can develop and teach in vocational settings, but little has been done with job opportunities in the biofuel industry. This presentation with share research about the development of a vocational ESL curriculum for migrant workers in the Pacific Northwest. To address migrant workers’ needs for English communication skills and employment opportunities, this curriculum focuses on terms and skills useful for the biofuel industry.

Transcending Sovereignty? A Literature Review of the Identity Community’s Descriptions and Prescriptions of the Fractured and Fluid Self
Yvonne Sherwood

Pui-Yan Lam, Sociology
Kelly Coogan-Gehr, Women’s and Gender Studies

This essay will critically examine the literature that discusses the formation of identity from multiple and intersecting discourses. Specifically, the sociological research will focus on identity formation of a community’s outcasts—those who cannot meet federal and tribal requirements of blood quantum—or those otherwise referred to within Indian country as halfbreeds. Following, this examination will illuminate the traumas experienced within Indian country as the results of colonialism and imperialism and then following their traumatic impacts on identity. The literature review will focus on four primary areas: experiences specific to Native American communities affecting identity formation; processes of identity formation; identity crisis and outcomes: and what our Native communities already offer in terms of healing. The ultimate goal of this examination is to set a foundation for further research that acknowledges that fractured or fluid identities are not the result of “too many choices,” but the result of historical traumas and continued subjugation. Whereas this is acknowledged, following research can assist in the decolonization process that reports back to Natives and non-Natives seeking to destabilize the racialization of human beings.
Molecular Simulation Investigation of CO2 and CH4 Adsorption in Zeolitic Imidazolate Frameworks (ZIFs)
Christopher Signer
Yao Houndonougbo, Chemistry and Biochemistry

The increase of CO2 concentration in the atmosphere by the intensive use of carbon-based fossil fuels has led to a global environmental issue. Zeolitic imidazolate frameworks (ZIFs) are a new class of porous materials that have received considerable interest because of their potential applications for carbon capture and sequestration. They are composed of functionalized imidazolate bonded to transition metal centers and have tetrahedral topologies analogous to zeolite structures. We present results of molecular simulation of CO2 and CH4 in a series of ZIFs of the same zeolite topology with different functional groups. The simulation adsorption results agree with experimental data and provide further insight into CO2 and CH4 adsorption sites in ZIFs. The studies also correlate the symmetry of the functionalization to the contributions of electrostatic interactions in the adsorption of CO2.

Child Interpreters: The Effects on Children and Their Parent-Child Relationships
Dori Simpson
Miyuki Vamadevan Arimoto, Social Work

With daily peer-interaction and school lessons, most immigrant children learn English at a much faster rate than their parents. Immigrant parents with little understanding of English often discover that their communication needs can be met with the use of their children as interpreters. The act of children translating for their immigrant parents is called "language brokering" and sociologists are studying this phenomenon. Upon researching, I've concluded that interpreting for one's non-English-speaking parents often leads to embarrassment, fear, and the unnatural responsibility of participating in adult decision-making processes. In addition, the fore-mentioned effects strain the parent-child relationship. Such findings will impact policy-making that is geared toward supporting immigrant children, assisting their parents, and enabling the organizations they work with to provide the critical services they need based on effective communication.

Exposure to Hand-Arm and Whole Body Vibration in the Construction Trades
Zack Sinner and Mike Milanoski
Dan Anton, Physical Therapy

Work-related musculoskeletal disorders (MSDs) associated with hand-arm vibration (HAV) and whole body vibration (WBV) in the construction trades result in millions of dollars of lost time and productivity each year. Exposure to these types of vibration predisposes workers to a variety of MSDs. Several tools exist to reliably measure HAV and WBV and assess worker risk exposure over time. To assist with hazard reduction related to vibration exposure, we are developing educational products such as HAV and WBV videos. In addition, we are developing a website database that provides an analysis of MSD hazards and identifies possible solutions for construction trades, including tools and methods. The purpose of this presentation is to describe vibration hazards and demonstrate how daily exposure can be assessed. We will highlight some educational and work practice tools for reducing exposure to vibration hazards. In addition, we will describe the direction of our future research endeavors as they relate to the effect of WBV on proprioception.
Body Modifications among Pacific Northwest Coast Native Peoples
Brina Smith
*John Dorwin, Anthropology*

This paper examines body modification practices of Pacific Northwest Coast Native peoples. The paper seeks to discover the cultural significances of body modification among the Tlingit, Haida, Kwakiutl, and Chinook peoples. Five major types of body modification are included in this analysis: tattooing, labret use, piercings, cranial deformation, and hair removal. Each type of modification is categorized as to methods of modification and cultural significances of that modification, within specific geographical and ethnic areas. Major cultural factors involved in the practice of body modification are determined to be social status, stage of the life cycle, and kinship, with social status appearing to be the most significant.

A "Fallen" King Arthur: Anne Brontë's *The Tenant of Wildfell Hall* and Victorian Constructions of Masculinity
Cori Smith
*Beth Torgerson, English*

Although Anne Brontë has often been acknowledged as "the other one" in the legacy of the Brontë family, she was active in her literary pursuits and uniquely talented, much like her elder, more famous sisters, Charlotte and Emily. Written during the mid-Victorian period, Anne's second novel, *The Tenant of Wildfell Hall* (1848), was published in an era where national enthusiasm was enveloped in the legend of King Arthur and the Knights of the Round Table. While her contemporaries were constructing an image of King Arthur that merely served to indulge Victorian sensibilities of masculinity, Brontë's depiction of the celebrated hero is radically different. To deliberately critique Victorian misconceptions of masculinity, Anne not only situates Arthur into her present-day society, but she also transforms him into Arthur Huntington, an abusive alcoholic who has "fallen" from his role as a husband, father and citizen.

Automated Light Bulb Testing and Packaging
Daryl Smith, Kevin Chumbley, Sean Morden and Joshua Seagrave
*Donald Richter, Engineering and Design*

For the Robotics class in the EWU Department of Engineering and Design, Team Light researched and built an automated system utilizing industrial robotics to test, sort and package incandescent light bulbs. Major research challenges were design of the delivery system, industrial robotics interface, product test design and configuration, error detection and correction algorithms, and control software development. By working together in a cooperative environment and through the collaborative efforts of the members, Team Light successfully designed, developed, and fabricated a functional automated system that met the defined requirements.
Relationships between Fall Risk Classifications and Fall History in Community Dwelling Older Adults
Desiree Smith and Sara Thompson
Kimberly Cleary, Physical Therapy

Among older adults, falls are the leading cause of injury related to death and hospitalization. The purpose of this presentation is to describe relationships between fall risk classification and fall history in well elderly, and consider usefulness of two established measures in classifying fall risk. Forty-six subjects completed established performance measures including the Tinetti Assessment Tool and the Timed Up and Go (TUG). More than one-third of subjects (36%) reported a fall in the previous year ("fallers"). Fall risk classification using the TUG was significantly correlated with fall history (Pearson chi-square $r=0.25$, $p=0.04$), but Tinetti risk classifications were not related to fall history. The results of this study will benefit the physical therapy community by describing functional mobility and corresponding fall risk among older adults well enough to live independently. Further, physical therapists may consider using the TUG instead of the Tinetti fall risk classification due to their respective relationships to fall history.

Genetic Introgression of Cyprinidae in Spokane Area Tributaries
Jonathon Smith and Dien Huynh
Randy James, Biology
Steve Fisk, North Central High School

A major conservational problem and evolutionary issue among cyprinidae fishes is interspecific hybridization due to loss of gene flow in confined tributaries. In the Pacific Northwest, tributaries and run-offs are converted for irrigation purposes, which have caused the natural flow patterns of the streams to become altered or destroyed. Damming, among other changes to the rivers, have lowered the water quality to poor conditions. In this study we used a 1.1kb PCR product of the 12S and 16S regions to analyze possible divergence or introgression of the redside shiner (Richardsonius balteatus) and speckled dace (Rhinichthys osculus) in Cottonwood Creek, a tributary of Latah Creek, which runs into the Spokane River. Analysis of the cyprinidae sequences will further explain the genetic introgression or genetic diversity in tributaries of the Spokane area.

Tourette Syndrome in Two High School Athletes
Mellissa Spacek, Michelle Fitzgerald, Jennifer Dawson and B.J. Leach
Jeffrey Kawaguchi, Physical Education, Health and Recreation

Tourette syndrome (TS) is a neurological disorder characterized by repetitive, stereotyped, involuntary movements and vocalizations called tics (National Institute of Neurological Disorders and Stroke, 2010). Males are affected about three to four times more often than females (National Institute of Neurological Disorders and Stroke, 2010). Although TS can be a chronic condition with symptoms lasting a lifetime, most people with the condition experience their worst symptoms in their early teens, with improvement occurring in the late teens and continuing into adulthood. Cause of TS is unknown. Many with TS experience additional neurobehavioral problems including inattention; hyperactivity and impulsivity (attention deficit hyperactivity disorder—ADHD) and related problems with reading, writing, and arithmetic; and obsessive-compulsive symptoms such as intrusive thoughts/worries and repetitive behaviors (National Institute of Neurological Disorders and Stroke, 2010). Our objective for this case series is to discuss causes of Tourette syndrome and how it affects athletes differently.
EWU Computer Science Lower Division Programming Research
Gina Sprint, Jennifer Dyas, Ylan Salsbury, Sumayah Almohanna and Madeleine Fletcher
Stuart Steiner, Computer Science

The Women Computer Science group of Eastern Washington University's Computer Science Department are currently researching the programming bugs students face in lower division courses. Through integration of the department graders and computer lab tutors we have been collecting data regarding problems that students struggle through in their programming assignments and labs. With this data we plan to derive important results that will aid students in the early portion of the computer science degree. This will provide meaningful results for the instructors on how to focus on particular problem areas and it will help students produce working code and enthusiasm for programming. Thus the ultimate goal of our research is to improve student retention in the early stages of the computer science degree by identifying and tracking common programming mistakes.

Oil
Jessica Spurr
Mindy Breen, Engineering and Design

A series of ink and car oil, demonstrating a deep detest for the subject matter, and how it interacts with its environment.

Baroque Network 2011: Space Odyssey Screen Print on T-Shirt
Amanda Stanford
Mindy Breen, Engineering and Design

This screen printed t-shirt features a design from the May 2011: Space Odyssey-themed Baroque Network event. The goal of the Baroque Network events is to blend people interested in and/or active with local art, music, fashion, non-profit organizations and business types large and small. We aim to discuss creation, collaboration, success, and life stories in an open network of community and support. Within this group and as a part of these events, I provide live t-shirt screen printing to bring a "lost" art form to the masses and hopefully enlighten them to the print medium and a fresh design by young graphic designers (and in this case, my own design). Each quarterly event has a new theme, which requires a fresh design and provides a new opportunity to print.
Structural and Dynamic Properties of the Human Inosine Triphosphatase and P32T Mutant from Computer Simulation
Deborah Steele
Yao Houndonougbo, Chemistry and Biochemistry

Inosine triphosphatase (ITPA) catalyzes the conversion of inosine triphosphate (ITP), deoxy ITP (dITP), and xanthosine triphosphate (XTP) to the corresponding nucleoside monophosphate and pyrophosphate. Deficient ITPA activity leads to the cytosolic accumulation of ITP, dITP and XTP, which may be introduced into RNA and DNA resulting in possible genetic mutation and instability. The human ITPA is a homodimer protein in which each monomer comprises two lobes that form the binding pocket. A common mutation at proline 32 [P32T] in humans is associated with ITPase deficiency. But the nature and the mechanism of P32T mutant deficiency are not well understood. We have performed molecular dynamics (MD) simulations of human ITPA and its P32T mutant at 300 K and 315 K. The simulation results are in good agreement with experimental data and provide molecular details insight into ITPA P32T mutant deficiency.

Sequencing rbcL and matK Gene Loci of Jatropha curcas
Terence Stephens
Prakash Bhuta, Biology
Suzanne Schwab, Biology

The ribulose-1,5-bisphosphate carboxylase/oxygenase large subunit (rbcL) and the maturase K (matK) gene loci are two loci proposed for DNA barcoding of plants. My goal is to sequence these two loci from the plant Jatropha curcas var Lynn. Jatropha is rapidly becoming an important plant in the race for biofuel. I have designed 4 primers each for rbcL and matK genes using Primer3 software based on the chloroplast genome of Arabidopsis thaliana. I have successfully amplified the rbcL gene of Jatropha curcas and the products are currently being sequenced. The primers designed for the matK locus have not produced desired size amplicons. My sequence data will either confirm or point out differences with the chloroplast-genome sequence for Jatropha curcas which is deposited in GenBank but has not been published in any peer-reviewed journal to date.

Protocol for Assessment of Kinetic Symmetry in a Drop-Landing Task
Jessica Stimmel, Lemuel Brown and Victor Kimuhu
Jeni McNeal, Physical Education, Health and Recreation

The purpose of this study was to establish methods for determining symmetry in kinetic variables during a drop-landing task. One male subject performed pre and post-tests consisting of unilateral maximal isometric leg press, and landings onto two force platforms following a vertical drop from a hanging position. Surface EMG was recorded bilaterally from medial gastrocnemius and vastus lateralis. A switch-mat on one force plate allowed for synchronization with EMG recordings. Pretests were followed by a 4 min exercise protocol designed to induce fatigue. Data showed the fatigue protocol to be successful in producing transient fatigue. Maximal isometric leg press resulted in variable force patterns indicating that further refinement of test duration and analysis protocol is required. Improved methods of securing EMG wires will be required to reduce the loss of electrodes during the fatigue protocol. A second switch mat will allow easier synchronization and determination of left-right differences in muscle preactivation. A system for modulating drop height may provide better individualization according to subject characteristics. Data generally showed left-leg dominance that was not altered with fatigue.
Unwitting Mephistopheles
Denise Stripes
Judith Logan, English

In Edith Wharton's *House of Mirth*, Lily Bart fights for something beyond mere survival; she shows a dedication to morals that is lacking in other characters of Wharton's era in American literature, and she strives for transcendence. This is not a spiritual transcendence, however. Due to Wharton's belief in Jean-Baptiste Lamarck's version of evolution—the idea that acquired as well as physical habits can be passed from generation to generation—the transcendence for which Lily strives is to make a contribution to the sum of humanity: a paradigm shift from a centripetal worldview in which she lives only for herself to a centrifugal focus that puts others first. "Unwitting Mephistopheles" discusses the inner tension Lily experiences between this desire for transcendence and the utopian freedom offered to her by Lawrence Selden. Just as Goethe's Mephistopheles tempts Faust with freedom from endless contemplation, Selden tempts Lily with "freedom from all material accidents"—a mythical "republic of the spirit," where she may shed her dependence on society and join him, but first she must abandon the paradigm shift and live only for herself.

Assessment of Salmonid Consumption in the Sanpoil River Arm of Lake Roosevelt by Walleye Using Bioenergetics Modeling
Dana Stroud
Allan Scholz, Biology

Rainbow trout, *Oncorhynchus mykiss*, and kokanee salmon, *O. nerka*, are adfluvial species that make annual migrations out of the Sanpoil River into Lake Roosevelt and back. Despite stream enhancement and the addition of hatchery-raised kokanee, however, poor numbers of spawners are returning to the river. Observations by Colville Confederated Tribe and Eastern Washington University biologists suggest that non-native walleye, *Sander vitreus*, congregate along the salmonid migration routes in the Sanpoil River. To test the prediction that reduced numbers of returning spawners result from predation on young salmonids by walleye, I performed a mark/recapture study to estimate walleye population size and model salmonid consumption levels. Input variables used in consumption modeling included: diet proportions based on gastric lavage, predator growth, prey energy density and temperature. I determined that 12,257 (95% CI = 7,223 - 17,292) walleye consumed 79.7% (469,991 of 589,580) of the kokanee fry, 37.4% (3,767 of 10,080) of the kokanee yearling, 18.4% (2,688 of 14,578) of the rainbow yearling and 26.9% (6,394 of 23,738) of the 2 and 3-year old rainbow trout populations.
Anzel Adams, Manzanar, and U.S. History Benchmarks
Jeff Svoboda
*Lavona Reeves, English*

Svoboda developed a curriculum to teach a course focusing on Ansel Adams, An American Photographer. He demonstrates how the six language arts were incorporated into the development of the activities and projects for ESL students. The curriculum was developed to extend into other areas of study such as professional photography and conservation. Adams himself contributed greatly by bringing environmental causes to the public, including the establishment of new national parks. He is also famous for his photographs of the Japanese internment camps in WWII in the United States, most notably Manzanar in California. Svoboda will also show connections between his original curriculum on Adams and the correlation to the National History Standards: *Era 8 -The Great Depression and World War II (1929-1945) Standard 3C -Demonstrate the understanding of the effects of World War II at home.* He will discuss lessons he created to teach grammar, viewing, reading, writing, speaking, and collaborative learning for ELLs in a variety of settings for a variety of purposes.

*Tying Rocks to Clouds*
Allie Sweitzer
*Tom Askman, Art*

Acrylic on canvas.

Orientalism and Occidentosis: A Discussion of Discourse between East and West, and How the Israeli-Palestinian Conflict Exemplifies This
Max Szyszkowski
*Majid Sharifi, Government*
*Vandana Asthana, Government*

In this research, I've used an interpretive methodology to analyze U.S. foreign policy in the Middle East in general and more narrowly, the Palestinian-Israeli conflict. By drawing on Edward Said's concept of "Orientalism" to show the continuity of a particular trend in the underlying assumption of U.S. foreign policy making in the region. For Said, Orientalism is a particular understanding of East that is put forward and portrayed by those of the West for the west. As an exemplary case of such Orientalistic attitude in U.S. foreign policy making, I draw on texts produced by Aaron David Miller, a U.S. policy advisor for nearly twenty years on the Israeli-Palestinian conflict. I show that Miller, without realizing his underlying tones, makes arguments that depict the Middle East as a subaltern subject from a perspective that Said calls the "Orientalistic gaze." I draw on texts from the work of Iranian intellectuals as well, to help illustrate the reaction of the Middle Eastern natives experiencing, and in turn, confronting Orientalism.
Finite Element Analysis to Study the Static and Dynamics Response of Wind Turbine Blades
Saleh Tafesh and Steven Butterfield
N.M. Awdad Hossain, Engineering and Design

Wind turbines are becoming more promising because of the high demand for a clean energy source. To keep this an efficient source of energy, the design of the turbine blades is very crucial. In order to generate enough power, the amount of surface area and weight of each blade are important to withstand powerful wind gusts. In our study, we analyzed the effect of high pressure loads that wind gusts would produce on the turbine blades. The material properties of carbon fiber were used due to its superior strength to weight ratio. Wind turbines normally spin between 13 RPM and 30 RPM. However, with wind gusts the blades spin at 60 RPM; numerical analysis was conducted with those simulated wind speeds in mind. We performed a static analysis, which provided the displacement and stress results. Dynamic analysis was also performed to compute and visualize the first few natural frequencies. These results are important to evaluate whether the wind turbine blades will offer the intended performance without structural failure.

Covered in Characters
Andrew Taylor
Chris Tyllia, Art
Elisa Nappa, Art

Ceramic and ink sculpture with accompanying performance.

Untitled
Alison Terhune
Rachel Toor, Creative Writing

I will be reading an original nonfiction creative work.

Balance Performance and Fall Risk in Community Dwelling Older Adults
Sara Thompson and Elena Skornyakov
Kimberly Cleary, Physical Therapy

Falls are the leading cause of injury, traumatic hospital admission and death among older adults. The purpose of this presentation is to describe fall risk and report relationships between balance performance, risk classification, and fall history in well elderly. Forty-six subjects aged 65 and older who lived independently in a senior living community in Spokane, WA participated in this study. Subjects completed functional balance performance measures including the Berg Balance Scale (BBS) and the Four Square Step Test (FSST). More than one-third of subjects (36%) reported a fall in the previous year. The mean subject BBS score was 48.2. Based on BBS scores, no subjects were at high risk of falls, some (15%) were at medium risk, and most (85%) were at low risk of falling. The mean FSST was 15.7, and its risk classification indicated that about one-third (33%) of subjects were at risk of falls. Fall history was correlated with FSST but not BBS fall risk classification. However, BBS mean scores were correlated with number of falls, and the difference in BBS mean scores between fallers and non-fallers was significant.
Functional Art
Melissa Tolman
Chris Tyllia, Art

Functional pottery. Aesthetically pleasing AND useful!

Synthesis of Novel Nicotinic Receptor Ligands for Use in the Treatment of Alzheimer's Disease: Secondary and Tertiary 1-(3-pyridyl) Cyclic Amidines
Jaydene Topenio
Travis Denton, Chemistry and Biochemistry

Alzheimer's disease (AD) is a neurodegenerative disorder currently affecting 35.6 million people worldwide with estimates increasing that number to 65.7 million by 2030. Nicotinic acetylcholine receptors (nAChRs) are found in areas of the brain responsible for cognitive function. Patients with AD produce defective β-amyloid peptides that aggregate as plaques as the disease progresses. These plaques bind to specific nAChRs with high affinity and inhibit the ability of these receptors to participate in cholinergic signaling. Of the nAChRs, the α7 subtype has been shown to be down regulated to a lesser extent than other nAChRs. 3-(2,4-dimethoxybenzylidene) anabaseine, also known as GTS-21, is a therapeutic agent that has been shown to have excellent efficacy on α7-nAChRs. The goal of this project was to devise a large scale synthesis of 5, 6, or 7-membered cyclic amidine substituted 3-pyridines, in order to create bioisosteres of GTS-21. The resulting data will be further evaluated to develop a pharmacophore model that will increase the effectiveness of future rounds of compounds in this new class of ligands. The trials and tribulations of the syntheses of this class of compounds will be described.

“Creative Writing/Working Title”
Tessa Trow
Rachel Toor, Creative Writing

I will be reading an excerpt from a fictional story that I have written.

9/11
Kelsey Vance
Tom Askman, Art

9/11, charcoal and color pencil on paper, 50" x 62", 2010. My name is Kelsey Vance and I am currently a senior in the BFA Studio Art program. For the symposium this year, I am presenting a large social political drawing done in charcoal and colored pencil. The majority of the images are of children because I wanted to contrast the innocence of a child with the acts of terror that took place on 9/11. Surrounding the images, I have smashed charcoal and used rubber cement to glue the chunks of charcoal and dust to the paper, creating a strong image and texture of smoke and debris from the twin towers crumbling. The chaos of the charcoal represents the chaos and devastation of war and how it has affected everyone.
Scene from *Dearly Departed* by David Bottrell and Jessie Jones
Paden Vance and Rebecca Spining
*Jeffrey Sanders, Electronic Media, Theatre and Film*

Act 1 Scene 4 of *Dearly Departed*, featuring Paden Vance as Junior and Rebecca Spining as Suzanne.

**Study of Off-Road Suspension System**
*Brandon VanTassel*
*N.M. Alwad Hossain, Engineering and Design*

Suspension in a vehicle usually represents a system of springs, shock absorbers and linkages that connects the vehicle to its wheels. The suspension of a vehicle serves multiple purposes including car's handling & braking characteristics resulting in active safety, driving pleasure, and keeping the vehicle's occupants comfortable from road noise, bumps, and vibrations, etc. Moving at highway speeds across the rough desert requires a great deal of control in the suspension system. Where a few inches of transverse displacement on a smooth road car is adequate, Trophy Trucks and buggies commonly look at eighteen to twenty inches of travel; a suspension with that kind of travel and expecting to take massive punishment must be both robust and reliable. During my time at Eastern Washington University, I have gained the knowledge to pursue my interest in vehicle suspension, as well as, in that of hydraulics. I modeled the suspension system with the aid of CAD and finite element software ANSYS. A structural static analysis was then performed under different boundary conditions and loading. Finally, the stress and displacement outputs were studied to evaluate the failure situation at different critical areas of the suspension system.

**Social Groups and Self-Esteem**
*Julie Vishwanathan*
*Lori Miller, Psychology*

In this research, a correlation between participation in social groups and self-esteem was uncovered. 75 college-age students were assessed on their social group activity (size of group and number of hours spent in group per week) as well as their perceived self-esteem. Self-esteem was measured using the Rosenberg self-esteem scale. Interestingly, the research found an association between increasing group size and decreasing self-esteem. These findings were more strongly correlated in men compared to women. Yet, men's overall self-esteem scores were generally higher than women's.
The Direct and Social Costs of the Selection Bias in Favor of Males in India
Benita Walker  
*Kelley Cullen, Economics*

This presentation focuses on the direct and social costs of the selection bias in favor of males in India. This research shows specific population trends and how, although there has been a steady increase for the overall general public, there has been a significant decline for girls. By using data from the current census taken in 2010, this research compares states and looks at how advances in technologies have had a negative effect on girls being in existence. Abortion in India has not always been legal, however since it has become legal there has been an increase in early detection of girls and subsequent abortions. Because India is male-dominated and many people adhere to the cultures and traditions, this male preference may not be in the best interest for society as a whole. The question of why sons are preferred will also be addressed and why this certain point of view is accepted in India.

The Grail Goddess & the Divine Feminine in Celtic Pagan Religion
Daniel Wallin  
*Mimi Marinucci, Women's and Gender Studies, Philosophy*

My topic for the Student Research and Creative Symposium consists in talking about the Grail as a receptive and active yonic vessel of the Divine Feminine in Celtic myth and religion. I plan to discuss feminist themes in Celtic Paganism, which portray divine women such as Scathach, the Morrigan, Maeve, and historical tribal leaders such as Cartimandua and Boadicea occupying traditionally male-centric roles. Because Celtic myth is a deep repository of cultural, religious, and mythic richness of feminine strength, leadership, warrior-ship, and autonomy—there is thus an axiological perspective in Celtic culture that can enliven the discussion about feminism in the Western Tradition. Furthermore, the Holy Grail, which is both a symbol of the divine feminine and a spiritual ideal of Truth, holds an important role in the discussion on the equality of women. In addition, the Grail's significance in stories such as Niall and the Nine Hostages, *The Second Battle of Moytura*, and the poem “The Song of Amergin,” there is no adversarial, dialectical opposition that asserts spirit is opposed to Nature, man is opposed to woman, and so forth. As such, the ontological unity between all things and their contingent, axiological interrelationships promulgates the notion of a circular worldview of unity rather than one of opposition and separation.
Historic Downtown Cheney Partnership

Jared Walsh
Molly Johnson, English
Teena Carnegie, English

My service-learning project for the Symposium will be a newsletter I created for the Historic Downtown Cheney Partnership (HDCP). This newsletter was sent out to businesses in Cheney and Spokane. The reason for this newsletter was to inform the people/business owners in the nearby Cheney community about new business opportunities and news around town. The mission of HDCP is to revitalize downtown Cheney and get people excited about what happens in this college town. My group competed against 3 other groups in creating this newsletter. For this newsletter I helped our designer with layout and color schemes as well as wrote one specific article for Farmer's Insurance. Through this experience, I learned that when students write for someone else or a different agency, they become representatives of them. On my poster I will discuss the problems and challenges students face when they are writing on someone else's behalf. As a representative of others, we need to be conscientious about their image and what messages or connotations can be drawn from our writing.

A Football Player with Multiple Concussions: A Case Study

Carla Walter, Sayaka Yasui and Kyle Wiley
Garth Babcock, Physical Education, Health and Recreation

Head trauma is the lead cause of fatalities of all other sports injuries. A concussion is a type of traumatic brain injury (TBI) that can change the way the brain normally functions. It can be caused by a bump, blow, or jolt to the head, but can also occur from a blow to the body that causes the head to move rapidly back and forth. There are a variety of signs and symptoms associated with a sustained concussion. It is imperative that an athlete suspected of a concussion be evaluated by a health care provider who is trained in the evaluation of sports concussions. After sustaining a concussion, an athlete must be managed appropriately to avoid symptom deterioration. Although there are many philosophies on the particulars of concussion management, some practices have become common to most management protocols. This study highlights an individual male football athlete's extensive history of TBI and his ultimate decision to retire from the game.

Hospitality House: Empowering Communities for a Brighter Tomorrow

Tracey Waring
Robert Zinke, Public Administration

Hospitality House is a community coalition concept to create a one-stop social service center for people living at or below poverty and/or at risk of homelessness. By assessing the needs and desires of the community in which Hospitality House would be located, local government agencies and non-profits can work together to develop a system of comprehensive services to meet those needs in one setting. Although a relatively new concept, preliminary findings show such centers are instrumental in reducing homelessness and alleviating the effects of poverty. The West Central neighborhood of Spokane was the site of the first needs assessment. The results were positive, with a strong desire to move forward with the concept as Hospitality House aligns with the West Central Community Coalition's long-range goals for the neighborhood.
Utilizing a retrospective paradigm, past research has found that suppressing emotions results in time overestimation, while those that freely experience emotions underestimate time. While individuals in a retrospective paradigm are unaware that they will be asked to estimate time, in a prospective paradigm, which more closely parallels real-life scenarios, individuals know they will be asked to estimate a time duration before a task begins. The present study investigated the effect emotional regulation had using both prospective and retrospective paradigms. 130 individuals were randomly assigned to either freely experience (control) or suppress their emotions and the retrospective or prospective methodology. Participants then watched an emotionally provoking video clip and estimated the clip's length. Results trended towards significance, suggesting that individuals who suppressed their emotions in the retrospective condition overestimated time compared to those in the control condition. Conversely, in the prospective condition, the control group overestimated time to a greater degree than individuals in the suppression condition.

Arguably, the most iconic representation of female empowerment in comics, both to a comic-savvy and general audience is Wonder Woman. She is strong, intelligent and noble. She applies these qualities in pursuit of an explicit agenda of female equality and empowerment. She's a role model. The Amazon Princess might not be so interesting, however, as the Princess of Plunder: Catwoman. Unlike Wonder Woman, Catwoman does what she wants, when she wants, and for her own reasons. She's strong, and intelligent, but combines these with cunning and selfishness. The status of role model cannot be attributed to her as easily. Neither hero nor villain, Catwoman's antiheroic nature both destabilizes and reinforces certain feminist, post-feminist, and anti-feminist gender stereotypes. This presentation explores Catwoman's anti-heroism through the lens of feminist gender theories and rhetoric. It questions whether female antiheroes are feminist, anti-feminist, or post-feminist, and if they are even capable as an archetype of falling within the boundaries of any of those conceptual structures.
Psychiatric Distress and the Housing Plans of Inmates upon Release
Tara Weldon
Kayleen Islam-Zwart, Psychology

According to the Bureau of Justice Statistics, 7,225,800 people at the end of 2006 were classified as either on probation, currently incarcerated, or on parole (BJS, 2010). This figure translates into about 1 in every 32 adults in the U.S. resident population. Understanding variables that potentially have an effect on the mental health and well-being of inmates while in jail is advantageous. Additionally, it seems necessary to better articulate the impact that post-release resources have on prisoner distress. Previous studies have analyzed the high likelihood of recidivism according to the residential situation, or lack there of, upon release (Osher, et al., 2003). The current study focused on inmate psychiatric distress as it related specifically to post-release housing plans. An analysis of variance revealed a significant difference in current psychiatric distress as a function of housing plans upon release. Inadequate transition planning and coordination places inmates who are especially troubled with mental illness back out into the community with unstable resources for treatment. Uncovering possible indicators of distress among inmates may aid in increasing the success and productivity of inmates who are re-entering society.

Surviving and Recovering from Crisis: A Collaborative Auto-Ethnography
Tara Weldon and Kimberlie V. Smith
Susan Stearns, Communication Studies

The United States experiences a number of significant catastrophic events each year. Natural and manmade disasters result in tremendous property damage. In addition to the financial stress at the local, state, and federal levels, a large emotional toll is placed upon those who suffer through the event, which continues as they struggle to rebuild their personal lives and assist their community. This project is a collaborative auto ethnography combining research of several major catastrophic events within the United States over the past 10 years with the actual experiences of those who lived through the events, including the first author who worked as a professional negotiator for a major insurance company. Often, despite the official assistance offered by FEMA, the National Guard, charities, local law enforcement, and other emergency personnel, victims of disaster must find their own way toward recovery. Media coverage often does not tell the whole story. By combining research and government response with the description of various events by those who lived and worked through them, a more accurate and intimate outlook of crisis will be uncovered.
The Effects of GABA on Anxiety and Weight Gain in Mice
Tara Weldon, Andrew Blakley and Ryan Douse
David Daberkow, Biology

Gamma-aminobutyric acid (GABA) is the primary inhibitory neurotransmitter within the vertebrate brain. Many anti-anxiety and sleep inducing medications work by interacting with GABA receptors in the central nervous system. Although effective, these GABA agonists are poorly understood and often cause undesirable side effects. More recently, GABA has also been promoted as a weight loss substance. The purpose of this study was to examine the effects of GABA, in the pure amino acid form, on the anxiety levels and change in body weight of mice (Mus musculus). Mice were fed 30 mg/kg GABA dissolved in a 10% apple juice and water solution, 5 days a week for 2 weeks. Controls received an equivalent amount of 10% apple juice solution without GABA. Throughout the study all mice were provided food and water ad libitum. After 1 week of treatment, GABA-treated mice gained significantly less weight than controls, p= 0.039. After 2 weeks, GABA-treated mice demonstrated significantly less anxiety while exploring an elevated plus maze, p= 0.05. These results suggest that GABA promotes weight loss and decreases anxiety in mice.

Do Parenting Styles Influence the Development of a Machiavellian Personality?
Jason Wiese, Michelle Whitlow, Brittany Myers, Megan Korst and Brooke Flodin
Kurt Stellwagen, Psychology
William Williams, Psychology

Social psychologists Richard Christie and Florence Geis coined the term “Machiavellian,” to describe the personalities of individuals who are deceptive, cynical, and view others as fundamentally dishonest and gullible. This tendency is facilitated by an apparent lack of emotionality in interpersonal relationships. The mechanisms that determine the development Machiavellian attitudes are unclear although attachment research conducted by Bowlby in 1946 suggested that cold and controlling parenting styles contribute to antisocial personality characteristics. This is consistent with authoritarian parenting (the use of punitive, cold, and controlling parenting) which is associated with delinquency later in life (Baumrind, 1968). Our results indicate the cold component of parenting was associated with Machiavellianism while the controlling component was not. This is a new finding that has clear implications for raising prosocial children. Warm parenting appears to be the key element for the development of a non-exploitive personality. Perhaps children of controlling (but warm) parents perceive their parents high level of behavioral control in positive terms and therefore do not respond to this parenting style with resistance and manipulative rebellion.

A Track & Field Athlete with UCL Tear and Resulting Tommy John Surgery
Julie Wight, Hiro Mikami, Whitney Kath and Melani Kelly
Garth Babcock, Physical Education, Health and Recreation

An Ulnar Collateral Ligament (UCL) tear in the elbow is one of the most common injuries in throwers. This case study follows a collegiate track and field athlete with a UCL tear. We will discuss the pertinent anatomy of the UCL and surrounding structures, identify the signs and symptoms of the UCL, cover both conservative and surgical procedures, and finally pre- and post- surgery treatments and rehabilitation programs. This case study will also take a closer look at the exact procedures of a UCL reconstruction surgery, otherwise known as a Tommy John Surgery.
Design and Development of an Inquiry-Based Science Game
Faith Williams and Ashley Gutierrez
Kevin Pyatt, Education

“Plague of Frogs” is an inquiry-based K-8 science game which has been designed to engage learners in an authentic and challenging science investigation. The game is aligned with K-8 science content standards, and incorporates investigation, logic, numeracy skills, problem-solving, observation skills, and hypothesis generation and testing. The game represents a guided-discovery approach to instruction, in that students experience a realistic scenario which is situated on real-life events. So far, the analysis and design stage of the game has taken place, which has resulted in the creation of a board-game prototype. The next stages of the project will involve game development, implementation, field testing and validation, all of which will take place in a variety of K-12 settings.

“On the Other Side of the Glass”
Lindsay Williams
Christopher Howell, English, Creative Writing

I will be reading an excerpt from a piece of my own non-fiction.

Putative Fur-Binding Sites May Play a Role in Helicobacter pylori NapA Gene Regulation
Abigail Winschell
Andrea Castillo, Biology

Helicobacter pylori colonizes the stomachs of nearly half of the world’s population. Infection can lead to diverse gastric disease outcomes, including gastric and intestinal ulcers and stomach cancer. H. pylori virulence during infection is determined in part by expression of several genes, including neutrophil-activating protein gene (napA). Although NapA protein function is known, it protects the bacterium from oxidative stress damage and binds iron in vitro, little is known about how this gene is regulated. Recently, two potential Ferric uptake regulator protein binding sequences (FBSs) were identified upstream of napA (Olczak et al. 2002). To determine if these FBSs contribute to the expression of napA, we created and tested four putative promoter-reporter constructs: core, core + FBS1, core + FBS2, and core + FBS2 and FBS2. We found that the core + FBS2 conferred promoter function but core + FBS1 did not. Surprisingly, expression of our constructs showed some dependence on the Fur protein; expression profiles of our promoter-reporter constructs were unchanged in a Δfur H. pylori strain. We are currently running more tests to determine the effect of Fur deletion.
“Dowry”
Frances Won
Jonathan Johnson, English, Creative Writing
Christopher Howell, English, Creative Writing

"Dowry" is the title of my collection of poetry that I will be submitting as my final body of creative work in order to earn my MFA this spring. My poetry deals with the complex issues of cultural identity. My most distinguished poem directly related to the subject matter was nominated for the 2010 AWP Into Journal Award and received 1st Honorable Mention. Also notable about my body of work is its experimental form which complements the content of the poem, drives the poem's emotional core and informs the reader how to read the poem.

“Paper View”: Human Powered Paper Vehicle Competition Concept and Design
Bryan Woodbury, Joshua Seagrave, Kevin Chumbley and Daryl Smith
N.M. Awlad Hossain, Engineering and Design

For the 2011 Human Powered Paper Vehicle (HPPV) competition, team "Paper View" collaboratively designed and built a racing, inverted, recumbent bicycle from 90% paper products, by weight. Major research challenges for this project include: ergonomics, structural integrity with Finite Element Analysis through ANSYS®, and material science. By collaborating together in a cooperative environment and with the support of the Engineering and Design Department, Paper View was able to successfully research and engineer an innovative human powered paper vehicle design and compete in the 2011 EWU HPPV competition.

SNP Halplotype Analysis for the Identification of Entamoeba gingivalis
Andrew Wordell and Celena Ward
Randy James, Biology

Periodontal disease is one of the more common diseases a human can get in their oral cavity. Being one of the more common diseases this gives us a reason to look further into it including possible causes. We know that Porphyromonas gingivitis (bacteria) secrets Arginine-Specific Cytene Proteinase which is one of the leading causes of periodontal disease. It has been shown that Entamoeba gingivitis (an amoeba) is often found with P. gingivalis genome and in patients with periodontal disease. Our study concerns E. gingivalis, and if there is any sort of symbiotic relationship between it and P. gingivalis.
Poetry of the Tang Dynasty in China: Mother and Child
Bai Ying "Will" Zhang and Yifan Hou
LaVona Reeves, English

Authors will read and interpret poetry about the mother-child dyad in Tang Dynasty Poetry while explaining cultural aspects of that period of Chinese history (618-907). Chinese culture flourished during this period and "is considered the greatest age for Chinese poetry." Two of China's most famous poets, Li Bai and Du Fu, wrote hundreds of poems that modern-day Chinese children memorize from an early age. It was also a period of great painters such as Han Gan, Zhang Xuan, and Zhou Fang. During this dynasty we see the development of woodblock printing. The presenters will focus on poems about mothers' roles and will present some famous prints of the period, explaining the kinship relationships and cultural expectations of the period.

Preliminary Construct Validity of the Functional Emotional Developmental Questionnaire (FEDQ)
Jessica Zizzi, Amanda Adams, Rebecca Buescher and Jessie Finn
Roberta Russell, Occupational Therapy

The purpose of this study was to determine the construct validity of the Functional Emotional Developmental Questionnaire (FEDQ) and the Sensory and Motor Processing Questionnaire. The FEDQ is an assessment tool completed by the parent/caregiver of children birth to 18 years old and is used to profile a child's functional emotional developmental capacities as described by Jacob Greenspan and Stanley I. Greenspan M.D. This assessment is used with children on the autism spectrum. Further validation the FEDQ will benefit children and therapy practice by enabling therapists to monitor children through their developmental stages and identify a need for early intervention. The FEDQ and Sensory and Motor Processing Questionnaire (an associated assessment tool used to measure "processing capacities that influence functional emotional capacities" (Greenspan & Greenspan, 2002, p. 109)) were combined and questions were randomized. Parents or caregivers of children with and without developmental disabilities were recruited to participate in an approximately 15 minute survey using an online survey Weblink. This poster will report on the analysis of the data from participant surveys and discuss the construct validity of the FEDQ and the Sensory and Motor Processing Questionnaire.
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